Dawson & Hind

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Dawson and Hind

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Simon James Dawson was appointed by the Canadian Government in 1857 to explore the country from Lake Superior westward to the Saskatchewan. His report was among the first to attract attention to the possibilities of the North West as a home for settlers. He was later to build the Dawson Route from Lake-of-the-Woods to Winnipeg, Manitoba.

William George Richardson Hind accompanied his brother, Henry Youle Hind, as official artist when the latter was in command of the Assiniboine and Saskatchewan exploration expedition of 1858. W. Hind revisited the North West in 1863-64 and painted numerous paintings of the people and general scenes.

Cover: *Black-capped Chickadee.* **Pencil drawing by J. Carson. Photo courtesy of the Manitoba Museum of Man and Nature.**

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AIMS OF THE ASSOCIATION

Object
The advancement of museum services in Manitoba by:

a) promoting the protection and preservation of objects, specimens, records and sites significant to the natural and human history of Manitoba

b) aiding in the improvement of museums in their role as educational institutions

c) acting as a clearing-house for information of special interest to museums

d) promoting the exchange of exhibition material and the arrangement of exhibitions

e) co-operating with other associations with similar aims

f) other methods as may from time to time be deemed appropriate

Invitation To Membership
You are invited to join the Association of Manitoba Museums so as to take part in its activities and provide support for its projects.

Activities and Projects
A number of activities and projects are planned to help the AMM achieve its objectives. These include:

a) the publication of a regular newsletter and/or quarterly to discuss the activities of the museums, provide information on exhibits, and to distribute technical and curatorial information

b) a regularly updated list of museums in the Province, including their main fields of interest and a list of personnel

c) conducting training seminars aimed at discussing problems of organization, financing, managing and exhibitions at an introductory level

d) organizing travelling exhibits to tour Manitoba

e) the completion of a provincial inventory to assist in preserving our cultural heritage

MEMBERSHIP CLASSIFICATIONS

Individual Membership - open to any resident of Manitoba who wishes to promote the aims of the Association, whether or not he or she is connected with a museum. Annual fee - $10.00

Associate Membership - this includes institutions and individuals outside the Province of Manitoba who wish to promote the aims of the Association, whether or not such member is connected with a museum. Annual fee - $10.00

Institutional Membership - this is restricted to museums located within the Province of Manitoba. Annual membership fee is based on the museum's annual budget as follows:

Annual Budget		Membership Fee
100	1,000	$ 15.00
1,001	20,000	25.00
20,001	40,000	35.00
40,001	80,000	50.00
80,001	160,000	75.00
160,001	and over	100.00

Further information may be obtained by writing to the Membership Secretary, Association of Manitoba Museums, 190 Rupert Avenue, Winnipeg, Manitoba R3B 0N2.

Editor's Forum

B. DIANE SKALENDA
Managing Editor
Dawson and Hind

Over the past year I have watched two good friends on the brink of adulthood try to leave the nest and fail. Fortunately, they are going to try again — this time with a new support system to try to ease the transition from adolescence to adulthood. The road to this new-found maturity hasn't been easy. They started over ten years ago, as new kids on the block, and have grown in both substance and stature since that time. Their names? Simon James Dawson and William George Richardson Hind — better known as **Dawson and Hind**.

As many of our readers are aware, the fate of **Dawson and Hind** has been in question for some time. Unlike many similar publications, the problem has never been a financial one. The Historic Resources Branch has always been most generous in their support. I am sure many of our readers are unaware that the section on our title page that reads "published . . . with the cooperation of the Department of Cultural Affairs and Historical Resources" translates into ". . . . is printed and mailed through the generosity" of the above-mentioned department. The Manitoba Museum of Man and Nature has also played an important and substantial role in the life of **Dawson and Hind**. Until now, the editing, typesetting and layout have been the responsibility of the Museums Advisory Service. However, the Manitoba Museum of Man and Nature justifiably feels the time has come for the Association of Manitoba Museums to assume ultimate responsibility for their own publication. Only by doing so, will the **Dawson and Hind** reach full maturity — accountable to its readership and responsible for its own future.

Both the Department of Cultural Affairs and the Manitoba Museum of Man and Nature realize the potential of the journal and are prepared to assist the Association of Manitoba Museums during this period of change. Last month the Minister of Cultural Affairs and Historical Resources, the Honourable Eugene Kostyra, presented the Association with funds to publish the next three issues of **Dawson and Hind**. This grant will cover the cost of not only printing but also typesetting and layout. This will help eliminate the dependency on the services of the Museum of Man and Nature.

The Manitoba Museum of Man and Nature continues to offer its support through the Advisory and Extension Services (Museums and Advisory Service). Although I will no longer be actively involved in physically putting the publication together, I will continue in a new role as Managing Editor. I am pleased to announce we have acquired the volunteer services of **Marilyn de von Flindt** to act as Editor. Marilyn has been a volunteer at the Manitoba Museum of Man and Nature and is currently enrolled in the Museology program at the University of Winnipeg. Her enthusiasm and interest in the community museums of this province, along with her editorial skills, make her an ideal candidate for the position. I wish her every success and hope she enjoys the challenges and rewards of being editor as much as I have over the past ten years. We also have approached a number of AMM members to act as regional editors. Marilyn and I will be working closely to strengthen this editorial committee in order that self sufficiency may be obtained over the next year.

The Association of Manitoba Museums is very optimistic about the future of **Dawson and Hind**. We are grateful for the interest and support demonstrated by both the provincial government and the Manitoba Museum of Man and Nature. We are confident their faith in this publication will be justified and that the future looks bright. Its future, however, ultimately depends upon the membership of the Association. Your support of this new committee, and your contributions to the editorial content, are more important than ever. After all, Dawson and Hind are your friends too!

B.D.S.

Birding for Fun and Fame

DAVID L. BRADDELL
Reston and District Historical Museum
Reston, Manitoba

Which do you think is the fastest growing outdoor sport on this continent — archery, rock-hounding, skiddooing, orienteering? If you guessed any one of these you're wrong. According to a study made by the American Department of Agriculture the correct answer to the question is — bird-watching!

Bird-watching, after many years of being maligned, has attained status. Twenty-five years ago the sport was considered a sissy's game. Now more and more young people are interested in it and are not afraid to admit the fact to their friends. According to Stuart Keith of the American Museum of Natural History in New York, more than 5,000,000 Americans are bird-watchers today.

Sissy sport? A few years ago the Brazilian navy moved in to rescue a group of bird-watchers captured by guerrillas in the Amazon Valley. Roger Tory Peterson, the world's most renowned B.W., once walked through a still-active minefield in postwar France in his zeal to find certain birds. In New York City bird watchers risk muggings in Central Park while spotting one of the 250 species that may be found there. Kenn Kaufman, noted young bird-watcher, was kidnapped by a young widow in Maryland, suffered a slug-fest in Nome, Alaska, and was washed into the Gulf of Mexico by heavy seas, all during one year of following the birds.

How extensive is this feather-fraught game? All over the world enthusiasts are watching birds — whether trudging through rain forests, burning deserts, insect-ridden swamps or marshes, valley bottoms, rocky highlands or tundras; scanning urban garbage dumps, parks and pastures; maybe even entering your backyard (with permission) in their search for birds.

Since there are more than 9,000 species of birds in the world, and a few more species are being discovered every year, bird-watching will remain with us for a while anyway and provide opportunities for many feather-fanciers who would give an arm or a leg to see every last one of those species.

Some will argue that bird-watching is an art involving keep appreciation of form, colour and sound, and the use of dynamic skills and imagination. Other dedicated watchers, however, will argue just as convincingly (in terms of order, system and care in their field efforts, and precise, detailed recording of observations and data) that bird-watching, in spite of any artistic attributes, can be scientific and definitely relatable to functions and exhibits of some museums.

Larger institutions, such as the Manitoba

Cliff Swallow *Museum of Man and Nature*

Museum of Man and Nature, that emphasize the human relationship to our physical surroundings, as well as some smaller museums that include natural history exhibits, are likely to display ecological units that include specimens of birds. Some of these specimens, and even certain related information, are not always the result of professional efforts but may be the contributions of earnest amateur bird-watchers. Thus the amateur occasionally contributes to the advancement of at least one branch of science.

Whether concerned with casual sightings, birdsong, nests, migrations or some specific behavior of birds, what bird-watchers now do is more suitably known as birding, for the entire activity comprises much more than just watching birds. It is therefore simpler and more accurate to talk about birders who bird for the pleasure, information and the satisfaction that birding brings.

Although birds are around us to some degree all year and mostly visible, their songs are often very important in helping to identify the birds. In certain instances listening will prove to be the only means of telling what kind of bird is present. More will be presented later about applying this faculty to birding in bush and field.

It may come as some surprise that smell may even help the birder. For example, a sound may warn a colony of herons of a birder's trespassing and cause them to become hidden mutes to the seeker. If, however, the wind favors the birder, the latter will have no doubt about the general direction and relative proximity of the heronry by the acrid vapors borne on the breeze from the herons' dungy accumulations on ground and tree to the birder's cringing nostrils.

But who and what are these people who seek out birds? Are they earnest practitioners or are they wags, quacks, fanatics or even maniacs? Surely sensible people would not be found wandering in tropical jungles or clambering amongst icy crags, crawling in messy bogs or lying out amongst sun-blasted cactus wastes just to find a bird.

Although wags and a few overly zealous souls add to their numbers, birders actually are made up of a rich assortment of real, work-a-day people. This is true because birds, with all their forms, colors, songs, eggs, nests and amazing powers of flight, appeal to many persons of all ages. Bankers, mechanics, farmers, secretaries, doctors, housewives, journalists, butchers, students, judges, clerks and many other citizens contribute to the growing membership of the fraternity of feather followers. It is these addicts who may be found creeping, climbing, stalking or performing strange antics in their focus upon birds. The next time you peer into an old, murky culvert don't be surprised if the bird you flush proves to be Major Waldo Backup of the Royal Grenadier Guards! This writer's experience has included similar instances with a venerable church minister and a provincial highways engineer.

Are you concerned about the costs this pastime may impose? Though persons of higher financial means may indulge in expensive aids and equipment in order to increase their enjoyment and efficiency, birding can be the easiest and least expensive sport, whether or not you practise it from your kitchen or living room window.

