

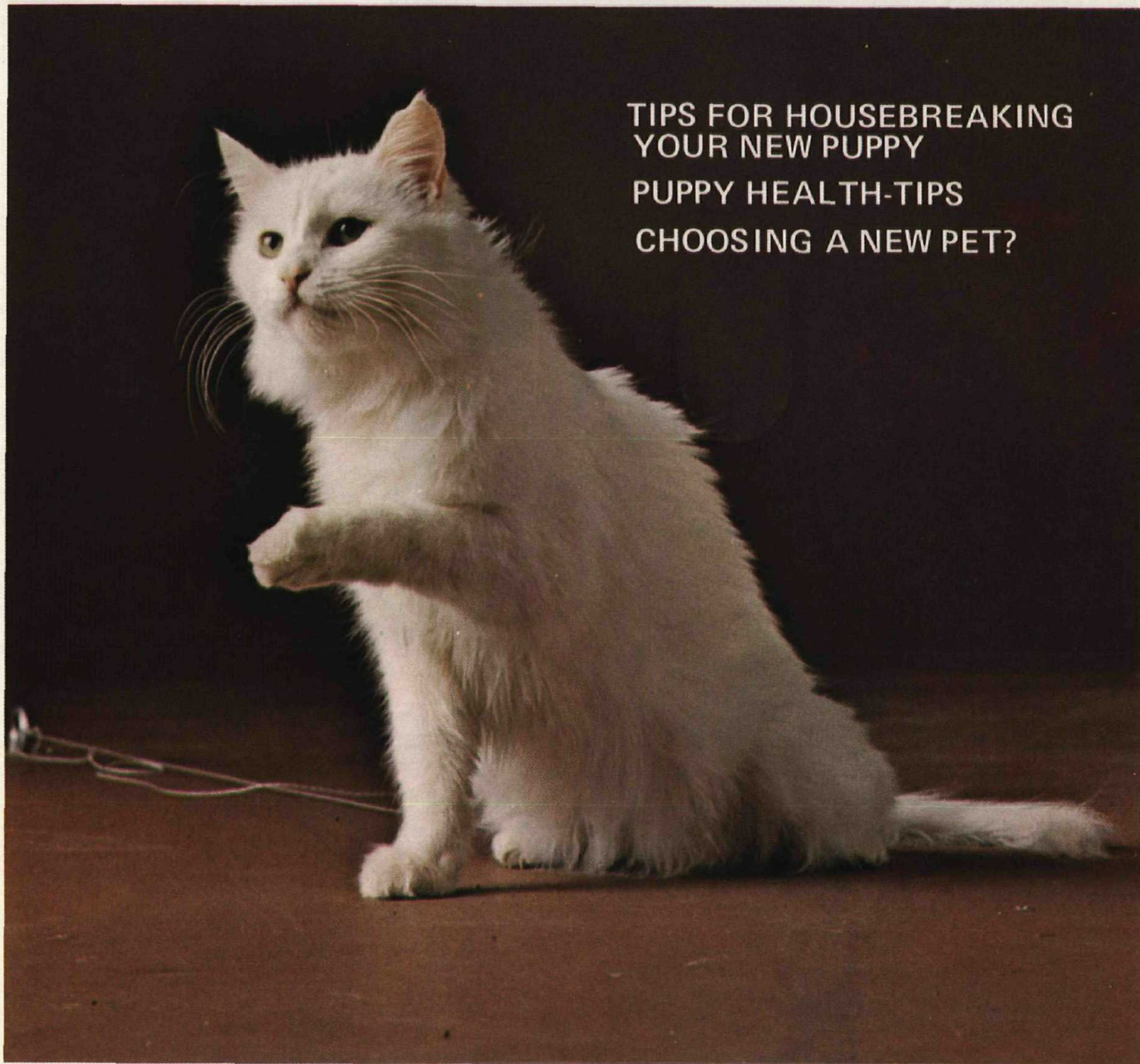
ANIMAL CAVALCADE

MAR/APRIL 1975

60¢

THE ANIMAL HEALTH MAGAZINE

TIPS FOR HOUSEBREAKING
YOUR NEW PUPPY
PUPPY HEALTH-TIPS
CHOOSING A NEW PET?



