



HALLOWEEN:

Its Natural and Unnatural History

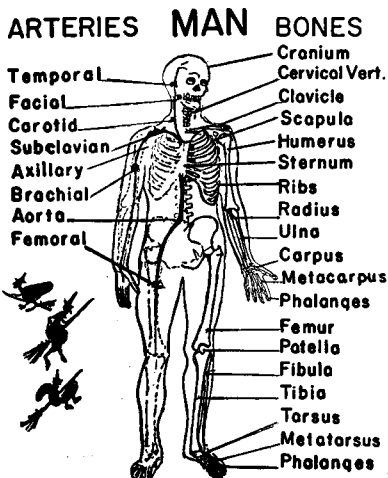
By E. LAURENCE PALMER



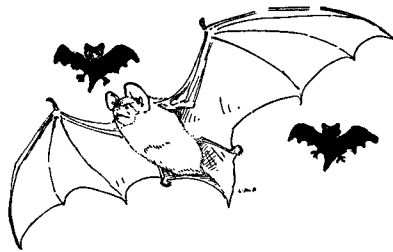
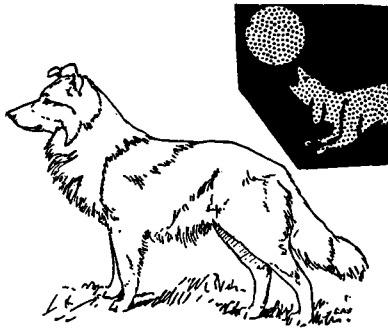
This is the eighty-third in NATURE MAGAZINE'S series of educational inserts.

HALLOWEEN is a time in the year when we can do absurd things without danger to our reputations. Then dignity may bob for apples, beauty put on an incongruous mask, age play-act like goblins and intelligence be utterly frivolous. So we choose to suggest how we may enjoy Halloween's absurdity and yet learn something; eat our cake and have it. We have no wish to rob anyone of a single shiver at the thought of a ghost, providing neither is taken seriously. Maybe a skeleton may scare you, but you can learn something about yourself from it. Maybe a bat may frighten you, but you should know of its usefulness. Possibly an owl's hoot may thrill you, but you should know what it means to other owls, and to other forms of wildlife. Werewolves may be common in your stable of nightmares, but your vote may determine the fate of wolves that represent, in their right place, a glorious segment of Nature. Whitaker Chambers may have thought of the nursery rhyme about Peter who hid his wife in a pumpkin shell, and there kept her very well, when he hid the Hiss papers.

This special insert is different from any other in our series.



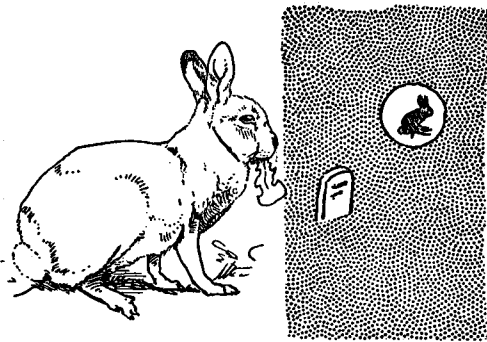
laboratory table, as an enemy of quail, or as a pet beside the radiator. Instead, we consider the cat, as some people do, for its association with witches, luck and moonlight on a back fence.



We like Halloween tremendously. Particularly we enjoy little boys and girls who come to our door, dressed as though they were very important and able, for once, to tell us what we should do—or else. We return courtesy for their seeming discourtesy rather than as loot for their threats, and, since no one takes it seriously, we all have a good time about it. We give them nuts and apples. We have a pumpkin jack-o-lantern to match theirs. We have paper bats, cats and ghosts decorating our windows and walls, and we try to enter into the spirit of the spirits of the time, and of the sprites who keep our front doorbell ringing.

This year we will miss our usual Halloween parties because, instead

of thinking of the moon as something mystic, we thought of it in another way. We like to collect shells. They can be found best when the tide is exceptionally low. Our "California-Mexico Tide Tables for 1955," issued by the Standard Oil Company of California, tells us that, on Halloween, at our favorite collecting spot at Guaymas, Mexico, there will be a subzero tide at 4:19 P.M. And a full moon should light the sky by the time the sun sets, so the collecting period may be a long one. I can look forward to a Halloween evening following a strenuous collecting trip, with a long trudge down the beach loaded with shells collected by my wife while a full moon lights the sky. We may amuse ourselves by thinking of witches, ghosts and gnomes, because we find fun in doing this. But we will have used our knowledge of the moon to make the most of our professional hobby. There is not the slightest doubt that the passing thoughts about the "little folk" that haunt the shadows will serve to make us forget tired bones, soaked clothing and some of the food that we will be forced to eat before we



RABBIT

get back north of the border.

So this is written in the hope that you may use this, and the previous inserts, to understand the natural history of the real units of Nature about which so much unnatural history is attractively available on Halloween. If only everyone who thinks about bats, draws bats, or uses bats in the season's decorations could begin next month by really appreciating bats. If they would, what progress we would make and how much happier we and the bats would be in enjoying our coexistence on this earth. We bow to prejudices in our chart section, this time, and consider the popular role of bats on Halloween. We ask in return that you read the last section of the chart dealing with bats, or the earlier insert where bats were more adequately considered, or better yet, that you get acquainted with a few bats if they are available for study. Forget your prejudices and you will like the bats, I am sure. This philosophy may well be applied to other things, of course, and if we can get you to enjoy something that you previously disliked or feared, you and I will both be much happier.