Field glasses or binoculars are very useful to birding but they are not always essential, good eyesight being quite adequate. Margaret Morse Nice, an Ohio housewife, like many other people loved and fed the birds that came to her backyard. As the result of her keen observations and in-depth studies of a family of birds, Mrs. Nice amassed notes that resulted in her writing a book on Song Sparrow behavior that still stands as a classic model for scientists writing life histories of wild birds.

What then, besides healthy faculties, does birding require? Agility, permitting the birder to squirrel up into trees or to snake through bush, grass and rocks, is useful but not vital to the venture. Likewise, poise and buoyancy in slough or stream when bank or branch fail to cooperate with the birder and leave him suddenly with a sinking feeling are not prime requisites, even though helpful. Some of the best birding results from the endurance demonstrated in a gentle stroll of 15 kilometers (one way of course) or by the still-hunt technique of suddenly freezing into a statuesque pose for a couple of hours!

Actually movement is inevitable but it should never be sudden or swift. That will only alert birds to your presence and likely cause them to scatter hurriedly to the avian boondocks. Similarly, stealthy movements are strictly for the birds — they are, after all, accustomed to mingling with varieties of life forms, all (except predators) moving in normal, overt ways. Even lips should move at a minimum, dirty jokes and bush banter being unwarranted behavior when concentration in pure, pristine surroundings is essential.

Birding, therefore, calls for normal good health and the social adaptability to head for the horizon at the call of a feather. However, when you rush to field, forest or marsh, an important companion is a good bird guide, preferably *Peterson's Field Guide to Birds East of the Rockies* for anyone living on the prairies. For the novice or the person who wants to learn how to identify birds quickly, the Peterson guide serves best as it pictorially highlights salient features to be noted in each species. Care should be taken to avoid guides marked "eastern birds" or "Birds of Eastern Regions".

For farther-reaching and more exultant birding, you will find it worthwhile to use binoculars suitable to both the pastime and your individual needs and taste. After all, you're not out to spot enemy planes or mountain goats in the Yukon but birds fairly close by. Certain persons may choose heavier, more powerful models but the average birder prefers a good quality, light pair of binoculars that allows easy handling and focusing.

For quick zeroing in on subjects at variable distances, the binoculars should have central focusing and more sensitive focusing for just one (the dominant) eye. Birders favor instruments that are marked 7 x 35, or 8 x 40. The first number indicates the image is 7 (or 8) times as large as what the naked (shameless!) eye ogles. The second number shows that the objective lens (farthest from you) is 35 (or 40) millimeters in diameter. More powerful glasses may be desirable for identifying distant ducks, geese, swans, soaring eagles and disappearing Whooping Cranes. Such binoculars, however, also magnify movement and with their greater weight are more difficult to hold steady — both features proving a disadvantage to sustained clear viewing and accurate counting of birds.

Another element of good binoculars for birding is the extremely thin coating of magnesium fluoride on all lenses. It reduces glare and light loss from the internal optical surfaces, and is recognizable by the purply-blue sheen on the lenses.

If recording zeal includes burdening yourself from toes to tonsure with cameras, scopes, filters, maps, snacks and guitar (to soothe savage birdy breasts!), compact, 11-oz., pocket-fitting binoculars of six or seven power will delight any birder. But they are not for people whose spending power is strained by the raising of six children, eyes haunted by hunger.

Very helpful to quick viewing is the trick of hanging the binoculars around your neck so they don't flap the buttons off your shirt or beat your chest in but rest more steadily barely inches below your chin. This is also a suitable level for unsuccessful

Rose-breasted Grosbeak *Museum of Man and Nature*

Yellow-bellied Sapsucker *Museum of Man and Nature*

birders, should they want to hang their heads and rest in humiliation on the binoculars.

Will you stop chomping at that proverbial bit! Every birder who competes for approval and honors, or records sightings for science, always needs proof of his exploits. In the event birds fail to follow you to the judges' stand, the easy trick is to take along another important companion — a real, live human. This will be a knowledgeable person who will help you to recognize the birds, confirm your sightings, and smooth ruffled feathers — yours!

Now that basics have been considered . . . .

Wait! What are you doing in that white gabardine jacket and the Mexican straw hat? Just because it's sunny and hot is no excuse for those anti-birding garments. And look at your cute sequined wedgies! They'll be off before the birds. And never mind the mountaineering boots too — you're not going to trail an escaped convict. Which reminds me: dogs are positively **verboten** — tabu — for birding. All pointing will be done by you or your expert companion's nose.

So what is the eager birder to wear? Starting from the top, a peak or close-fitting cap — at least one that's snug on the noggin, will bore through the brush and won't rasp, whine or whistle on branches or twigs. For the torso, tough but soft cloth slacks and jacket in browns or greens (or both) that blend with the shades of foliage serve best. Birds do see colors so black pants, blue shirt, white socks and a blaze-orange cap should warn off-season shooters to restrain themselves from making a sieve of you but would send most birds hunting for dark glasses. And on the feet, for many kinds of birding you can't beat an old fashioned pair of moccasins — they are light, quiet and inconspicuous.

That's the word. The key to successful birding is being inconspicuous though comfortable, all excess baggage and shiny badges, brooches, buckles and baubles having been left on the hall table.

So you think you're ready, eh? You may get awfully thirsty — do you have your little canteen filled with water, and ready to hook silently on your belt? Then your expert companion may become confused in the woods and your compass will save the day. Got it? And you never know when you may need matches (in a waterproof container), a pocket knife, an extra pencil and a whistle. The last is not in case of rapists (although the possibility exists!) but for letting your expert companion know where the heck you are stuck or confused — never lost. A clear set of simple signals on a whistle provide an excellent form of bush communication.

Now, off to the woods with a tra-la-la. Shut up — there's a bird!

(INTERMISSION FOR REACHING SUITABLE HABITAT)

Consider some ways to simplify finding, seeing and recording birds.

A bird calls "Hi(gh)" from a tree. You look and see — nothing, just a blank of foliage. Look again, and not glassy-eyed and with bugs crawling in your mouth and over your glasses, but in relaxed concentration. See the whole tree and focus on the sound and its location. Keep looking. And move as little as possible — birds have keener eyesight than humans and notice all sudden movements. A sudden step backwards, a pointing hand, a nose-wiping arm (It was only a bug!) or a flipped, ah — page in a guide book is all that is necessary to alarm a bird to flight.

Ah, a flash of color. Up with the binoculars with a smooth, fluid movement — no, not with the canteen! You don't see the bird and lower the glasses. That's a mistake. Keep the glasses up and keep watching until the squirrel displays itself or obviously streaks off. But it could have been a Black-throated Blue Warbler.

Birds are not all found **up** in the trees. Check the base where a Brown Creeper may begin its spiralling search up the trunk, or where a White-breasted Nuthatch may end its head-down hunt. See that anthill by the old stump? It is just the right lure for a hungry Flicker Woodpecker. Like the fingers that "walk the yellow pages", let your eyes walk up and down the trees and over the ground. Pleasant surprises are not necessarily around the corner or over the hill.

To facilitate checking with the bird guide, human or otherwise, first note the relative size of the bird you observed. Was it larger or smaller than a House Sparrow, a Robin or a Crow? Note its form: slender or chunky, small or large head, fine or thick bill, long or short neck and tail. Was the head tufted, like that of a Cedar Waxwing or a Blue Jay . . . Was the tail rounded, square-ended or notched? What was the bird's prevailing color? What other colors appeared and in what pattern? It won't take long for these guide-lines to become commonplace and habitual when you follow the birds.

Note, of course, the typical habitat of your bird: bluff, marsh, open field, parkland, pasture. Is it a denizen of grass, crops, shrubs or deciduous or evergreen trees? Most species of sparrows are typically ground foragers, whereas the Catbird and the Brown Thrasher typify birds you can expect in shrubs or heavy undergrowth. Vireos haunt middle to top levels of deciduous trees whose crowns are the chief domain of many kinds of warblers. Thus, knowing what habitat a bird frequents is definitely helpful to identifying the specimen.

Listening, as suggested earlier, is a common, prime factor to bird identification, especially when the bird decides to play hide-and-seek with you in the

hay or bushes. This adds excitement to the sport, revealing that the bird enjoys people-watching.

Such a situation need not disturb you if you persist, for the songster in the bluff, reeds or weed patch will sooner or later sound off and let you know the source by song or call. This is when imagination helps. If what you hear is like the sound of a sleepy insect, a swinging gate badly in need of oiling, or a child's rattle, you can be reasonably sure of the presence of a Clay-colored Sparrow, a Yellow-headed Blackbird or a Kingfisher, respectively, but certainly not in the same location!

Though no two species utter the same song, each kind of bird is capable of surprising variations in its repertoire — even the Common Crow. Wait till you have listened to its melody of love!

If this should seem confusing, listen on an early June morning to a dozen or more kinds of warblers rendering sibilant arias amongst the tree-tops! Be not dismayed though. Beginners and experienced birders alike benefit greatly from listening to three LP records, *A Field Guide to Western Bird Songs*, prepared by the Ornithological Laboratory at Cornell University, Ithaca, N.Y., and arranged to accompany the order of bird species in *Peterson's Field Guide*. Also useful in the field (though quite unethical during official bird counts) is a battery-run recorder with tapes to lure shy species lurking amongst the leaves. Moreover, a recorder is doubly enjoyable when used to record better songs or new sounds of nature.

But other simpler means of enticing the songsters may be at your fingertips. These means are termed *squeaking* and *pishing*. Lips sucking on fingertips produce a sound akin to noisy kisses. Such squeaking done with finesse may draw a hawk or an owl to your attention, if not to open view. Smaller, tree-hidden species may respond to pressed-lip, forceful utterances of "psh-h-h," hence the term pishing. Combined variations of these techniques can produce surprising reactions, especially from suspicious birders new to the game. Advance publicizing is recommended.

Above all, it is quiet patience and persistence that gain the most interesting and satisfying results in birding. Walk and speak softly, and move with care and not too close to birds or their nests, as all birds have their "escape" distance. It is best not to beat a track to a nest since this will only betray predators, natural or human, to the site. Photographers particularly need to practice great care not to disturb site or habitat or the fledglings may be abandoned and the site avoided. In the words of the British Royal Society for the Protection of Birds: "The welfare of the bird must be your first concern".

Least disturbing to the birds but exhilarating for the observer is the woodcraft skill of sitting or lying motionless in a natural clearing and waiting. You will be surprised and delighted at how many birds will soon come into view unafraid. Your enjoyment will multiply and your notes and records will have cause to swell as time passes all too swiftly.