EDITOR'S NOTEBOOK

"WHERE, OH WHERE, HAS MY LITTLE DOG GONE?"

Years ago, when this little ditty was written, it was not too serious. Most lost animals would return home via the neighbors or friends. Now, the situation is serious, and most of the strays do not find their way home. To make it worse, the condition becomes more of a problem daily. There are so many more animals (dogs and cats) than there are homes for them, that their overpopulation has become a major social and governmental concern.

This issue of Animal Cavalcade is dedicated to better care and health of the new-born and the young animals. To some, it might seem inconsistent to, on one hand preach population control and on the other, how to keep young animals alive and healthy. I can assure you that it is not the intention of the veterinary profession, humane organizations, animal breeders, or pet food producers to take pets out of the homes; the purpose is TO HAVE A HOME FOR EVERY PET. To do this, we must balance demand with supply — we must control supply by preventing the birth of a surplus.

We need, more than ever, to keep the live animals alive and HEALTHY. This means treating the animals as part of the family. My Dad used to say, "You don't eat until the animals are fed." That would not be a bad rule now. This would go a long way to improve the well-being and health of all kinds of animals. For, if this were adhered to, chances are, the animals' other needs would be met — or the animal should not be in that household.

A word about our advertisers — they are advocates of better animal health. They support the Animal Health Foundation. Won't you please support them?

Best of luck with your new baby animals, and may you *not* have to say, "Where, Oh Where, Has My Little Dog Gone!"

C. M. Baxter, D.V.M.
Editorial Director

ANIMAL CAVALCADE

Official Journal of the Animal Health Foundation on animal care and health.

MARCH/APRIL 1975

Volume 6 Number 2

ARTICLES

- Are You About to Choose a New Pet? 8
Tips for Housebreaking Your New Puppy 9
The Good Life — These Pandas Are Living It! 10
Calf Scours Virus May Offer Clue to Infant Diarrhea 12
Safeguard Your New Kitty Against Cat Distemper 13
New Progress in Vaccine Safety for Your Pets 14
Puppy Health Tips From a Dog's Best Friend
Karen O'Connor Sweeney 15
"We Are a Beautiful, Magnificent, Wonderfully Important Zoo"
(Interview with Mrs. Frederick Giersch) 16
Bozo IV: King of the Hill, Douglas Prindle 20
The Need for a Nest Box, Dr. James E. Corbin 21
Feline Behavior, Benjamin L. Hart, D.V.M., Ph.D. 24
Joe's Dog, Ressie Crenshaw Watts 25
Need a Hobby This Spring? Ask Your Poodle What
He Thinks . . . , Phil Sperier 27

DEPARTMENTS

- Editor's Notebook 3
Doctor's Advice 4
Cavalcade Health News 6
Children's Page
Animal Rimes, Evelyn Witter 22
Cindy's Kittens, D. J. Dorfman 22
Literary Animals, Linda Bosson 22
The Honking Duck, Ruth Robertson 23
Book Reviews 30

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DOCTOR'S ADVICE

Readers with health and other pet problems are invited to send in their questions to ANIMAL CAVALCADE. Those with the greatest reader interest will be handled on this page by Dr. J.F. Smithcors, D.V.M., Ph.D., who is technical editor of American Veterinary Publications, Inc.

Q. Is it harmful to breed an 8 year old Cocker that has never had puppies?

A. If she is healthy, active, not obese and has had fairly regular heat periods there is probably no reason why she should not be bred, although at this stage you might ask yourself if it is really all that important to get puppies from her. In any event, I would suggest a good physical examination by a veterinarian beforehand.

Q. Should I let my dog have puppies before I have her spayed?

A. There is no benefit to the bitch by having one litter before she is spayed, and in a few — fortunately rare — cases it may do some harm if she should have trouble whelping. The puppies usually would be given away (if you are not in the breeding business) and this contributes to the surplus.