Last night I took my peppy fox terrier down to a neighbor's house to see my neighbors and their three-year-old son. When the boy and the terrier first came together there was doubt on both sides as to what might be expected. Each was obviously frightened by the other. Both questioned, I think, the cordial approach of the stranger. With no difficulty at all we could have magnified that temporary antipathy between two potential friends, and thus ruined an evening. Instead, we adults sat down with boy and dog and brought them together on an understanding basis. The boy was told not to be too rough with the pup, and the pup was induced to let the boy rub him affectionately. Once the curtain of distrust had been parted, things went along splendidly. In a few moments both little animals were rolling on the floor, having a wonderful time. When the time came to leave it was obvious that a friendship had been established that was truly worth while. The alternative possibilities of such encounter do not have to be elaborated.



RAVEN

I could not help but wonder, after this experience with a pup and a youngster, if some similar understanding might not be effected between many humans and things in Nature for which they seem to have developed resentment. For years I taught students to handle, to appreciate, and even to love snakes. It was not always easy, but I know of no single case where it was not worth while, although I know of plenty of times when I was not successful. Why can we not, this Halloween, set out to try to make people understand cats, bats, skeletons, howling dogs, moons and pumpkins? Why scare a child with a paper bat and then expect him to grow up enjoying these most useful creatures? Why not strive for understanding on the part of all concerned?

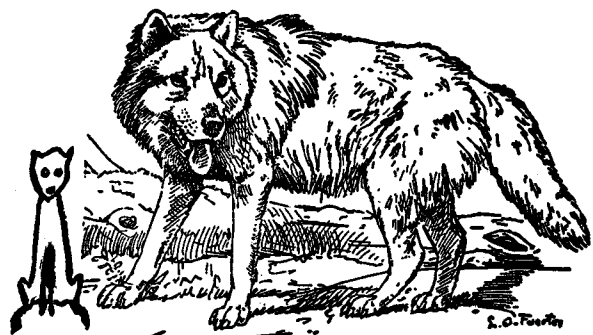
We use paper and imitation skeletons to scare folks on Halloween night; why not, while we are at it, learn to



OWL

name a few of the bones of that skeleton? At our Halloween party we may have a "witch" read our palms, but why press folks into believing that their future is predicated on differences in the lines of their hands, or by the shape of their hands. Watch your television when musical programs are under way. Observe the hands of some of the professional pianists and ask yourself if those hands look as though they were made to get music by tickling piano keys. Look at some of the hands of your attractive friends and see if you think the way they look to you has much, if any, indication of the ability of those hands to do different things. I have a book on palmistry beside me as I write this, and I remember a pianist I saw last night on television. If anyone can reconcile what the book says with what I saw he has real imagination. It was once my lot to be selected from a group to have my head "read" by a visiting professional phrenologist. He was right in his interpretations by about ten percent, and history has proved that, but we all had a lot of fun listening to the man, and none of us took it seriously. I do hope the time never comes when I cannot, for the fun of it, "consult" a palmist or a phrenologist. However, I am afraid I shall never take one of them too seriously, any more than I take the standard reading of

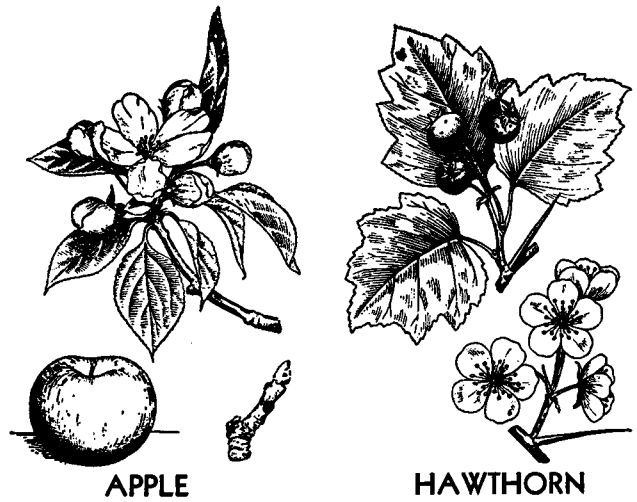
WOLF



my character by an astrologer. Do not bar palm reading from your Halloween party, but if you take it seriously be really sure that you are satisfied with the validity of the basic evidence used. Look for the "life lines" on the palms of those at the next party made up of folks of varying ages, and check what you see with what you are told by the palmistry books. Do not take my word, or the word of anyone, on this. Just test what you are told and come to your own conclusion.