If stalking or waiting for the feathered crowd is not for you, your birding can be surprisingly successful from a car — as long as it is driven slowly. Birds have accustomed themselves to the mechanized monsters. It's only when the humans within them emerge, no matter how stealthily (therein may be the mistake), that birds sense a menace and take flight.

It is also a mistake to expect to find birds readily any time of the day. Although one may enjoy sights and sounds of various species later in the day, especially in sunny weather, birders should know that early morning, when the rest of the community is busy with the fine art of snoring, is the finest time for their pursuits. Whether in a park, by a quiet stream, on a valley slope, or amidst some native prairie, birds are at their best then. Never mind the cynic's observation that birders suffer from a mild paralysis of the central nervous system which can be cured only by rising at dawn and sitting in a bog. As John Rodgers, Vancouver journalist, has aptly said: "A woodland chorus at dawn in June is a medley of songs which cannot be surpassed".

What has been said up to this point provides the most obvious reason for birding — enjoyment of birds. The enjoyment of many birders, however, extends beyond the visual appeal or the music of birds. They realize more and more the benefits of relaxation, exercise and social enjoyment while getting closer to nature and all its fascinating mysteries.

Closer attention to some of the mysteries is manifest by those birders who study birds for their own sake. In some cases the interest is practical and relates to studying certain species towards understanding how the damage they may do to gardens, orchards or farm crops can be controlled. In other cases, individual or combined interests help private or public projects to study and organize protection programs for endangered species of birds. Exemplary of such efforts are those of the Friends of the Bluebirds, Brandon, Manitoba, conservation-minded birders who organize and manage bluebird nest box lines in the Province and assist the Brandon Junior Birders in providing nesting means and protection for the resurgent numbers of Mountain Bluebirds.

Amongst dedicated birders there arise occasional members whose interest has led them to contribute directly to ornithology (the science dealing with birds) by their professional practice such as David R.M. Hatch, natural history field consultant and

columnist, who began as an enthusiastic birder at Oak Lake. In a similar category is Mrs. Barbara G. Robinson of Brandon, Manitoba, who is an amateur ornithologist of the first rank and director of the B.J. Hales Museum of Natural History at Brandon University.

But amateur birders can go even further. There are those who have made numerous, sometimes dramatic and important, discoveries by watching and studying birds. For example Charles L. Broley, after retiring as a bank manager in Winnipeg, became so interested in the plight of the eastern Bald Eagle that he banded more than 1,200 of them. With his studies of the species, he became an acclaimed authority on the Bald Eagle. Eliot Howard, an English businessman, is remembered among scientists, not for his work in industry, but for his book, *Territory in Bird Life*, a classic in its field, and four other books that delve into the secrets of nature.

Birding can be very competitive. This is because listing, to many birders, has become the name of the game. Much enjoyment for listers lies in the approval and admiration of their peers for the skills the lister used to produce the highest number of bird species observed (and confirmed) during a given period of time. Lists may represent birding skills applied — not infrequently, skullduggery too — during a day, a month, a year (annual list), or a lifetime (life list).

It is the life list that crowns the spare — or not so spare — time of a growing small percentage of zealous, bloodshot-eyed birders, and sends them far and wide in their attempts to increase the number of bird species on it. In 1980, Norman Chesterfield, a mink farmer from Wheatley, Ontario, achieved a Canadian count of over 440 species on his life list. According to the *Book of Lists*, he stood second for a world count of 1,300 species of birds he had observed.

Birders list in still other ways. They may record birds of only certain groups such as waterfowl, or migrating birds according to dates of arrival at or departure from certain localities, or all the species known to occur in a park, town or region. A few birders qualify for the armchair category by listing birds observed from a high-rise office or on television programs. There's no end to the amount of paper that the pulp industry produces for dedicated listers!

Yet there is merit to all this listing — well, almost all. Earnest birders improve their observing and recording skills and participate in annual Christmas Bird Counts, breeding bird surveys, migration counts, or help in conservation projects referred to earlier, all done partly in the interest of the science of birds. One of the greatest satisfactions for birders who list results from the records they keep. These records will contain data and observations that, over the years, will be a source of information for interested persons, including conservationists, ecologists and other scientists. Birding can, indeed, be a thrilling pastime for fun and fame.

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Yellow Warbler *Museum of Man and Nature*

Small Mammal Taxidermy

JOHN WYLIE
Manitoba Museum of Man and Nature
Winnipeg, Manitoba

To many people taxidermy means stuffing a skin with cotton or sawdust with the end result being a lumpy, artificial looking skin. While this description may have fit early taxidermy techniques, modern methods are easy to master and require easily obtainable materials.

The techniques outlined in this article deal with small and medium-sized mammals. Small refers to mammals such as squirrels, mice and shrews. Medium refers to animals ranging in size from woodchucks or muskrats up to foxes or otters (**figure** 1). Below is a list of tools and materials needed for mounting a mammal:

* skinning knife
* forceps
* scalpel
  scissors
* fleshing knife
  needle
  thread
* heavy gauge wire
  (e.g. size 16 for squirrels, size 7 for otters)
  balsa wood or styrofoam
  pins
* excelsior
* tow
  twine
  salt (non-iodized)
* papier-maché
  lead sheeting
  (old toothpaste tubes)
* oxalic acid
* glass eyes

* available from taxidermy supply shops

Begin by obtaining pictures of the animal in the position chosen for mounting. Never try to position an animal from memory alone. Also take close-up pictures of the face from various angles. These pictures will greatly aid the development of the facial features and as a result the quality of the mount.

Skinning begins with a ventral or a dorsal incision. The ventral is widely used as it is easily hidden in the finished mount. Make the ventral incision from the anus to a point approximately midway between the bottom of the rib cage and the front legs. Use a knife as scissors will cut hairs and make it difficult to hide the cut. A dorsal incision is made from the base of the tail along the back to the shoulders. From this point skinning and mounting are basically the same for both types of incision.

On small mammals the edge of the skin can be lifted and pried away from the muscle with the blunt end of a forceps. Medium mammals require a knife to separate the skin and muscle. As skinning proceeds the rear legs will become visible (**figure 2**). The muscle of the leg is cut near the hip until the joint is exposed. The femur can them be removed from its socket and any remaining muscle cut (**figure** 3).

Once the legs are separated continue skinning towards the anus. With scissors or a knife cut through the small intestine and surrounding muscle close to the skin. On smaller animals the tail bones can be pulled out without splitting the tail. Grasp the tail bones with the fingers of both hands. While bracing the tail skin with one hand, pull the bones out of the tail with the other hand. Drying the skin and muscle with corn meal will give a better grip. On medium mammals the tail must be split its entire length to remove the bones and fat.

The skin is now peeled off the back of the animal

Figure 1 **A finished mount of a Gray Fox**

Figure 2 **The hind legs have been exposed and partially skinned**

Figure 3 **The rear legs have been severed from the body**

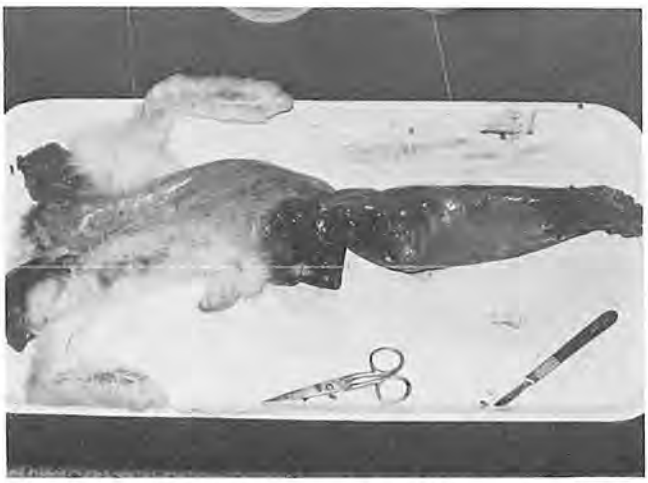

Figure 4 **The skin has been peeled off the back exposing the front legs. They are separated in the same manner as the hind legs**

(or the stomach if a dorsal incision has been used) until the front legs are reached (**figure 4**). The front legs are separated at the shoulder joint in the same manner as the hind legs.

Now the skin can be pulled over the head similar to pulling a glove inside out. The skin will stop when the ears are reached. A pair of scissors or a knife can be used to cut the ear canal close to the skull. The skin is then inverted over the skull until the eyes are reached. As the skin is pulled away from the skull, a dark membrane will become visible over the eyes. This membrane should be cut through with a sharp scalpel (**figure 5**). Be very careful to make sure the eyelids are not cut as they are very difficult to repair. Once the eyes have been passed, the skin can be inverted down to the lips. The tissue holding the lips to the skull is cut close to the teeth. Finally separate the skin from the body by cutting the cartilage of the nose.

To finish skinning the legs, invert the skin over the muscle. On medium mammals it may be necessary to make an incision from the ventral incision down the inside of the leg to the pad of the foot. Skin down to the digits of the foot. On small mammals it should be adequate to stop skinning just past the heel.

At this point a tracing of the body and leg muscles is made as a guide for making the artificial body (**figure 6**). Position the body on a piece of paper in the desired position. Make both a side and top view. The leg muscles are also traced in the proper position for the mount. Once this has been done the muscles and tendons can be removed from the bones of the legs and feet. Any bits of fat and flesh should be cleaned off the skin. Excess fat and flesh must be thoroughly cleaned from around the eyes and lips to avoid shrinkage of the face while drying.

On animals with small ears the layers of skin of the ear must be separated. Insert the tip of a forceps through the ear opening and between the layers of skin of the ear. Work the forceps back and forth to separate them. On animals with large ears, such as foxes, the above procedure can be followed or the cartilage of the ear can be completely removed. It is easier to leave the cartilage in although hair slippage will be more likely. This should not be a problem if the skin is handled carefully. If you decide to remove the cartilage, the easiest way is with the use of an ear-opener available from some taxidermy supply shops. These work like pliers in reverse. The tips will spread apart when the handles are squeezed together. This will force the skin away from the cartilage. If an ear-opener is not available, a sharp scalpel can be used to carefully skin the cartilage out of the ear. The front skin of the ear is extremely thin so be especially careful here. Using the cartilage as a model, cut out a duplicate from lead sheeting (old toothpaste tubes

work well). Pre-formed plastic earliners for many species of animals can be bought from taxidermy supply shops. After finishing the ears any holes that have been made in the skin during the skinning process should be sewn closed. The skin should also be washed in cold water to remove any blood and dirt.