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Q. Should my female dog have a special diet while she is pregnant?

A. A good balanced commercial food should be adequate if the amount fed is increased about 25% during the last three weeks; sooner if she is thin. Puppy food is better for supplying the needed nutrients during lactation and the bitch may need two to three times the amount fed before gestation.

Q. Why does my dog destroy her newborn puppies?

A. A nervous or frightened bitch may destroy her puppies; if she seems unduly nervous, your veterinarian might want to prescribe a tranquilizer. Be sure she has a quiet, darkened place to whelp, and don't meddle (but watch for signs of trouble). If one or more puppies are small or weak, she may ignore or crush them; it may be best to remove them from the box and keep them warm until the last one is born.

Q. What is the purpose of removing newborn calves from the mothers? I understand the first three day's milk is important for the calf and not good for humans.

A. The first milk (colostrum) is essential for the calf because it contains antibodies which help prevent disease, but some dairymen prefer to milk out the cow and feed the calf from a nipple pail, to prevent the calf from getting too much at a time. Colostrum is not fit for human consumption.

Q. Are egg whites harmful for cats and dogs?

A. Eggs are a good source of high-quality protein, but egg white (or whole eggs) *must* be cooked; raw egg whites tie up the biotin (a B-vitamin) in food, and this is the way biotin deficiency is produced in the laboratory.

Q. Should I call the veterinarian after my mare foals?

A. I would suggest that you alert the veterinarian when your mare first shows signs of labor, so he will more likely be available if needed during the foaling. You should keep an unobtrusive watch, and call immediately if things don't look right. If the foal has not nursed or the placenta is not delivered within two hours after birth, it would be wise to seek help. If the mare is to be rebred, she should be checked in about a week, when a health program for the foal can also be discussed.

Q. When do puppies get their adult teeth?

A. Puppies start to shed their temporary teeth at two to four months of age. The permanent central and intermediate incisors erupt at two to five months, the corners at four to five months, canines at five to six months, first premolar at four to five months, second and third at six months, molars (no temporary) at five to seven months.

Q. Why does my rabbit have her young on the wire instead of the nest?

A. As with any species, some females are better mothers than others, but some sort of stress-noise, people, dogs, etc., may cause problems. At least a week before the young are due she should have a good nest box, with soft bedding and deep enough to simulate a natural burrow. You might also keep some of the fur from a previously used nest box to give her, which might prompt her to use it.

Q. Why do adult goldfish eat the babies? What should I do to prevent this?

A. Assuming it is not a matter of simply being hungry, make certain you have enough space in the tank; there should be one gallon of water for each inch of fish, or each two inches if an aerator is used. There should be one or two dark corners, even when the lights are on; this can be provided by plants or ornaments, some of which have crevices the baby fish can hide in.

Q. Why should my female hamster start biting, and what can I do about it?

A. Among hamsters the female is usually more aggressive than the male, especially after reaching breeding age. They are burrowing animals and should have bedding to hide in when they wish. Try wearing heavy work gloves and cupping your hands so she will have a place to hide her head when you pick her up. Stroke her gently and then give her a favorite tidbit while she is in your hand. With repetition, she may get used to being handled, and perhaps even look forward to it.

●
**ANIMAL HEALTH
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NEEDS YOU!**