Do not forget wholly the fun of Halloween and similar events. One can pity the person who can have no fun as much as one can pity the person who thinks nothing but fun has value. Do not forget, also, that Halloween, historically, has some religious significance. In short, try to be a well-rounded person finding intelligent satisfaction in many aspects of human experience. Make believe that you are scared at the jack-o-lantern on the head of a six-year-old neighbor, and do not get annoyed at him for ringing your door bell one night in the year even though you are busy. Shiver when you hear an owl, but think of the harmful mice the bird may destroy. Dream about a werewolf, if you must, but wake up soon and grin over the fact that it was merely a dream—if you can. I sometimes find this difficult. Read Poe's "Raven" some dark, windy night when you are at home alone, with the wind blowing outside and just one light on in the house, and that a small one. Then look over your library and read "Silverspot" in Seton's *Wild Animals I Have Known*. Do not pass up Poe, but do not let him set the whole pattern for your life.

Halloween in England is known as All Hallow's Eve, or the evening before All Saints' Day. Of course, it has an origin far back in antiquity, when we compare it with our modern Thanksgiving Day, for example. Both, however, are associated with harvest time. The Roman festival of Pomona, dedicated to the goddess of fruit, is in part responsible for the extent to which



APPLE

HAWTHORN

fruits such as apples, nuts and the like figure in the festivities. Halloween also dates back to the last of the three annual festivals celebrated by the pagan priests of Britain, or the Druids. In England and Scotland, this celebration has long been associated with parties of a frivolous nature, frequently directed, facetiously or otherwise, to divining a future sweetheart. Most of these long-established customs find some representation in the modern activities associated with the event.



BROOM CORN

The establishment of a sensible attitude toward Halloween may call for some of your best diplomatic behavior. You will have to match wits with those who have the most stubborn of prejudices. Many of these persons will have been conditioned by fears of long standing; fears that found their roots in the teachings of those whom they must have inherently respected. It is frequently easier to play on fears than on reason, and while known things can be met head on with convincing arguments, unknown things may be as elusive as a shadow when subject of an argument.

Of course, there are those who believe implicitly in ghosts, spooks, and hexing; in evil eyes and the like. For most of us these lack validity, but for most of us this Halloween there will come the opportunity to help some younger person chart a life course that we believe will be more satisfying if it rests on fact with the fanciful aspects being relegated to a recreational role. I would be the last one to suggest that all reference to fanciful things be banished from life. I know too many unhappy people who hold that attitude. A good ghost story well told, a visit from good old Saint Nick, a few imaginative trips on a broomstick behind a witch on a moonlight night have at times provided too much fun and satisfaction to me to deny similar vicarious experiences to others. Last summer my wife and I visited an old castle in England. It was identified with her ancestry. We have found difficulty ever since in deciding (continued on page 480)



BITTERSWEET



BARBERRY

SUBJECT	CATS	DOGS	BAT	WOLF
POPULAR SETTING	<p>The 81st insert of this series was devoted wholly to cats. Cats, particularly black cats, are reputed to be associated with evil spirits, or to be the residence of evil spirits. They are reputed to bring bad luck, particularly if they cross our paths. They share this quality with the shrews. Usually at their worst they are pictured silhouetted against the moon while perched on a fence, with swollen tail, arched back and glaring eyes. Snarling, spitting and caterwauling commonly contribute to their unpopularity with many persons.</p>	<p>The 64th insert of this series was devoted wholly to dogs. Howling dogs are reputed to be associated with death, or the imminence of death. One book lists nearly 200 sayings supposedly based on dog behavior. "One barking dog sets the street to barking" is an example. Another contends that the last pup born in a litter is the best. Maximum respect for a man is expressed in the saying that a man "honors the very fleas of his neighbor's dog." Howling dogs, at their worst, are pictured howling at a full moon.</p>	<p>The 66th insert in this series elaborated on bats. Geographically bats vary in their significance to man. In some parts of the world they are considered as symbols of good luck. They are falsely reputed to try to get into one's hair. While they may have body parasites, these do not favor human blood. Like wolves, cats and some other animals, they are reputed to be the residence of evil spirits. The vampire is reputed even to take on human form at will, falsely, of course.</p>	<p>Possibly the most diabolic creation of superstitious man is the werewolf, a creature that can change at will from human to wolf and back; a creature that is tirelessly persistent, patient and vindictive; a fictitious being that cannot be killed and is forever bidding its time to destroy its victim. In short, it is a villainous nightmare capable of being as bad as or worse than any of the heinous symbols of Halloween. It is as deceitful as a "wolf in sheep's clothing." Of course, the term "wolf" has many other less hateful associations.</p>