The skin of a medium mammal must now be treated to prepare it for mounting. While small mammal skins can be safely mounted in a raw condition, medium mammals skins will shrink and possibly crack while drying. The first step is to lay the skin out flat, rub plenty of salt into all parts of the skin and leave it overnight. The following day the remaining fat and membrane is scraped off of the skin with a fleshing knife. It will be easier to scrape if the skin is thrown over a rounded beam. The skin can now be pickled in a solution of 4 gallons of water, 3 ounces of oxalic acid, and 2½ pounds of salt. Stir the skin frequently while in the solution. To check if the skin is thoroughly pickled, make a small slit in the skin. If the skin is white all the way through, pickling is complete. Add a few pounds of salt to 2 or 3 gallons of water and rinse the skin several times to remove any traces of acid. The skin can now be mounted in this condition. An alternative to working on the skin yourself is to salt the skin, let it dry for a few days until stiff, then send it to a professional tanner. When the skin comes back from the tanner, soak the head and feet in salted water for a few hours until soft. The hide should be moistened by sponging with a damp cloth. After the entire hide has been softened, it can then be mounted.

If desired, the skin can also be soaked for one hour in a saturated Borax solution. Although not conclusively proven, there is evidence that this will mothproof the skin.

While the skin is soaking, the artificial body can be made (**figure 7**). A heavy piece of wire is shaped to run through the centre of the body. Excelsior dampened with water is wrapped around the wire. The excelsior is held in place by wrapping it with twine. Small wads of excelsior are attached to the body — gradually building it up until the shape approximates that of the outline drawing.

A replica of the skull is carved out of balsa wood or styrofoam. Leave some wire protruding from the body so that the head can be affixed to it. Carve out sockets for the eyes and glue them in place. The junction between head and body can be smoothed and formed with plaster of paris or papier-maché. The body is now set aside to dry. Do not set the damp body inside the skin or drying time will be greatly increased.

Next prepare the wires for the legs and tail. A heavy gauge of wire must be used or the mount will be wobbly. Cut the wire approximately 2/3 longer than the leg bones. Slip the wire along the bones of the leg

Figure 5 **The skin has been passed over the head and the ears cut, and the membrane of the eyes has been partially cut through**

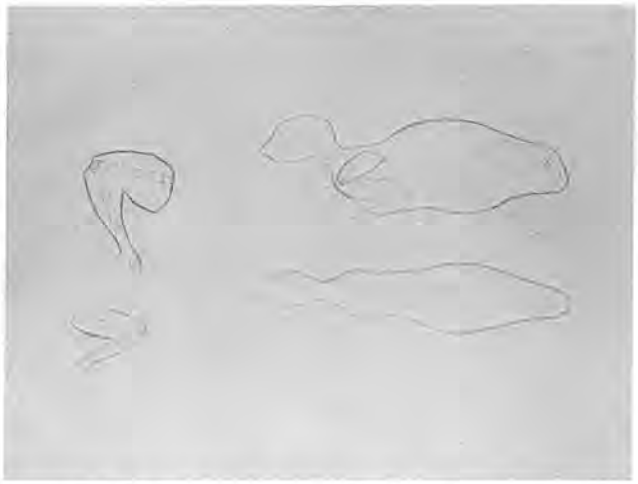

Figure 6 **The body and leg muscles have been traced to be used as a guide for making the artificial body**

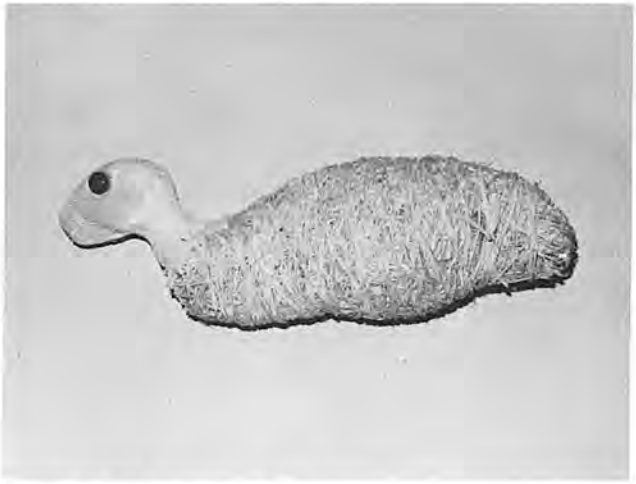

Figure 7 **The completed body**

Figure 8 **Tow has been used to reshape the muscles of the legs. After reconstruction the muscle pulls the legs back into the skin**

Figure 9 **The wires of the front legs have been pushed through the body, twisted together, and bent back into the body. The wire of one of the hind legs has been bent and has been partially pushed into the body**

and out the bottom of the foot. Tie the wire to the joints of the bones. Bend the leg into the required position for the mount. Tow is used to replace the muscles of the leg. This is a finer material than excelsior and is better suited for the finer detail of the legs. The leg is built up until it matches the outline drawing (**figure 8**). A common mistake at this point is to make the leg too round. Most mammal legs are quite compressed and care should be taken to duplicate this. If the leg skin had to be cut open during skinning, it should be sewn closed now.

For small mammals the tail can be formed by wrapping cotton around the tail wire. On mammals with thick heavy tails, such as otters, tow can be used to form the tail in the same manner as the legs. The tail can be inserted now or left out until the artificial body has been placed.

If the cartilage of the ear was removed earlier, the earliners should now be inserted. Cover the liners with papier-maché and push them into the ears. Hold them in place with a few staples. These can be removed after the skin is dry. Before inserting the artificial body, mark the points at which the wires of the legs will be attached. The body is now placed head first into the skin. Bend the wire of one of the front legs until it can be pushed into the body at the proper point. Force the wire through the body until it emerges from the chest. Repeat with the other leg. Pull the two protruding wires until the legs are tight against the body. Twist the wires together and bend the ends back into the body (**figure 9**). The hind legs are attached in the same manner. The tail is inserted (if not done before) and the wire pushed into the body. For a more secure anchor the tail wire can be twisted onto the wires of the hind legs. The junction between leg and body can be smoothed and formed with papier-maché placed inside the skin. Now sew up the incision from the anus to the chest. Sewing in this direction will help to keep the hair out of the stitches.

The face of the animal is now developed. Have at hand all the pictures taken earlier to create as lifelike an expression as possible. Begin with the ears and work forward to the nose. On animals in which the cartilage has been left in the ears, some papier-maché should be worked between the layers of skin. This extra papier-maché will give the ear some thickness when dry and improve the appearance. Also place some papier-maché under the ear to replace the ear butt. The most common mistake when positioning the ears is to place them too far apart. Study your pictures carefully for the correct adjustments.

Next insert two thin rolls of papier-maché under the eyelids to replace the muscle. Pin the eyelids in the proper shape. Place some papier-maché in the nose and under the lips and pin them in place. The

hair can now be blown dry with a vacuum cleaner hooked up in reverse. If desired, smaller animals can be dried before mounting by tossing the skin in a bag partly filled with borax or corn meal.

The animal can now be placed on its finished base or it can be temporarily mounted on a piece of styrofoam or wood until dry. Check the animal daily to be sure the skin is not pulling away from the pins. Once dry, remove the pins and touch up the skin of the lips and around the eyes with oil paint. **Figure 10** shows the rabbit after mounting and drying.

With practice, life-like mounts can be produced to enhance the natural history displays in your museum.

Figure 10 **The completed mount**

Photos courtesy the author

Producing a Small Natural History Exhibit

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Winnipeg, Manitoba

In late 1981 the Manitoba Museum of Man and Nature had the privilege of being invited to participate in the upcoming Canadian National Sportsmen's Shows. The organization is a non-profit corporation and is the foremost producer of sports/outdoor exhibitions in Canada. They are perhaps best known for producing the annual Winnipeg International Boat Show and the Winnipeg International Sportsmen's Show.

It was felt the organizational aspect of the show should be the responsibility of the Extension Department of the museum since the show would be outside of the building. As luck would have it, the Head of the Extension Department was on a month's holiday outside Canada and the request was passed on to myself. It had been a while since I had some actual practice in physically designing, researching, and organizing a display so I accepted the challenge.

The display was to be in the Convention Centre, situated somewhere on a large open floor space, our area consisting of approximately 750 sq. ft. We had no actual say in the amount of space we would occupy as we were invited guests paying no rental fee (as compared to most other exhibitors who were charged for their space).

Knowing the exact square footage and shape of our display area, the next step was to decide what theme the display would cover. I attempted to combine both the natural history as well as human influence in the display while keeping in mind that the entire exhibit be as entertaining and educational as possible.

After carefully studying the collections in the human and natural history storage areas, I eventually selected four different topics — all combining various aspects of natural and human history. The four topics were titled, "Equipment of the Early Sportsman", "Commercial Hunting", "Extinct-Rare-Endangered Species in Manitoba", and "Manitoba — Cougar Country?". Taking into account that the display would be viewed by many people for a short period of time, I tried to keep the label copy to a minimum — having only titles or primary labels and some secondary labels. This also cut down on product costs and time.

Basic display equipment was also kept to a minimum. Three large 4′ x 4′ cube cases (glass on 3 sides) were used as well as one long, low glass-topped case. Backdrops or temporary walls were constructed by covering 4′ x 8′ sheets of ½″ lumber with burlap and building a wooden frame around each one to make them sturdier. These could then be easily fastened to one another by simple door hinges, thus creating instant walls.

Once my topics had been selected, the next stage was to choose the appropriate artifacts for each topic. Perhaps the easiest one was the display on the cougar in Manitoba. The display consisted of 2 artifacts — a full-size mount of a cougar and a skull of an adult cougar. The label copy was self-explanatory as it was a map of Manitoba with all the reported cougar sightings from 1950-1972 as well as two locations

where specimens were actually killed. Dried leaves were sprinkled on the bottom of the case to give a more realistic effect.