CAVALCADE NEWS

NEW VACCINE USES MEASLES VIRUS TO PROTECT PUPPIES FROM DISTEMPER

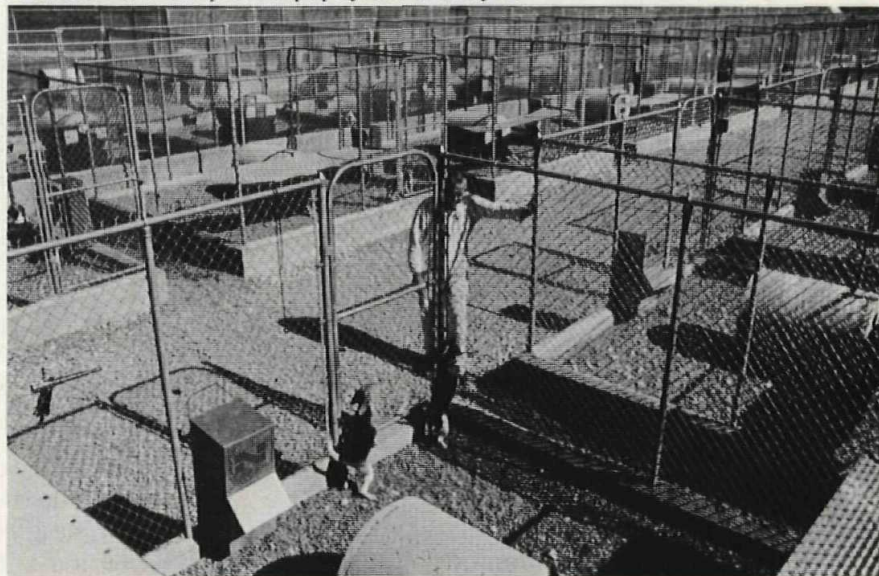
Researchers have developed a new vaccine that protects a higher percentage of young puppies from canine distemper than ever before. The vaccine is unique in that it combines modified, or tame, forms of both distemper virus and human measles virus. Veterinarians have long stimulated immunity to distemper by vaccinating dogs with modified live distemper virus. In the 1950's, it was discovered that in many cases dogs vaccinated with live measles virus would also be protected from distemper. Norden Laboratories of Lincoln, Nebraska has introduced Enduracell D-M®, the first vaccine available in the U.S. that combines *both* modified live distemper and measles virus. In terms of performance, this type of vaccine protects a higher percentage of puppies under 12 weeks of age than any other type of product.

When to Vaccinate?

The veterinarian knows that he must vaccinate all dogs under his care as soon as possible against CD. His dilemma, however, is that vaccination at too early an age is ineffective, leaving the pup unprotected. A puppy 6 weeks of age or younger has only a 50-50 chance of being successfully vaccinated for CD when conventional vaccines are used. The younger the pup, the less its chances for successful vaccination. The probability for immunizing a pup increases as soon as it grows older until virtually all dogs can be protected at 12 weeks. Unfortunately, this often leaves a "protection gap." Most cases of CD, in fact, occur in young pups.



Pups under 12 weeks of age often will not respond to vaccination for distemper. Maternal antibodies in the mother's milk neutralize the action of vaccine. Researchers found that measles virus is unaffected by maternal distemper antibodies and can protect pups from distemper.



Why is conventional CD vaccination sometimes ineffective in puppies? It is helpful to first understand how an immune response operates. A dog that is successfully vaccinated for CD synthesizes heavy protein molecules called antibodies that circulate in its bloodstream. Antibodies have the ability to neutralize the specific agent that stimulates their production. Thus, distemper vaccination produces distemper antibodies in a dog's system, and these neutralize wild distemper virus if the dog is exposed to natural infection. The same mechanism works in other vaccination procedures — rabies vaccine produces rabies antibodies, hepatitis vaccine produces hepatitis antibodies, etc.

Bitches vaccinated for CD pass on CD antibodies to their pups, primarily through their milk. Pups carry these maternal CD antibodies during their

first several weeks of life. If they are vaccinated with CD vaccine, the maternal antibodies will neutralize the vaccine virus, just as though it were natural, virulent distemper virus. This renders the vaccination ineffective, and leaves the pup unprotected.

Generally, veterinarians have dealt with the maternal antibody problem by giving puppies multiple doses of CD vaccine. At least one of these doses is usually given after 9 to 12 weeks of age, when a veterinarian is assured that a pup's maternal antibody has disappeared and successful vaccination is possible.

The Discovery of the Distemper-Measles Phenomenon

In the 1950's, scientists found that when dogs are vaccinated with measles virus, in many cases they are protected from distemper infection. This discov-

ery immediately became significant, because measles virus is unaffected by a pup's maternal CD antibodies. Theoretically, distemper vaccination with measles virus vaccine could be given well before the usual 9 to 12 weeks of age.