SETTING IN LITERATURE	<p>Legends about cats have been built through stories such as the "Owl and the Pussy Cat," "Puss-in-Boots," the kittens who lost their mittens, Dick Whittington's cat, and "I Like Little Pussy." Cats were worshipped in the Nile region, damned and roasted alive when witchcraft was common, loved, hated, petted, abused, protected, hunted as vermin, abandoned, bred, used in medical research and otherwise treated by man.</p>	<p>One of the best references indicating a close friendliness for a child with a dog is found in "Puppy and I," appearing in A.A. Milne's masterpiece, "When We Were Very Young." Unprofitable avarice is expressed in the legend of the dog who dropped the meat he carried to take meat from another dog that was only his shadow. Kipling, in his "Just-so Stories," held that the dog became domesticated before "The Cat That Walked by Himself."</p>	<p>There is little popular literature likely to make one consider a bat as a desirable animal. The expression "bats in your belfry" implies insanity, and one who is considered as "batty" obviously is not normal. Goldsmith, in "The Deserted Village," used bats to create a desolate atmosphere, and Shakespeare uses them similarly in "Macbeth" and slightly differently in "The Tempest."</p>	<p>Legends have grown up about wolves, and wolves have had records that made them legendary. Imaginative stories have done much to modify man's opinion of the wolf. Kipling in his "Jungle Books," used a mother wolf as a friend of a lost boy. Seton in his "Lobo," London in his "Call of the Wild," Baron Munchausen in his "Adventures," and the average imaginative writer of frontier days have created impossible concepts of wolves.</p>
LIFE HISTORY	<p>Domestic cats may weigh to 17 pounds, measure 19 inches exclusive of an 11-inch tail. They are variously colored, but black cats usually have clear yellow eyes and some white under chin and at tail tip. They may live to 31 years, breeding usually from age 10 months to 14 years. Litters of 8 or more kittens are born 56-65 days after mating. Young, blind for 10 days, develop milk teeth from 4-35 days and permanent teeth begin at 4 months.</p>	<p>Dogs vary in length from 7 inches to 5 feet. Their toes are not retractile like those of cats. Their canine teeth are thicker and shorter proportionately than those of cats and foxes. 6 to 12 puppies are born 59-63 days after the mating. The pups are blind and deaf from 10-12 days, nurse until about 8 weeks, and biologically able to breed at 1 year. Life span may be to 20 years, but usually shorter.</p>	<p>Most bats of our temperate regions feed wholly on insects, taken on the wing, and are therefore of great value. The little brown bat mates promiscuously in the fall, with fertilization delayed until spring. The young nurse for three weeks, fly at three weeks. Females breed at 10 months, males at 14 months. Detect food in flight by radar-like sensitivity to sounds unheard by humans.</p>	<p>A male wolf may measure 64 inches and weigh to 150 pounds; a female, 56 inches and 80 pounds. Each is gray, sprinkled with black, has slant eyes, sharp muzzle, curved canine teeth and ears smaller than those of the related coyote. 3-13 pups are born 63 days after the mating, are blind about 9 days and suckled for two months. The family may run as a pack for a year. Life span may be 15 years.</p>
REAL VALUE	<p>Cats have value as mouse and rat destroyers and may be bred for this purpose. They are disease carriers, great bird destroyers, often excellent companions. Not recognized in literature as are dogs and horses.</p>	<p>Dogs have superior value as companions, as hunters, as watch dogs, as pack animals over difficult terrain, as experimental animals in medical research. They may carry dangerous diseases, but may save many lives.</p>	<p>Obviously valuable insect destroyers. Manure accumulates in hibernation caves as guano and has value as fertilizer. May have 100-mile-diameter home range, and may live to 10 years, at least.</p>	<p>Wolves serve to keep smaller or weaker animals reduced in numbers; may be enemies of stock, particularly young horses; are probably extinct in most of United States except Michigan and Wisconsin.</p>