The next display, "Extinct-Rare-Endangered Species in Manitoba", took a little more effort as far as research was concerned but sources were readily available. The display was again simple and self-explanatory. It consisted of four bird mounts of endangered species listed by the Canadian Wildlife Federation that are, or once were, in Manitoba. These included the Whooping Crane, Greater Prairie Chicken, Perigrine Falcon, and Great Grey Owl. The remainder of the display consisted of 8″ x 10″ photos of other extinct and endangered species in Manitoba. These were copied and enlarged from various library books and mounted on the 4′ x 8′ panels forming a wall behind the enclosed display. A small typed label naming each photo and specimen completed the display.

The third case was titled "Equipment of the Early Sportsman". It consisted of artifacts gathered in the human history section which were used by sportsmen around the turn of the century such as early wooden duck decoys, silhouette goose decoys, two styles of early portable gas stoves, a bamboo fishing pole, home-made fishing pole, creel basket, home-made wooden goose call, empty shotgun shell boxes, and a double-barrel shotgun. The artifacts were common enough so that no labels were necessary other than that of the title. The floor and back of the case, as well as the boxes used as props, were painted a neutral gray colour.

The fourth and final display was perhaps the simplest in terms of composition but took the longest to research. Titled "Commercial Hunting — Meat for Money", the display attempted to demonstrate one technique that was employed to a limited extent in Manitoba for the commercial hunting of waterfowl. The entire display consisted of one punt, or "swivel" gun, which was fastened to the bow of a small punt or rowboat. The gun was a four-gauge shotgun. Research revealed that the hunter slowly paddled or drifted up to a large flock of ducks, and once in range would attempt to fire one shot as the ducks were just lifting from the water in order to gain maximum killing effect. The birds taken were then sold in local meat markets, etc. Two enlarged photos accompanied the gun — one showing the gun in place on the bow of a small boat and the other a day's bag in the Delta area of Manitoba, circa 1900. Label copy consisted of two small paragraphs explaining how the gun was used and to what extent in North America.

During the eight days of the International Boat and Sportmen's Show there was a total paid attendance of approximately 42,000 people. The 30 - 40 hours spent in researching and gathering material for the display succeeded in producing positive

comments from visitors as well as favorable publicity for the museum.

Costs were kept to a minimum — the largest being a truck rental for two days to transport the exhibit back and forth to the Convention Centre. Most of the display materials, such as the cases, wooden panels, artifacts, props, etc., were already in existence somewhere in the museum — it was only a matter of locating and borrowing them for the show. If a museum had to construct materials for such a display the costs would naturally be much higher.

It is difficult to measure the success of the display as far as its educational and informational values are concerned. However, it did seem to be entertaining just by comments overheard by myself and other staff members. The display appealed to various people and age groups according to which of the four cases were being viewed. The punt gun display seemed to appeal to the male sportsmen, many of whom were unaware that such practices took place in Manitoba at one time. The cougar and rare-and-endangered species displays seemed to appeal to the women and children more than the gun and sporting equipment. Most visitors were surprised to learn there were several cougars in Manitoba and that they existed side by side with man in populated areas. The list of comments could go on and on.

Perhaps the point I am trying to get across as a Museums Advisor is that practically any community museum can put together a similarly successful display with a little imagination, research and time. The display met the goals all museum displays should be striving for — the visitors were being entertained at the same time they were being educated — whether they were quite aware of it or not.

Riding Mountain National Park — Our Wilderness Park

CHERYL PENNY
Assistant Naturalist
Riding Mountain National Park

Riding Mountain rises up as an island of wilderness out of a sea of agriculture. It is an island sanctuary for wildlife, for plant communities and for man.

The park has a long history as a natural reserve for the future. Since the 1870's, when the land around the park began to be settled, the park area has been recognized as an excellent place to hunt, trap, cut wood and gather hay. Because the agricultural capability of the land was not great, it was rarely farmed. The soil was stony, there were many sloughs and ponds, and the landscape was forested. The area's importance to the settlers was emphasized when it was set aside for them in 1895 as a timber reserve. To better manage this valuable diminishing resource, the timber reserve became a Dominion Forest Reserve in 1906. These reserves were managed "to preserve and produce a perpetual supply of timber for the people of the prairie, considering first the needs of the homesteader".

This use continued until most of the farmland around the park was settled. Over the next 24 years the needs of the homesteaders declined and new pressures related to recreation were added to those of resource harvesting.

People have been coming to Clear Lake since the early 1900's to enjoy this wilderness playground. In the 1920's there was discussion in the Manitoba

Legislature to have a national park created in Manitoba. Two areas of great natural beauty were investigated — in the Whiteshell and one in Riding Mountain. On January 25, 1930 a bill was passed through the House of Commons setting aside the Riding Mountain Forest Reserve as Manitoba's only national park. On July 26, 1933 Riding Mountain was officially opened. From that time the park and public sentiment have continued to grow and evolve.

Since 1885, when the first national park — Rocky Mountain (Banff) — was established, the uses of national parks have changed. They were originally recreational playgrounds within some of Canada's most spectacular landscapes while their resources were exploited for logging, mining, haying, and grazing. Wilderness areas were common in Canada at that time and man was fighting to overcome them, open them up, and use them. National parks repeated this theme. As wilderness areas became rarer, however, man's attitude toward them began to change.

By the 1960's, wilderness areas accessible to those living in urban Canada were disappearing. Few Canadians went out to conquer the wilderness and fewer still could even find it. As man's ideas and ideals changed toward conservation and preservation of our remaining wild areas, the national parks began to reflect that change.

It takes time to change the land-use policies of a park. It was 1970 when the last cattle left Riding Mountain and 1971 when the last trees were cut for wood. Canadians chose to preserve a tiny piece of our world for our future!

Riding Mountain has much to qualify it as a national park. Its 2978 km² (1150 sq. miles) are mainly wilderness that has been only slightly touched by man. This one percent of Manitoba's landscape contains 55 species of animals, 23 species of birds, and numerous rare butterflies. It is the meeting place of three different vegetation communities — the boreal forest, eastern deciduous woodlands, and western grasslands, as well as forming a part of that ecotone known as the aspen parkland. There are prairie potholes in their natural condition and the escarpment defines the north and east sides of the mountain with up to a 380 metre drop.

This tremendous diversity is one of the keys to making this prairie mountain park special. It is always in a state of change — natural change. There are few places in Canada or the world where one can watch the natural changes that take place in a functioning ecosystem.

In the late 1800's there were many beaver in the Riding Mountain area. Trees were flooded out and meadows created. There was evidence of beaver everywhere. Then came fire and man. Prairie fires ran rampant over the mountain reducing the beaver's food supply. Man, with traps and guns, removed many more. By the time the park was created there were almost none left. As trapping ceased and man attempted to control the fires, the beaver's food and habitat improved as did his numbers. Today the population has stabilized at about 770 colonies.

Elk were once rare mainly due to hunting. Their habitat increased once man controlled the fires and with the protection of a national park their numbers increased as well. In fact, they grew so numerous that they over-ran their food supply and either had to leave the mountain or die of starvation. In 1947 there were 16,800 elk. By 1953, with their food base gone, there were only 2,500 to return the numbers to the stable levels the environment could handle. Today the population is changing in a natural response to beaver-altered habitat. There are between 4,000 and 5,000 elk, a healthy population in harmony with their habitat and predators.

Wolves, real timber wolves, were and still are hated, feared and killed by man. In 1959, wolf-control stopped in the park. The resources managers came to realize that the relationship between the wolves and their main prey, the elk, had to be left alone to stabilize each other. Since then there have been no huge increases or crashes in the elk population and the number of wolves has stayed between 60 and 120.

These animals are but three within the park, yet the influence they play on each other is intricate and essential. Add in all the other wildlife and you can visualize how essential it is that all parts of the natural world proceed with as little influence as possible by man. This can happen only in a large wilderness area where enough space is available for nature to develop.

The tremendous diversity of Riding Mountain continues because the park is a refuge — a sanctuary away from the actions of man. This is a fundamentally important function of parks:

> *Once an organism is extinct, never in all the universe will that particular species ever occur again.*
> *(Bob Nero, 1976)*

The one percent of Manitoba that is a national park, protected for future generations, contains many species of plants and animals that are rare in southwestern Manitoba and even in Canada. Ospreys, bald eagles, turkey vultures and nighthawks, as well as over 30 other "blue listed" bird species, find protection in the park. Elk, bison, wolves and northern pocket gophers are found here but rarely in the rest of southwestern Manitoba. Six beautiful rare

butterflies and skippers are found along with 76 other species. Two vegetation communities, rough fescue grasslands and hardwood forests, are found here in the farthest extremity of their normal range.

Rough fescue grasslands are rare in Canada. Riding Mountain contains some of the last of these existing prairie plants. Consider a farmer whose pastureland is getting poorer and poorer. The grasses available, adapted from United States seed stocks, are not tough enough for our climate. They are easily diseased and freeze over winter. The plant geneticists at Morden need a new Manitoba grass seed stock from which to develop a strain resistent to Manitoba's climate and diseases. There are no commercially available native grassland species in a pure enough strain to use as a seed source. They go looking throughout Manitoba and find only one spot — the Birdtail Valley in Riding Mountain for their seed source. Eventually a grass resistant to Manitoba's conditions is developed from this seed source.

This is only a hypothesis, but a situation similar to this did develop in Saskatchewan. The tall straight white spruce of Prince Albert National Park were the only seed source foresters could find in Saskatchewan. All of the tall straight spruce outside the park had been cut and used for lumber, firewood, etc. This had been necessary for pioneer survival but our ancestors realized they had to set aside some area to be protected for future need. They were right. The need arose and only Prince Albert could fulfill it.

The same could be true of our poplars or trembling aspens. There are tall straight undiseased poplars in the heart of the park. Outside the park these are prime choices and the first trees cut. All new trees must therefore start from the seed of the leftover, scrawny, more prone to disease, stock until finally the beautiful tall groves of stately poplars are no more and only scrub is left. People are talking about fast-growing poplars to use to make wood alcohol for fuel. The scrub would be a poor starting stock. Maybe this time Riding Mountain will fill the need.

National parks act as genetic reserves of the natural environment, for no other places in Canada are left in their natural state for decades and the future. All these aspects are just some of what Riding Mountain National Park contains. If you want to find out more, just come and see us.

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Natural History Interpretive Tours or Hikes

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Editor's Note: *The following list of suggestions to improve guided tours was compiled by the author for presentation in March 1983.*

What is Interpretation?

Two Definitions:

From Interpretation Canada:
"Interpretation is any *communication process* designed to reveal meaning and relationships of our cultural and natural heritage to the public through first hand involvement".