Eventually, a modified live measles vaccine for distemper was introduced. Results with this type of vaccine were inconsistent, however. It was later discovered that a pup's system does not always respond to measles virus during the first weeks of life. Researchers at Norden Laboratories found that at 3 weeks of age, measles vaccine protects very few dogs. At 6 weeks of age, however, 93% of all pups respond to measles virus vaccine and are solidly protected against distemper. These research findings formed the basis for the development of Enduracell D-M.

PUPPY DIETS REQUIRE ATTENTION

Most puppies arrive at their new homes at about seven to nine weeks of age. At this age they should be able to eat solid food. Good commercial dog foods, some especially prepared for puppies, are the best way to provide balanced nutrition for your puppy.

Several meals should be provided, using the following guide lines:

- up to 6 months old, feed 3-4 meals daily;
- 6 months to 12 months old, 2 meals daily;
- over 12 months old, 1 meal daily.

It is best to avoid table scraps in puppies' diets as it tends to "unbalance" the commercial diets and is often responsible for "finicky eaters." Plenty of fresh water should always be available. For special diets for orphaned pups, or for supplementing puppies in large litters, consult your veterinarian.

Remember that proper diet in the early years, along with normal medical attention, will provide your dog with the best chance for a long life.

ANTIFREEZE SOLUTION POISONOUS TO PETS

Putting antifreeze in the car for the cold weather ahead? If so, don't leave any antifreeze solution around where the family dog might get near it, warns the Gaines Dog Research Center.

Dogs and cats find the solution tasty, the Center states, and cases of poisoning from antifreeze are usually reported by veterinarians every year. Signs of poisoning usually occur within two hours after ingestion and are marked by incoordination and convulsions. Dog owners suspecting poisoning are urged by the Center to rush their pet to the veterinarian.

IS YOUR PET STARVING TO DEATH?

No matter how much you feed your pet, he may be starving to death right in front of your eyes. What can you do? Serve Sergeant's® Vitapet® Tablets regularly. Vitapet Tablets contain vitamins and minerals essential to good health and good looks. And they taste like treats! Get Sergeant's Vitapet Tablets for your dog or cat. From Sergeant's line of 200 carefully tested pet products.

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CALIFORNIA VMAs USING TELEPHONE FOR PUBLIC SERVICE

Moraga: Two constituent associations of the California Veterinary Medical Association have utilized the telephone as a new method of providing public relations for the profession.

The Redwood Empire Association, centered in Santa Rosa, Northern California, and the Orange Belt VMA, located in the Riverside area of Southern California have joined in local "DIAL-A-QUESTION" type programs being offered in their communities by medical societies.

The format is simple — individuals wanting information on a specific subject, such as distemper, simply pick up their phone and call the number for "Dial-A-Question" and ask for program #5002. A recorded message, prepared by a veterinarian, is then automatically played on the phone for periods up to 7 minutes.

Publicity for the series is provided with press and broadcast releases and with a small folder that lists all the subjects available. The program is conducted with other medical professions in the Redwood Empire, but will be operated separately by the Orange Belt Association.

Originally the series was planned with the copyrighted TEL-MED program in Orange County (a public service plan created by the human medical profession). Following those discussions in the Summer and Fall of 1973, the Orange Belt VMA decided to plan their own programs which will be aired for the first time in the Summer of 1974. Working on that committee are Drs. Bob Robinson (chairman), Charles Hunter, Charlie Childe, Bob Jackson, R. J. Brown, Harvey Bailey and Kenneth Wilcox.

The honor of "being-on-the-air" first goes to the Redwood Empire Association as they have instituted the

"Dial-A-Question" series in conjunction with the Sonoma County Medical Association.