RABBIT	OWL	RAVEN	TOADS	MAN
<p>The 7th special insert in this series considered rabbits. Superstitious folk associate rabbits with graveyards and ghosts, and feel that a rabbit's foot, properly rubbed, may protect the holder from dire consequences. To make them handy, rabbits' feet are sometimes used as watch fobs. Their use as ghost repellents compares with the preventive chewing of chicken feathers where voodooism holds sway. Possibly because of their assumed association with spooks they are avoided by some under some circumstances.</p>	<p>The 19th insert in this series dealt with owls. In popular concept, owls are endowed with great wisdom, yet many fear them and their calls. In the "Comedy of Errors" we read "This is the fairy-land; O spite of spites! We talk with goblins, owls and sprites," and in "The Tempest" it is: "There I crouch when owls do cry. On the bat's back I do fly." Obviously this is good Halloween atmosphere. The relatively large eyes of owls usually serve to create a mysterious effect emphasized in Halloween symbols.</p>	<p>Possibly no writing compares favorably with Edgar Allen Poe's "The Raven" in producing the synthetic shivers considered as desirable on a Halloween party. This, of course, does not refer to the effect of the poem on children, who might be expected to go to sleep in the midst of its reading. Ravens are reputed to have mysterious significance, even the British protecting the ravens near London Bridge because they say as long as the ravens are there England will stand. Possibly cause and effect is confused here.</p>	<p>The 30th insert of this series dealt with toads and their relatives. They are not too closely identified with the Halloween season because by that time they have, over the northern part of their range, gone into hibernation. However, they do figure prominently among the animals about which we have fixed superstitions. On a recent quiz program, a woman refused to handle a toad even when promised a long, paid-up journey if she could make it give her a wart, and even though she said that she knew how to cure warts.</p>	<p>The 7th insert of this series gave the story of man. Apparently the more primitive the people the more likely are they to consider seriously the mystic world, giving human form to mystical concepts or mystic powers to man himself. Fairies, pixies, gremlins, brownies, the "little folk" and Santa Claus are most likely to refer to kindly creatures of the imaginative spirit world. Duppies, bogies, goblins, ogres, devils, giant, leprechauns, sirens, mermaids and banshees may bode ill for man.</p>
<p>Rabbits have established popularity with most persons, partly because they have been favorably conditioned by such fictitious characters as Brer Rabbit in the Uncle Remus stories, Peter Rabbit and Molly Cottontail, Raggylug of Seton, Bugs Bunny of the cartoons, Uncle Wiggly of the newspaper columns, and, eventually, by that lovable character, "Harvey," of the theatre. These frequently distort the true picture.</p>	<p>Children learn about owls through hearing of "The Owl and the Pussy Cat," or, more delightfully, in what A. A. Milne tells about the adventures of Wol in the "Winnie the Pooh" verses. Most stories may touch on the silent flight of owls, and upon their living in holes, including the "Wise old owl" who "lived in an oak. The more he saw the less he spoke. The less he spoke, the more he heard. Why aren't we all more like this bird?"</p>	<p>Children may well be conditioned unfavorably to ravens by Walt Disney's representation of a raven as the spirit of evil in "Snow White and the Seven Dwarfs." It is unfortunate that the raven there was so effective in introducing a sour note into an otherwise delightful story. Sam Scoville's "The Raven's Nest," portraying his quest of a raven's nest in Pennsylvania, should be read as an antidote for Poe and the Snow White story.</p>	<p>Many fairy stories available to children deal with toads, usually to the detriment of the reputation of these useful animals. Youthful royalty may be turned into toads by vengeful witches, only to be freed by kindness of some good person. In one story of toads and diamonds a "bad little girl" was punished for discourtesies to an old lady by having toads jump from her mouth every time she spoke. Result, great unhappiness.</p>	<p>Ghosts, spooks and witches rank high in the frightening aspects of Halloween, which now we fortunately do not take seriously. Hamlet's ghost, Macbeth's witches and the headless horseman give readers vicarious chills. More dynamic and serious to some are what we get from witch doctors, and those who practice voodoo, obeah and hexing. On the periphery of this mystic side of man comes belief in palmistry, phrenology and astrology.</p>
<p>In popular literature the term rabbit is used to cover both hares and rabbits. Young hares are born more fully developed than are young rabbits. They are well furred, their eyes are soon open and they can move about more quickly than do young rabbits. Both are usually polygamous, producing a number of large litters a year. They are fair game for most predators. They may develop large populations and suffer from diseases.</p>	<p>We consider the screech owl, a bird that measures 10 inches in length, weighs 5-6 ounces, is found in a red or a gray phase. The nest is in a hollow in a tree and is unlined. 3-7 eggs hatch in about 3 weeks after incubation by one or both parents. There is one annual brood and the food is primarily insects, although it may include many mice, some small birds, frogs, earthworms and salamanders and, rarely, poultry.</p>	<p>Ravens have a length of to 26 inches as compared with 21 in a crow. The raven's tail in flight appears more rounded than that of a crow. Ravens build a coarse twig nest in a tall tree, or on a cliff. The 5-7 eggs hatch in about 3 weeks, with both sexes incubating. There is one annual brood. The food is largely insects, mice and rats, though they have been known to kill small lambs. Ravens work cooperatively.</p>	<p>Toads do not give warts, although some can give off a substance most offensive to dogs and irritating if rubbed into human eyes. The common toad mates in the spring, with the male giving a prolonged high-pitched trill at breeding time. The eggs are laid in strings, hatch into small, black tadpoles that serve as scavengers and after about 2 months transform into little toads that come out of ponds; do not rain into them.</p>	<p>As an animal man is born 9 months after the mating, matures sexually in the 2nd decade and has a life expectancy constantly lengthening because of ability to understand disease, willingness, individually and collectively, to fight it and the basic will to make the most of life for individual and social good. Most progress has and will develop through linking the products of imagination and intelligent work.</p>
<p>Rabbits and hares generally are destroyers of plants needed by man and by his domestic animals. Attempts to control them by introduction of epidemic diseases have sometimes gotten out of hand. Popular game species.</p>	<p>Screech owls are essentially useful. Our most useful owls are the barn owls, which feed almost exclusively on rats and mice, a family requiring to 100 a day. Long-eared owls also rank high in value.</p>	<p>Ravens usually are considered as useful scavengers. Poe's attributed intelligence has not resulted in their holding their original territory as well as have crows. In spite of this, Poe's "Raven" is wonderful.</p>	<p>Toads as adults are most useful as destroyers of insects and slugs that attack garden plants. They may also destroy useful earthworms. The normal person's reaction to toads should be highly favorable.</p>	<p>Man, through his ability to control his own environment and to discipline himself and the forces of nature, can master the world, and possibly himself, if he accepts the responsibility with his ability.</p>