From a Naturalist with Alberta Parks:
"Interpretation is . . .
—taking the data, the concepts, the information about the resource,
—assimilating this information within oneself,
—discovering which of that information is exciting to you,
—and relaying your feelings and the information to the public WITH MAGIC".

In both definitions communication and communication skills are the essence.

An Interpretive Hike

Now what is an interpretive hike? According to Paul Risk "a conducted activity occurs when the visitor and the interpreter move sequentially through a series of on-site experiences involving actual objects and views". This can include not only hiking but skiing, canoeing, backpacking, etc.

In simpler terms an interpretive hike is where the interpreter, through the communication process, makes the park visitor more aware, appreciative and understanding of his or her environment while on a hike.

Goals of an Interpretive Hike

— Sensitivity to the environment
— awareness
— understanding
— appreciation
— commitment (to maintain the natural environment)
— entertainment

Planning the Hike

Get to Know the Trail:
—walk the trail forward and backward
—get the feel of the trail; get an overview of the trail, write down anything which attracts your attention. Keep senses alert, e.g. note changes in temperature, smells.
—now walk the trail with an identification booklet (or person) and learn as much about it as you can. Include history, plants, possible animals. Try to extend your knowledge of various plants, e.g., stories about plants, plant uses. Use personal stories whenever possible as they will be more interesting.
—also include any animal signs, such as tracks, feathers, scats, etc.

Develop a Theme:
—e.g., plant classification, plant uses, animal signs, etc. The whole talk does not have to deal only with the theme, but by having a theme there will be continuity to the talk. Talks without any theme can seem disorganized to the audience. As a result, the audience may lose interest. The common theme will tie the hike together.

Establish Stops:
—Now go over the trail again with your theme in

mind and establish stops. There is no set rule as to the number of stops or the time one should spend at a stop. The time spent will depend on how large the audience is and their interest/knowledge level. The same is true about the number of stops. A large group will have less stops. Once you have selected your stops you're ready to go. Now all you have to do is practice and you're ready.

Presenting the Hike

Five Points to Remember:
1. arrive early
2. start on time
3. describe what you plan to do
4. do it
5. end it

Arrive Early:
—Once you arrive, don't hide. Make yourself obvious. Use a sign or a sandwich board. Often people aren't sure where the trail begins or where and who the trip leader is. A sign will help.
—Also by arriving early you can talk to and get to know your audience. This will help in at least three ways:

(1) The hike will become less formal if you become friendly with the group before the hike. As a result there will be more two-way communication, e.g., questions.

(2) You will get some indication of the general knowledge level of your group and you can tailor your walk to that level.

(3) You can discover where they are from in an attempt to use examples and analogies that they can relate to. For example, if you know someone is from Eastern Canada or the U.S., you can show them the Saskatoon stating that they may know it as Service Berry.

Start On Time:
—Don't penalize those who arrive early or on time by starting late. However, you don't have to

immediately leave the trail head once you start. Give an introduction to the walk.

— When you do leave, plan your first stop to be visible from the trail head. By doing this you can start on time, but not miss those people who are 5-10 minutes late.

Describe The Activity:

This should be done as part of the introduction. You should include:

a) Your name
b) The organization or agency you represent
c) The length of the trail (in time rather than distance)
d) The trail condition
e) The theme of the hike (and rather than just stating the theme, attempt to say it in a pleasant manner, e.g., for a geology tour . . . "Let's step back in time . . .".
f) You can create a mood to induce people to ask questions. Don't simply say, "If you have any questions please let me know." Instead say something like, "Sometimes I don't see things along the trail. If you see something interesting give me a shout and I'll try to tell you what it is . . . etc".
g) Set out rules of the hike, e.g., leader in lead, no picking, etc. Do it nicely.

CAUTION: Be careful that after a number of hikes you don't develop "COMPUTER VOICE". Computer voice is that monotone "I've said it a million times" voice. Be natural and real.

Do It:

Now you can get on with giving the hike.

End It:

Make sure you have a definite ending to the hike. Don't let your hike simply drift to an end, e.g., "Well, that's far enough . . . uh . . . maybe we'll see you again. Instead . . .

— thank everyone for coming
— if you enjoyed the hike tell the visitors
— try to reinforce some of the concepts discussed during the hike.
— invite the group to another upcoming event (free advertising)

Communication Hints

How you communicate the knowledge is more important than what knowledge you do know. Here are some hints:

Smile

A smile will make you a friendly person and help to create effective communication between you and your group. If you do not smile you can APPEAR threatening to the visitors (even if your aren't). A smile is your number one communication tool.

Don't Take Yourself Too Seriously

Take the event seriously, but don't take yourself too seriously. Have Fun! If you make a mistake laugh it off. The audience will too. Even if you are an expert and know everything, try to stay at the audience's level. Don't give them all your information . . . only the information you think will interest and stimulate them.

If You Are Excited Let It Show

Enthusiasm that you have for a topic will rub off on the audience. Don't bottle it up, let it show through.

Speak So All Can Hear

Speak at a level appropriate to the size of audience, wind noise, etc. Try not to yell. Always face the people to whom you are speaking. If you are discussing a plant close to the ground, speak to your group — Not to the plant.

Listen To Your Audience

Be aware of feedback from the group. This is your way of telling if the group is interested. It takes practice, but after awhile you can read a group well.

Don't Walk And Talk Simultaneously

It is difficult for everyone to hear when you are walking and walking. Always stop and then talk. If you have been discussing some aspect of the trail with the people at the front of the line (as often happens) be certain to share what you have discussed with the rest of the group at the next stop.

Sunglasses

Don't wear them if you can help it. If you must, don't wear mirrored glasses. Your eyes are your best contact with the audience. If the audience cannot see your eyes that two-way contact is lost. Mirrored glasses make it appear as if you are hiding behind them, and this can be threatening to the audience.

Repeat Questions

Be certain to repeat questions so all can hear. Just hearing the answer does not mean much to those who did not hear the question.

Watch Jokes

Be sensitive to your group. Jokes are great, but make certain they don't relate to anyone in the group.

Know When To Be Still

You don't have to always be talking. Sometimes it is best to say nothing and allow the group to enjoy a view, an animal or bird, or a smell or sound etc., in silence.

Watch Visibility

Know where the sun is and try not to position the group so they have to stare into it. When using props make certain they are large enough and are held in a position so all can see. Try to stop the group

crowding around the prop. Be certain children can see. Don't point to something children cannot see from their height, e.g., looking over a small hill or rise. The hill may be too high for a small child to see over.

Try To Stay In The Lead

You may lose control of the group if you aren't in the lead. Politely ask the group to allow you to lead at the beginning of the hike.

Organize The Group At The Stop Before Talking

If you have a large group on a narrow trail you may have to walk half the group past the stop. Then ask them to stay while you return to the centre of the group (or line) and give your talk. Remember to ask the group to wait for you to resume the lead after the presentation. Try to organize the group so as to create a minimal environmental impact. Make certain the whole group has caught up before starting the talk.

Foreshadow

At the end of each stop give the group some indication of what to look for, or what they will see on the way to the next stop. This will help to focus their attention on your theme. It also helps create continuity to the hike.

Use Stories

Always use stories from personal experience (or other) to explain something. An anecdote will help to hold the group's interest, and a personal story creates credibility for the naturalist.

Use Teachable Moments

Try not to get so wrapped up in the theme of your talk that you miss interpretive opportunities happening around you. The audience won't — e.g., if a squirrel is scolding while you are talking about a certain plant and its use, leave the plant for the moment and talk about the squirrel. Your group will be distracted by the squirrel, and this is a perfect opportunity to interpret squirrels. You don't have to stick RIGIDLY to the theme. Paul Risk says this can be developed so that the audience thinks it is part of the planned hike. Risk states "A truly skillful interpreter, like a virtuoso musician, can alter pace and blend (a teachable moment) into the presentation, almost without a perceptible break in any spontaneous situation".

Use All Your Senses

If possible make people aware of changes in smells, humidity, heat, temperature, trail texture, etc. Sometimes it is difficult to get the visitors to participate in smelling a flower or feeling the texture of a tree. You must gain their confidence so that they know they will not be embarrassed. Be certain to do first whatever you ask of your group. Often some friendly cajoling will help, but do not push anyone so that they become embarrassed. Read your audience.

Use Props

Often props are invaluable aids to help explain a concept, or to show something that isn't always easily seen. Use a small pack to carry your "goodies" in. Remember to be certain everyone can see the props when you show them.

Some examples are:

— pictures of animals or birds
— tape recordings of animals or birds
— magnifying glasses
— containers (to hold insects or other items which are fragile)
— rocks
— field guides
— dip net
— insect galls
— owl pellets
— anything goes, so use your imagination.

Note: If you use props from the trail, e.g., antlers, frogs, insects, etc., be certain to return them to the environment, and explain to the group why you do so.

Keep A Reasonable Pace

Start out quickly (to get things underway). Once the group has formed into a line, pace yourself to a speed that is slow enough so you don't lose anyone, but not so slow as to be boring.

Children

Use children to an advantage, as they are often very observant (perhaps because they are closer to the action). Do not ignore children, but do not let them monopolize the hike.

These have been only some suggestions to think of when giving a conducted activity such as a hike, or even as interpretive canoe trip. You will probably think of other ideas as your experiences increase. Add them to the list and be sure to share them with others in the future.

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The Discovery of a Museum

DIANNE BEAVEN
Manitoba Forestry Association
Winnipeg, Manitoba

It all began more than twenty-five years ago and has proven one of the most exciting and rewarding experiences we could have imagined. In 1957 a small group of enthusiasts decided to develop an "outdoor school". That is how the Conservation Training Area came about. Through an Order-in-Council, the provincial government granted the Manitoba Forestry Association a 300-acre tract of land along the Whitemouth River near Hadashville, Manitoba for the establishment of a program in youth education in conservation.

Geographically the area was most attractively situated to become a successful Interpretive Centre, with the natural surroundings lending themselves to fascinating nature trails. Nearly every native Manitoba tree can be found in this predominately Jack Pine forest. We can rival the prairies in a profusion of crocus flowers.

Over the years various facilities have been added to complement the natural features. A model fire tower, a suspension bridge across the Whitemouth River, and a natural history museum housed in a renovated railway car provide additional teaching tools, as does the well-known Tree Planting Car which now serves as a stationary theatre. (The Tree Planting Car travelled the prairie provinces from 1919 to 1974 advocating the planting of trees as farm shelters and home beautification.)