The initial four "Dial-A-Veterinarian" talks were on some of the most common questions asked in a veterinary hospital: canine distemper, feline distemper, spaying of female dogs and cats, and the danger of rabies. The scripts for the talks were written by Dr. Joel Blumberg, DVM, of Santa Rosa. Other telephone talks in preparation include the danger of poisoning from garden chemicals, heat prostration, proper health care for newborn puppies and kittens, dietary requirements for pregnant animals, small animal geriatrics, and first aid for the injured dog or cat.

Reporting to the veterinary profession, Dr. James Murphy, DVM, President of the Redwood Empire Veterinary Medical Association, noted that:

"It's a good way to get people acquainted with the kind of work veterinarians can do, and it answers many common animal problems. At the same time it relieves the veterinarian of some of the burden of answering the same questions day after day."

Dr. Murphy further stressed that the telephone talks do not attempt to prescribe drugs or treat animal diseases in any way.

"All the messages do is describe the symptoms and what can be done for the disease with proper veterinary care. The rest is up to the caller."

The "Dial-A-Veterinarian" audio tape cartridges are stacked in the same racks as other Tel-Med talks in the offices of the Sonoma County Medical Association. The popular Tel-Med system has been in operation for several months offering basic medical advice from both MDs and dentists.

Veterinarians interested in obtaining more information about the programs may contact the public relations department of the CVMA, 1024 Country Club Drive, Moraga, California.

continued on page 28



Mealtime comes often for nursing puppies, and all the kids in the neighborhood are fascinated to see so many wriggling babies all at once.

These little guys don't look like they're wanting for food — the only trouble is — they want it all the time.

ARE YOU ABOUT TO CHOOSE A NEW PET ?

WHAT'S THE RIGHT AGE?



Jean Daniels Simmonds

**WHEN BUYING A PUPPY
OBTAIN A BILL OF SALE
IMMEDIATELY.**

GAINES

Unless you have a special reason for buying a full-grown dog or cat, it is usually more desirable to bring home a young animal. Puppies and kittens are enchanting. They have magical talents for worming their way right into the hearts of every member of the family, even the most reluctant. You miss a lot if you miss the early months. Also, you will want to train your pet's habits according to your family's personality and way of life. A full-grown animal has been trained to adapt to another family's life. He may never completely accept yours. A two or three month old puppy or kitten is usually ready to leave its mother and take you on. However, for those who lack the time, interest, or energy to train a pet, an older animal may be the ideal choice.

Every individual has a right to his personal opinion about which pet is best - for him. About one thing there is no argument - everyone wants a healthy pet. Don't let anyone tell you it's purely good luck when you bring home a healthy puppy and bad luck when you arrive with a sick one. There's plenty of room for error, but where your pet comes from can be a very important factor in determining his health. Dogs and cats can come from private homes, breeders, pet shops, roadside stands. One may come as a gift or turn up on your doorstep and adopt you. Before you rush home with a puppy or kitten, just because you like the expression in his eyes or the wag of his tail, make a quick evaluation of the place he's coming from.

Breeders and pet shop owners are business men. The animals they raise are their merchandise. They are usually interested in maintaining good health conditions and sound animals because they know that one sick puppy can infect a whole kennel, resulting in disaster for their business. If your pet comes from a breeder or from a reputable petshop you can feel reasonably sure about its health. You will also learn the animal's exact age, its pedigree, whether it has been wormed and inoculated. You may pay more for him, but you are less likely to have a sick animal on your hands.

Humane Societies usually try to provide you with a healthy pet. Here you will usually find a variety of pets of all ages and mixtures, even an occasional purebred.

Gifts, waifs and \$2 bargains cost you little or nothing, but you gamble with them. They may end up perfect specimens, or they may break your hearts before they expire of some disease that was included in their bargain price. Whenever you get your pet, don't hesitate to ask about your prospective pet's background. Also make sure you are allowed to examine the animal thoroughly. If your questions are not answered forthrightly or you are not permitted to inspect the animals and their quarters, then go elsewhere. Reputable breeders and petshop owners will welcome you with open arms . . . the other kind will be evasive. When shopping for a pet, use this check list:

- Does the puppy or kitten have a smooth, glossy coat? Dull, drab fur can be a sign of ill-health.
- Are the eyes and nose clear? Running eyes and a discharging nose are symptoms of several diseases such as distemper and colds.
- Is the animal lively, responsive, and alert? Don't choose the quiet, pensive puppy in the corner because you think he looks gentle. He may be sick and worrying about his health.
- Feel free to ask the owner to take the animal's temperature. Normal temperature for dogs and cats is about 101-102 degrees.
- Find out what immunizations have been given, by whom, and what you will need to have done.