SUBJECT	PUMPKIN	APPLES	BROOM CORN	WITCHES' BROOM
POPULAR SETTING	<p>The 18th insert of this series dealt with pumpkins. Pumpkins are featured at Halloween and Thanksgiving time. Made into jack-o-lanterns, they vary from crude, candle-lit devices designed to be carried on the head or left in a window, to pumpkins lighted by electric lights that can be turned on and off at a distance with startling results. It is ridiculous to expect a jack-o-lantern made of a pumpkin to scare human beings, who as a group have rejected belief in witches, ghosts and similar figments of the imagination.</p>	<p>The 16th special insert of this series dealt with apples. A standard Halloween game calls for "bobbing" for apples floating in a tub of water while ones hands are tied behind the back. Put on a competitive basis, this yields an abundance of appropriate fun. Similarly, apples hung on strings at mouth level and eaten by competitors of opposite sexes provide merriment, but little nourishment. The standard Halloween party refreshment is apple cider, and apples are used as ornaments and in satisfying "tricks or treats" penalties.</p>	<p>The 31st of this series of inserts dealt with corn. Corn ranks high in the story of Halloween, whether we consider the broomcorn broom on which the witches are supposed to ride, or the more realistic corn stalks that provide an abundant, quick decoration to produce an outdoor atmosphere indoors. Popcorn is relatively common in Halloween snacks, and ears of corn make good and appropriate wall decorations. Of course, popcorn does not come from broomcorn, but for that matter the brooms of witches are made from whimsy not from corn.</p>	<p>This subject has not been touched on previously in these inserts. There is a natural creation properly known as witches' broom, but of course not used by witches. Trees such as elms and hackberries often have witches' brooms in abundance on them. They appear as broom-like clusters of twigs, usually near the ends of branches, and are most abundant in our middle West, although they are found elsewhere. Similar growths may be found on many kinds of cherries and plums, and on other trees and shrubs.</p>
SETTING IN LITERATURE	<p>Children are started early to think of pumpkins as containers. Peter, Peter found a pumpkin-shell in which he kept his wife very well. Cinderella rode to the ball in a magic pumpkin coach drawn by mouse-horses. Much later we learned of the use of pumpkins to hide the famous papers that sent Hiss to jail. It remained for the poet Riley to use pumpkins as a symbol of autumn with his "When the frost is on the pumpkin."</p>	<p>The mere fact that apples are not too closely identified with the possibly unpleasant ghosts and spooks of Halloween may be taken as evidence that they are just too good to be the targets of suspicion. An apple a day may keep the doctor away, but hard cider and applejack may bring him back again. Apples creep into homely expressions such as the "apple of his eye," "applesauce" and "apple-cheeked," and into the William Tell story.</p>	<p>Just as Riley made pumpkins a factor in the autumn scene, so he added corn when he wrote, "When the frost is on the pumpkin and the fodder's in the shock." Brooms enter into such sayings as the proverb "A new broom sweepeth cleane" a saying frequently taken seriously by newly elected politicians. Swift, in his "Meditation upon a Broomstick," said "Surely man is a broomstick," but that might be controversial.</p>	<p>Since this subject has not been treated elsewhere in the inserts we elect to stick more closely to our subject here than in most of the other cases. The witches' broom of our trees is usually caused by a fungus that attacks the bark and wood of the host plants, stimulating bud growth and causing the deformity. Some witches' brooms are caused by mites and by fungi. The fungus is usually an <i>Ezoascus</i>.</p>
LIFE HISTORY	<p>Pumpkins are native of America, where they have been cultivated since 1500 B.C. They are grown in hills, frequently jointly with corn. They are closely related to squashes, cucumbers, gourds and canteloupes, and should not be grown too closely to some of these. 1 pound of pulp of the rind yields about 180 food calories. About one-half the purchased weight is usable as food by man. In oriental countries the seeds are roasted and eaten as delicacies.</p>	<p>Apples are native of Europe and Asia but widely cultivated in temperate parts of the world. Johnny Appleseed was reputed to have done much to spread apples over early American settlements. Fruits are rich in vitamins B and C. New orchards may bear in 4 years. At maturity, yield may be to 500 bushels of fruit to the acre. Sprays, suitable storage, careful harvest and wrapping increase market values.</p>	<p>Broom corn is a native of tropical Asia and Africa, while the corn we eat is native of America. It is most closely related to sorghum, durra and kaffir corn, Sudan grass and Johnson grass, all of which are in the genus <i>Holcus</i>, while our edible corn is in the genus <i>Zea</i>. Obviously, then, we took enormous and possibly unjustified license in the first section above. This may be excusable, we hope.</p>	<p>Witches' broom fungus may live in the wood of the infected tree from year to year. Leaves developing in the infected area may develop a whitish under-surface after falling to the ground, and this may serve to spread the disease to uninfected plants. Some degree of control may be effected by burning leaves of plants under infected trees, although this does not control the fungus in the wood.</p>
REAL VALUE	<p>Pumpkins are stored at 50-60°F., or frozen for use in pies. There are those who contend that bakery-made pies are pumpkin pies while home made pies are punkin pies, but we will not try to define the differences.</p>	<p>Apples are a major fruit crop in the United States, producing fruits sold fresh in the market, canned as apple sauce, cider, vinegar, valuable charcoal, superior fuel, welcome shade and beauty.</p>	<p>In the 31st insert we gave the factual story of broom corn, and this apparently has little to do with witches or their brooms. This may again only point up some of the absurdities of Halloween natural history.</p>	<p>Witches' broom on fruit trees may ruin branches for fruit growing, and where this is the case control may have to be severe and continual, otherwise the crop loss may be serious.</p>