The idea to open a "conservation training centre" was conceived to complement Association programs already in existence. The Manitoba Forestry Association carries on a comprehensive series of school forestry programs with lecturers meeting the students in their own classrooms. However, it was difficult for many urban students to visualize a wilderness community as they had never been in a forest. We thought it was time to allow them to experience "the real thing".

In 1980, with the small area museum reaching a capacity situation and with more displays being donated each year, Association directors and staff, feeling a sense of adventure, decided to embark on a new project — the establishment of the first forestry museum in the province.

The Forestry Interpretive Museum at the Hadashville site was designed so that all those visiting the facility would have the opportunity to discover something they did not know about forests in Manitoba. Although called a "prairie province", 30% of Manitoba is actually covered by forest and of this approximately half is considered productive. Unfortunately, many Manitobans do not realize the importance of this renewable resource which also forms the balance wheel for the other resources of soil, water, wildlife, and recreation. We are attempting to help educate Manitobans and out-of-province visitors in what we hope will prove to be an enjoyable and entertaining experience.

We are most appreciative of the financial assistance and expert advice of many individuals, companies, government branches, and Foundations. A very big "thank-you" is extended to all those who have made our discovery possible.

With the help and direction of Mr. Harry Gyselman, a building was designed and construction was completed in the fall of 1981. Then the real challenge began . . . deciding on displays and exhibits with a central theme of forestry but gauged to adults as well as children. Our aim is to create an interest in our forests and stress the need for every man, woman, and child to accept a personal responsibility in helping to protect this resource.

The new Forestry Interpretive Museum was officially opened by the Honourable Al Mackling, Minister of Natural Resources, on Friday, May 28th, 1982 during a brief ceremony at which 125 Association members, directors, and friends were gathered. Although many of the displays are not yet completed, there is a representative selection of materials and information.

We have discovered we could make a museum . . . Won't you come and discover how well we succeeded!

The Manitoba Forestry Assocation is a non-government agency supported by memberships and

donations and dedicated to encouraging the wise use and management of all the natural renewable resources of soil, forests, water, and wildlife. Through an integrated program which includes school programs, poster competitions, the Smokey Bear Reading Club, the distribution of printed material such as the Conservation Kits produced in co-operation with the Bank of Montreal, and participation in special shows and exhibits, especially during National Forest Week, we reach approximately 100,000 people each year.

Further information on the Conservation Training Area and Museum, or on any Association activities may be obtained by contacting:

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Natural History and the Community Museum: In Perspective

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Community museums, large and small, have existed for many years. They often owe their existence to a single individual's desire to collect the diversity of the material history created by mankind. Less frequently does this collecting ethic include items of a 'natural origin' — in most cases, for no better reason than such material is hard to collect and somewhat harder to exhibit. Is this, however, reason enough to ignore it? In years gone by, those things of a natural origin have been emphasized far more than anything man-made. The lessons learned in the early development of museums can be applied to all museums today, even those that consider themselves to be a small community museum.

In an examination of museums and natural history one must go back many centuries to start the progression. In this manner a better appreciation for museum development and collecting ethics can be obtained. In her book, *Museums: In Search Of A Usable Future*, Alma Wittlin sets out a number of reasons for collecting. Economic hoard collections, social prestige collections, magic collections and collections as means of stimulating curiosity and inquiry are some. Each of her various reasons are valid but one can probably go further back to the time of primitive man to find the beginnings of collecting.

It was not that he collected for the sake of collecting, but as a method of exhibiting prowess and establishing superiority over his fellow man. The trophies of his hunting abilities created a natural leader among men, one who could be looked to for protection and support. It is because of this type of individual that mankind survived to the day when he could collect things because of their value, their magical qualities, or their prestigious qualities. Of these individuals who lived before the written word little is known, but they were surely the forefathers of every collector from whom the museum world has developed.

As societies developed, so developed their economic base of wealth which made up one of the earliest recognized forms of collections. "In an attractive guise the temple collections performed the role of bank and of a public treasury."[1] Each civilization in succession established this identical form of 'collection', up to and including modern society where Fort Knox is the United States' economic hoard collection.

Collections of social prestige have taken many forms over the years. Some have been the basis for museums and galleries to collect the great and the beautiful. Such a man was Napoleon Bonapart of France. In the period of his many conquests, the defeated countries gave up their heritage to the plunderers, to the point where in France "the number of ancient statues and paintings by famous masters ran into the thousands."[2]

Magic collections existed as well. In the world of the supernatural there have been many forms of collections spanning many centuries in which unicorn horns and dragon bones were believed to have curative powers. "A mummy was believed to be vested with such facilities that it pierceth all parts, restores wasted limbs, cures consumption, heckticks and all ulcers and corruptions."[3] Many churches possessed collections of saintly items such as pieces of a cross or the bones of previous religious leaders.

Even as such collections existed there were men who desired more out of life, men who desired knowledge. It is on the basis of such men that great collections of cultural material were amassed. As the collectors became more knowledgeable, their collections became more diversified; ". . . the emphasis was shifting from objects valued mainly for their rare or previous material or their supposed magic properties, to objects illustrating man's natural environment and known ingenuity, including artistic skill".[4] It is on

this basis that the initial steps were taken to establish the forerunners of today's museums and galleries.

A big step forward had been made. To continue, however, without mentioning those collections made up of items which stimulated curiosity and quest would be a grave misjudgment, for those are the beginnings of natural history collections. One must consider the period when Alexander the Great was making his conquests of the then-known world. "Alexander the Great ordered his generals to send Aristotle zoological specimens from all the known world . . ."[5] Such men were desirous of collecting anything which related to a natural history theme, but in doing so they opened themselves up to those individuals ready to make a profit from the ignorance of others.

Rudolf II, emperor of the Holy Roman Empire from 1576 to 1612, had within his collection such items. A comment on his collection indicates he had surrounded himself with ". . . one of the largest collections of masterpieces and trash the world had ever known. Holbein, Durer and Titon shared rooms crammed with cases that held such unlikely items as a phoenix feather, nails from Noah's Ark and a set of mermaid's teeth".[6] These early beginnings were an honest attempt to collect the diversity of life but lacked the orderliness that time and experience would bring.

In about the seventeenth century there appeared collections which became known as 'cabinets'. These represented the efforts of individuals to gather specific items into single cases as well as into entire exhibition rooms. "The Italians had natural history cabinets and these were increasingly referred to as 'museo naturale'. By the end of the sixteenth century there were 250 of these in Italy."[7]

There were many noteworthy 'cabinets of curiosities' representing a broad spectrum of specimens from around the world. The eighteenth century collectors, Margaret Cavendish and Sir Ashton Lever, established some renown for themselves by the quality of their collections. Such collections were much in demand and were sometimes purchased by other collectors. The purchase of the Czar of Russia established the basis for their State museum of today.

In 1759 the British Museum was established around the purchase of the personal collections of Sir Hans Sloane. "In 1733 Sloane's collection including just about everything from coins and pictures of fossils and pathological specimens, numbered over 69,000 items."[8] As such collections became more and more favoured, the demand for curiosities dropped in favour of those things which reflected the desire to know the whys, hows and whats of natural phenomena.

Yet there were still entrepreneurs who utilized the general public's interest in curiosities, which up until then had remained primarily in the hands of and only open to the wealthy. ". . . London coffee houses were quick to cash in on the display of 'unusual natural phenomena' as an attraction for prospective clients."[9]

These early museums however, retained the disorder of their predecessors. To visit such a facility was a trying experience. Artifacts were still displayed row on row, case on top of case. "A visitor had to be well informed about topics presented in a museum to add to his knowledge or to feel stimulated to further thought. . . ."[10] Museums had come into their own but what did they face in the future? Different approaches were made in the Americas and in Europe, thus beginning a period of independent museum development.

Museums in the United States were catering to industrious people from many diverse backgrounds, all wanting to learn how to live in their newly-adopted home. It was therefore left to the museum in the United States to illustrate the new trends of life. "While Europeans generally . . . did not even conceive of the possibility of change in situations of life that were thoroughly familiar to them, the inhabitants of the United States were attracted to novelty as a possible directive to improved techniques of living."[11]

As these few facilities worked to improve their services to the public there began a movement amongst the museums to separate their entities. Departments which specialized in certain fields of endeavour began to break away from their parental organizations. For many museums this was a blessing in disguise. It reduced in-house organization to more similar bodies of knowledge and concern and their work was thus accomplished more efficiently.

This period of specialization led to the origin of many of the major museums which exist today. Those specialized museums, however, were still faced with the problems of overcrowding and unintelligible collections.

In this new era of museum development there appeared a new generation of individuals who retained the desire to sponsor collecting for the sake of collecting as well as for the benefit of the public sector. These individuals were the modern counterparts of the earlier collectors for prestige sake. Gone were the days when a few wealthy individuals could control access to the riches of past cultures and to the curios of the world. "The Toledo Museum of Art came into being, with substantial seed money coming from the glass manufacturer E.D. Libbey".[12]

Structures were being built and collections gathered but the philosophy of museum management and display development had not moved so far as to make visiting such facilities a prospect entirely

worthwhile. In 1980 Julius Langhein said, "A museum is a place where every separate object kills every other, and all of them together, the visitor".[12] Museum operators had still failed to recognize that items have individual character which are suffocated by mass crowding, just as man is suffocated under such conditions and are thus of little benefit to anyone. Not until well into the twentieth century did museums begin to present their collections in what is now considered to be the approved method.

Between the First and Second World Wars ". . . the desire to use the public museum as a means of dissemination of knowledge brought to the fore methods of selection and presentation of exhibits. . . ."[13] In the United States this was a period of rapid change and development for the already established museums as money flowed in from industrial backers. At the same time European museums were being funded through the public purse which did not allow for such rapid and uplifting changes. They would have to wait until after the destruction of the Second World War, when a period of rebuilding would bring them up to the standards set by the then much advanced United States facilities.

Although museums have arrived at a period of modern development and display techniques, the challenge continues as the large museums attempt to bring into line all the sectors of museum involvement. Those individuals controlling the small museums must learn the proper techniques of museum management and display development, for they cannot be allowed to slip into the abyss which swallowed the intellectual development of previous eras.

The most visible component of all museums is its displays. The material on display in a large museum will be only a small portion of its collection. In a small museum most of its collection may be on display. The problems which early museums faced can reappear within a very short period of time if care and judgement are not taken to ensure proper management.