BITTERSWEET	MAY TREE	BUTTERNUTS	BAYBERRY	THE NIGHT SKY, OCTOBER 31, 1955
<p>There is little mysticism associated with bitter-sweet, but many of the plants are used in Halloween decorations. This justifies inclusion in this treatment. The plant is <i>Celastrus scandens</i>, a weak, woody vine that climbs and twines over trees and shrubs. A plant may reach a length of to 30 feet, or even more. The twigs are a yellowish-green to brown, and commonly winterkill at the tips. The leaves are alternate, more or less 2-ranked, to 4 inches long and half that in width, smooth on both sides and pointed.</p>	<p>The nursery jingle tells us "Here we go gathering nuts and may, but usually it is changed to nuts "in May." This is even too absurd for Halloween unnatural history, so we elect to adhere to the original text. The "may" referred to in the jingle is the may-tree, a member of the genus <i>Crataegus</i> to which our common thorn-apple belongs and of which there are a most confusing series of close relatives. Of course, the may was collected for home ornament and was taken as incidental to a nut-collecting jaunt.</p>	<p>The 11th special insert in this series dealt with nuts. We elect to consider butternuts as representative of the nuts because so frequently they constituted a substantial part of the Halloween feasts in the early days. The species popular for this purpose at Halloween time will vary greatly in different parts of the country, but are probably considered in the 11th insert. Our dictionary gives 24 different definitions of the word nut. At least one is significant here.</p>	<p>Since candles are used so frequently in Halloween games and pranks it is appropriate to consider here at least one plant useful in making candles. Possibly the most famous of American plant sources for candles is the bayberry, or wax myrtle. The myrtle warbler gets its name from the habit it has of feeding on the fruits of this plant. Candles, of course, are popular in many mystic rituals of religious, fraternal and other organizations. Candle-lighting ceremonies are effective, particularly with great crowds.</p>	<p>Halloween's night sky should provide an ideal setting for Halloween, realistically or mystically. There should be a full moon. At Guaymas, Mexico, where the writer hopes to be, there will be a subzero tide at 4:19 P.M., sunset at 6:31 P.M., moonrise at 5:23 P.M., a superb beach, a shell-crazy wife. Nuf sed. If the stars can be seen you may understand them with the help of special inserts 3, 29 and 36. We hope that wherever you may be watching birds cross the moon, shell-hunting or ghost-chasing, you will enjoy the night.</p>
<p>Bittersweet ranges from Quebec to North Carolina and west to New Mexico and Manitoba. There are some 30 species in the genus, some living in tropical America. This is the only species in temperate North America. The plant is conspicuous in fall and winter, when the fruits burst showing characteristic red and yellow clusters with each fruit to 1/2-inch in diameter. The twining vines may kill trees.</p>	<p>A few, but not many, of the native <i>Crataegus</i> species yield fruits that are edible. Medsger, in his book on edible plants, says that there are twenty species of hawthorns or thornapples, which are our native may-trees that produce edible fruits. Some of these produce early fruits that may be made into jellies, but most ripen late in the season. Some are edible if eaten raw, but the large pits make nibbling necessary.</p>	<p>The female counterpart of the Egyptian god Nut was Nut, the consort of Geb, the earth. Her winged image was frequently painted on coffins and because of this might well be considered during an evening devoted to ghosts, spooks, skeletons and other concepts and realities designed to stimulate fright, either real or simulated. Of course, too, the term nut applied to crazy folks might be applied to pranksters.</p>	<p>Romeo and Juliet remind us of how far candle-light may be seen and imply a moral that is at least thought-provoking. One poet sees "bees' hymns in wax candles," assuming that while the candle burns she can see back and hear the hum of bees that collect the wax used in the candle. Unfortunately most of our modern candles are the product or by-product of the oil industry. Even the tallow candle is gone.</p>	<p>We elect to emphasize the moon as the most important element of this Halloween's night sky. Moonlight has a real, or at least imagined effect on romance, crime, growing crops and other activities. Some of these may be as real as the effect of the moon on the tides. Others may mask behavior or be as whimsical as a "Midsummer Night's Dream." On a night like this it may be easy to imagine ghosts, goblins, or witches.</p>
<p>Some bitter-sweet plants bear only stamens and then, of course, do not bear fruits. Other plants may bear both stamens and pistils. Reproduction may be made by cuttings, being careful not to make cuttings from plants that bear only stamens. Some plants have variegated leaves, which to a small degree enhance their ornamental and, of course, sale value. Close relatives include the burning bush.</p>	<p><i>Crataegus</i>, in one species or another, are found from coast to coast. Some are attractive because of their flowers, but others bear flowers that yield an atrocious odor that smells like rotten meat. The genus is a member of the rose family, and the fruits resemble rose hips or apples at times. The fruits may be red in some species and yellow in others. Most of the thornapples bear villainous spines.</p>	<p>In the realm of reality butternuts are borne on trees that reach a height of to 100 feet. They are found from New Brunswick to Quebec and Minnesota, and south to Georgia and Arkansas. They grow in rich soil, commonly at higher elevations than the related black walnuts. The wood is lighter and softer than that of the popular black walnut. The sap yields a sugar, and has been added to maple sap in making sugar.</p>	<p>Bayberry, the elixir of candle producers, grows in swamps and wet woodlands from New Jersey to Florida, west to Texas and Arkansas and in the West Indies. It may be at its best in the New England area. The blue, wax-covered fruits are boiled and the melted wax skimmed off and poured into moulds. When the candle burns it gives off a delightful fragrance. Two species, <i>Myrica cerifera</i> and <i>M. carolinensis</i>, are used.</p>	<p>To help you understand the moon we give you a picture. If you understand the phases of the moon you may be able to tell direction if you become lost. If you plan an expensive seashore trip and know the moon you can be sure that you land where you wish at the right time. In spite of all the excitement about space ships, it is doubtful if any person now living will make a round trip to the moon and live to tell of it.</p>
<p>Bittersweet is rather closely related to other ornamental woody plants such as holly, black alder and bladder-nut. Clusters of fruit-bearing twigs find a ready sale with florists.</p>	<p>May-trees are grown primarily for their ornamental values though some are used deliberately in hedges where their stout spines provide effective discouragement for trespassers.</p>	<p>Many uses of butternuts might be cited, including the pickling of the young nuts in vinegar, sugar and spice, the use of the roots in medicine, of the bark and husks in making a dye and of the meats in candy.</p>	<p>Probably more persons know bayberry as an attractive ornamental purchased in small bunches in a flower shop, or as an ornamental used in landscaping, than will ever see, buy or smell a bayberry candle.</p>	<p>We hope that this insert will damage the false concept that the wisest use of leisure is to waste it doing nothing of consequence. Enjoy your ghosts if you will but understand what is back of them all.</p>



(continued from page 475)

which part of that most memorable day meant most to us. Was it the part identified with history and the fights between the Scots and the English? Was it the distorted American history about George Washington, identified with the Washington coat of arms on the castle and wrongly identified by the English with our American history? Was it the romantic angle suggested between a man and a maid? Was it the story of fallen roofs caused by pilfered lead during a national military crisis? Or was it our search through dungeon and ruin for the two ghosts of the castle? Of course, we knew there were no ghosts, but I am glad I still could feel a thrilling chill when I explored alone in the dark the dungeon under that castle. I am glad that I am not too old and too rational to take that trip again next year, when we expect to return. I hope I can get the same thrill when I go on a hunt there for something I absolutely know, to my own satisfaction, does not exist. Possibly it is with the thought that I hope others can get this sort of satisfaction from Halloween that I elected to devote this insert to the subject. May you have many a thrill on the night of October 31, 1955. On the morning of November 1, 1955, may you really know something more about cats, bats, skeletons, howling dogs, owls, wolves, ravens, rabbit feet and men.

We cannot here go into great detail on Halloween, Halloween history, Halloween parties and the like. I cannot give you the pros and cons of palmistry, the story of hexing, or the history of witchcraft. Instead, I will merely suggest a few books that may be useful to you should you wish to explore the subject farther.

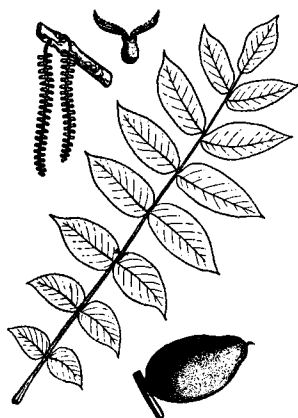
From a rather considerable library of material useful in planning parties, I am sure that the one I know to be most useful for Halloween is *The Fun Encyclopedia* by E. O. Harbin, 1008 pages, published in 1940 by Abington-Cokesbury Press of New York City.

More modest in treatment and price, but of much help, is Dennison's *Bogie Book* of 36 pages published by Dennison's Manufacturing Company of Framingham, Massachusetts.

To help you investigate the field of palmistry, let me suggest that you read *How to Know People by Their Hands*



WITCH'S BROOM



BUTTERNUT



TOAD

by Josef Randal, 144 pages, published in 1938 by Modern Age Books of New York City.

If you wish to study hexing a bit on the side read *Hex, No* by Alfred L. Shoemaker, 32 pages, published in 1953 by the Pennsylvania Dutch Folklore Center of Lancaster, Pennsylvania.

Any library will have a reasonable amount of literature on witchcraft, on ghosts and ghost stories and on superstitions so it should be unnecessary here to provide references.

It is quite probable that there are few fields of study that should offer greater opportunity for discovery than that of trying to find what local traditions regarding Halloween may be, and how these differ with those of other areas. I find in my community that there is always some confusion as to whether it should be celebrated on the night of the thirty-first or the first. Some even suggest that it should be observed on the preceding night. These may be young folk straining at the leash to get out and raise a little rumpus. Of course, as the years go by we have begun to show sense in some of these things. I would hate to think of what might happen to my place this Halloween if the neighborhood youngsters worked under the rules that were observed when I was their age. Certainly we now observe not only a more sane Fourth of July, but, also, a more sane Halloween.

One of the best evidences of our community having grown up is the practice of merchants to offer prizes to youngsters who will do the best job of decorating the store windows with soap drawings and the practice of having a Halloween parade

under police supervision, where ingenuity gains at least some degree of public recognition and competition adds zest to the Halloween celebration.

In my own case, my early Halloween experiences have had some lasting effect. I used to enjoy fresh cabbage. One Halloween a group of us youngsters raided a neighborhood garden and I gorged myself on delicious cabbage. So completely did I do this that, to this day, more than a half century later, I cannot stand the smell of cabbage. Fortunately destruction of property, even of cabbages, seems to have gone out of style with the years. For this I am duly grateful. We are growing up.