At the same time, we face the risk of becoming too dependent upon the modern style of living — the free society where displays become caught up in gadgetry and complicated connections to the environment become irrelevant to the audience for whom they are intended. It is the displays on which a museum will be judged as to its relevance to the society it serves. A.E. Parr has said, ". . . if the exhibits themselves, unaided by docent lectures, guidaphones, or other audio verbalizers, are not the principle of museum teaching, there is little reason for the museum to remain in business".[14]

This is a challenge all museums must face but one which is more important in a small museum which may lack the expertise and budget to produce high quality displays all the time. In what is often limited space, a small museum must be able to convey an intelligent approach to its collection, a task made that much harder if an attempt is being made to illustrate both human history and natural history material. To achieve this task some thought must be given to incorporating one within the other whenever possible. Whatever display techniques are chosen, they must follow some basic parameters.

The most important parameter to be kept in mind is that the exhibit must always be relevant to the museum, its collections, its location, and its visitors. It must be pointed out that a display cannot be designed for one type of individual without extinguishing the learning potential of a younger or less interested viewer. The display must be designed to reach as broad a spectrum of visitors as possible. In his article, *Cutting Down the Evolutionary Tree*, Harry C. Hendriksen states that ". . . in the average museum situation where instructors are not available and where exhibit labels are the source of interpretation, . . . an attempt should be made by the museum to educate in depth, at the highest possible level".[15]

It is one thing to display and another to educate, which of course is the prime directive of any museum. Though a display may appear to be more entertaining than educational, the fact that the display was enjoyed will ensure that it will be remembered, thereby serving as a comparison to future experience and its educational purpose.

Another term for this process is interpretation. It is up to the curator or exhibit designer to communicate, through the vehicle of display. Freeman Tilden has established six principles around which all interpretation revolves:

I. Any interpretation that does not somehow relate what is being displayed or described to something within the personality or experience of the visitor will be sterile.

II. Information, as such, is not interpretation. Interpretation is based upon the information; but they are entirely different things. However, all interpretation includes information.

III. Interpretation is an art which combines many arts, whether the materials presented are scientific, historical, or architectural. Any art is in some degree teachable.

IV. The chief aim of interpretation is not instruction, but provocation.

V. Interpretation should aim to present a whole rather than a part, and must address itself to the whole man rather than any phase.

VI. Interpretation addressed to children (say up to the age of twelve) should not be a dilution of the

presentation to adults, but should follow a fundamentally different approach. To be at its best, it will require a separate programme.[16]

The extent to which museum personnel comply with these principles will depend upon individual requirements; they should apply to all sizes of museums. For the small museum, putting the principles into practice may involve instituting a major programme but it can determine the relevancy and success of one's programmes.

The manner in which a museum exhibits its interpretive programmes will vary. The approach for natural history specimens is very similar to that of human history material. Some items are durable and can be displayed openly while others, which are fragile or susceptible to damage, must be protected. There are a number of possible ways in which displays can be established:

Systematic — indicating the actual composition of the natural history material and/or how it combines to make an entity. For example: a display featuring the broken-down components underlying rock in a specific location.
Thematic — illustrating a variety of items related to a common topic. For example: the alternative energy sources to an ever depleting conventional fuel supply.
Comparative display — the placement on display of material with corresponding explanations with which the audience can relate and compare personal experience or interests. For example: a display of rocks and minerals which allow rock enthusiasts to compare their own specimens.
Integrated display of interpretive material — a combination of natural history material and human history artifacts on the same subject. For example: a display featuring natural fibres, their identification, and their properties which make them ideal for certain kinds of things, matched with a sample of end-product.
Special exhibit featuring something popular with the public which will attract a lot of attention. For example: a display of gem stones or items from King Tut's tomb.

The choice of exhibit method is quite broad but should serve to illustrate the theme to the right degree. To crowd a case with material is to return to a previous period where the visitor was intimidated by the amount of material and learned little. Care must be taken, however, not to exhibit material insufficient to carry the message or even be interesting to look at. A.E. Parr has said, ". . . simplicity of design, like simplicity of mind is no guarantee of charm. It can also be simply boring . . .".[17]

The material incorporated into a display must almost come alive, in a manner of speaking, and communicate with the audience. In recent years a number of methods for achieving this have been examined and proven successful with the right approach and support.

Perhaps one of the most widely realized and highly acclaimed methods of stimulating a museum audience has been the creation of tactile displays or rooms in which everything can be touched and examined. This is a method of reinforcement as well as a way in which to get people involved. The duplicates which most museums possess in their collections can be utilized in providing such experience, which is a proven asset in the learning process. ". . . studies with the blind . . . indicate the primary importance of manipulative techniques for effective teaching and resultant learning."[18]

Such a method of exhibition is perhaps more difficult when dealing with natural history material but there are a number of alternatives such as displays utilizing samples of various skin and fur types to illustrate the variety of outer body coverings. Another source of display material lies with the use of samples of rock and ore types (suitably large enough to deter pilfering) which can be incorporated into the 'hands-on' type of display.

Many small museums have been fortunate in receiving donations of stuffed animal specimens. These are a valuable resource, despite a bit of deterioration which pratically all but the newest seem to suffer, and can be successfully incorporated into displays. "Specimens of this nature can be incorporated into special exhibits such as those illustrating natural camouflage and protective coloration."[19] Damaged sections of these specimens can be hidden by display prop material, thus utilizing material which might otherwise have been thrown away.

Although the use of stuffed animals or pinned insects has proven quite successful, there is a relatively new technique — live material as an integral part of the display. Some of these materials can be handled by nearly any museum while others should be left to the more specialized natural history museum or zoo.

Since most museum displays are purely static exhibits in that the transfer of information relies upon the exhibited items and descriptive material accompanying the display, the use of live material can create a great deal of vitality and interest amongst the audience. ". . . few specimens can match the attention-getting attraction of a live animal."[20]

The live animal may be the attention-getter but the entire display must tell a story incorporating the live material into the total understanding. "Interpretive use of live animals means using them to enhance a concept, to tell a story or to provide enlightenment."[21] The world of nature has been termed by

many as a world of magic and beauty unseen by most who encouter it. A museum, therefore, has in the use of such material the opportunity to reveal much of what most people are unaware or overlook. "With a little bit of time the world of the insect unfolds before your eyes. All it takes to see a monarch butterfly emerge from its chrysalis is patience."[22]

Aside from displays there are other programmes and activities to generate and hold the interest of the museum's audience. In considering an exhibition there should be auxilliary programs which will stimulate the museum audience to return and perhaps interest others to attend. There are various choices: brochures, publications, lecture programmes, audio-visual programmes, and publicity. Only by gaining the support of the public in one's own vicinity can the museum director hope to continue his operations. "An enlightened public, gaining enjoyment and instruction from its museum contacts is certainly a necessity for the perpetuation of the very museum concept itself."[23]

Museums large and small have come so far since their early beginnings that every step must be forward. It would be too easy to slip backward into the ranks of the nineteenth century museums. But with continued emphasis on interpretation and innovation all museums should be able to carry out an effective display policy. Some may be able to include both human history and natural history material as independent displays or in general combinations of the two areas; but all must seek to serve their potential audience to the best of their ability and to the betterment of the learning process.

FOOTNOTES

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Whatsit?

The following non-identified object was brought to our attention in the hope that one of our readers will be able to identify it.

It is the size of a fountain pen with the needle (middle section) unscrewing from the other two sections. The needle has a sharp point although it looks flat in the picture. It has a groove running along its length on one side and is made of silver. It has been suggested that perhaps it was used for tattoing.

If you can identify this object, or if your museum has an object you would like identified, please write to:

The Editor
Dawson and Hind
190 Rupert Avenue
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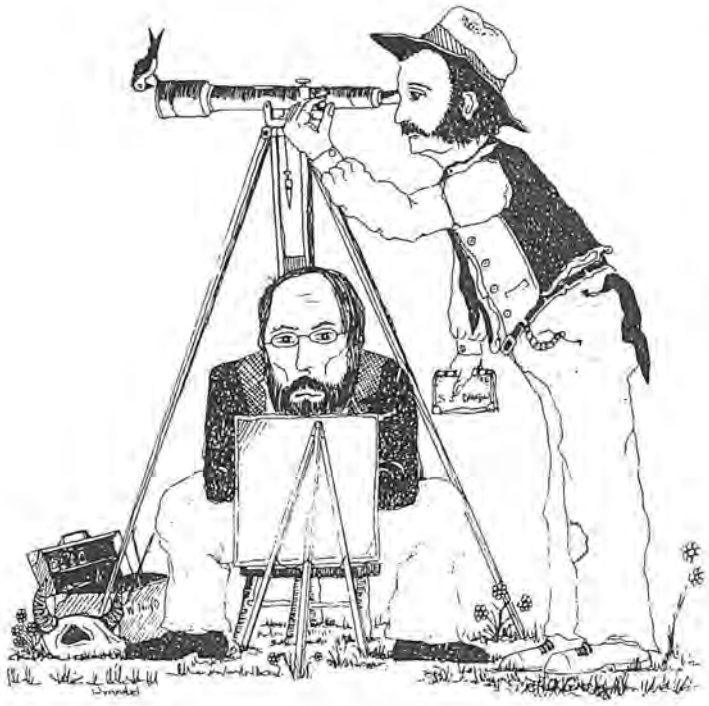
R3B 0N2

When requesting an item to be identified, please enclose a photograph and a detailed description.

Notes to Contributors



S.J. Dawson and W.G.R. Hind

We invite you to submit articles for publication in the **Dawson and Hind**. We would appreciate if you would bear in mind the following guidelines:

1. We would prefer all articles to be **typewritten** and **double-spaced.** We realize this is not always possible; and under such circumstances we will accept handwritten articles only if they are legible and double-spaced.

2. As a rule of thumb, articles should be a **minimum** of four double-spaced pages; or a **maximum** of 20 double-spaced pages.

3. If possible and appropriate, we welcome photographs to complement articles. Black and white photographs are the most suitable for reproducing although colour photos can be used.

4. Please **do not cut or crop** photographs.

5. All photographs must be identified.

6. Photographs will not be returned unless requested, in writing, by the contributor.

7. Should an article include a bibliography, please list author, title, publisher, location and date of publication (as well as name of journal, if applicable).

Please address all articles and correspondence to:

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