If you've just brought a new puppy home, he is without question the most irresistible little dog that ever was. But unique as his charms may be, he has one thing in common with all puppies. He frequently needs to eliminate body wastes.

This function is as natural to him as breathing. He has no idea that the backyard, street curb, or newspapers are preferable for this purpose rather than the living room rug. He must be housetrained.

Whether you teach the puppy to relieve himself outdoors or inside on papers is a matter of convenience and the pup's eventual size. Big dogs, obviously, should be trained to the outdoors. Toy breeds and other small dogs, particularly those belonging to apartment dwellers, are often taught to use papers.

To paper train a pup he must be confined in a small area. The entire area, except for his bed, must be covered with newspapers. He will usually choose a corner of the area farthest from his bed where he returns consistently to relieve himself.

When this pattern seems set, take away the papers farthest from the "bathroom." Gradually, remove more papers until only the "bathroom" area remains.

Confinement can then be lessened. He may be given the freedom of the kitchen or other restricted area. Be sure he has papers available at all times. Put them in an out of the way place but show him where they are. Keep him on a regular schedule. If he shows warning signs, promptly take him to his papers.

Outdoor training requires close observation of the puppy. His needs must be anticipated. He often warns you by over-attention to sniffing the floor or circling as if starting to squat. Even the youngest pup shows an intent attitude that leaves little doubt as to what is on his mind.

When the pup shows these signs of needing to eliminate, pick him up immediately and take him outside. Have his collar and leash handy.

Repeat a phrase such as "Do you want to go out?" or "Let's go out." Repeat this every time. Build an association in the puppy's mind between these phrases, going outside, and his urge to eliminate. Later you can use the question in teaching him to go to the door when he needs to go outside or he may teach himself to "ask" at the door.

During the first stages of housetraining, take the pup to the same place each time. After he learns that the outdoors is the approved location, begin taking him to different places and on various surfaces. Dogs can become "fixed" on a particular spot and refuse to eliminate anywhere else. This can become a problem. Let the pup know he can relieve himself outside wherever he is led: on grass, dirt, gravel or concrete curb.

Those problem puppies that don't want to housebreak can be fastened to their bed with a short leash chain. They don't like to soil their bed and will want to be unleashed and let outdoors before eliminating. Be sure to put them out frequently.

tips for housebreaking your new puppy



GAINES

LITTER OF 18 GREAT DANES WAS
BORN IN KENNEL OWNED BY MARGARET
HAERSE, SIDNEY, AUSTRALIA

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Please notify Animal Cavalcade when you move! Failure to do this costs the Animal Health Foundation funds which should be spent on caring for sick animals or for veterinary medical research.

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the good life...

THESE PANDAS ARE LIVING IT

Ling-Ling

A certain well-known couple live a leisured life in Washington, D.C., in a \$425,000 home with a full-time staff to attend to their wants. They are lionized by an adoring public, but they largely ignore the throngs of visitors who follow their every move. The pampered pair are Hsing-Hsing and Ling-Ling, the two rare giant pandas

Pictures courtesy Onan, Minneapolis, Minn.

given to the United States people by the government of China, following then-President Nixon's visit to that country in 1972.

The pandas' popularity was immediate, and remains unchallenged. Some six and a half million people visit the National Zoological Park in Washington every year, and nearly everyone drops in to see the pandas. (Who could resist? They melted a columnist for the New Yorker magazine, who thought they were "...so cute it hurts.") The cuddly-looking, black-and-white animals draw more than three times as many visitors as the Lincoln Memorial, and have developed a devoted following of repeat visitors among area residents.

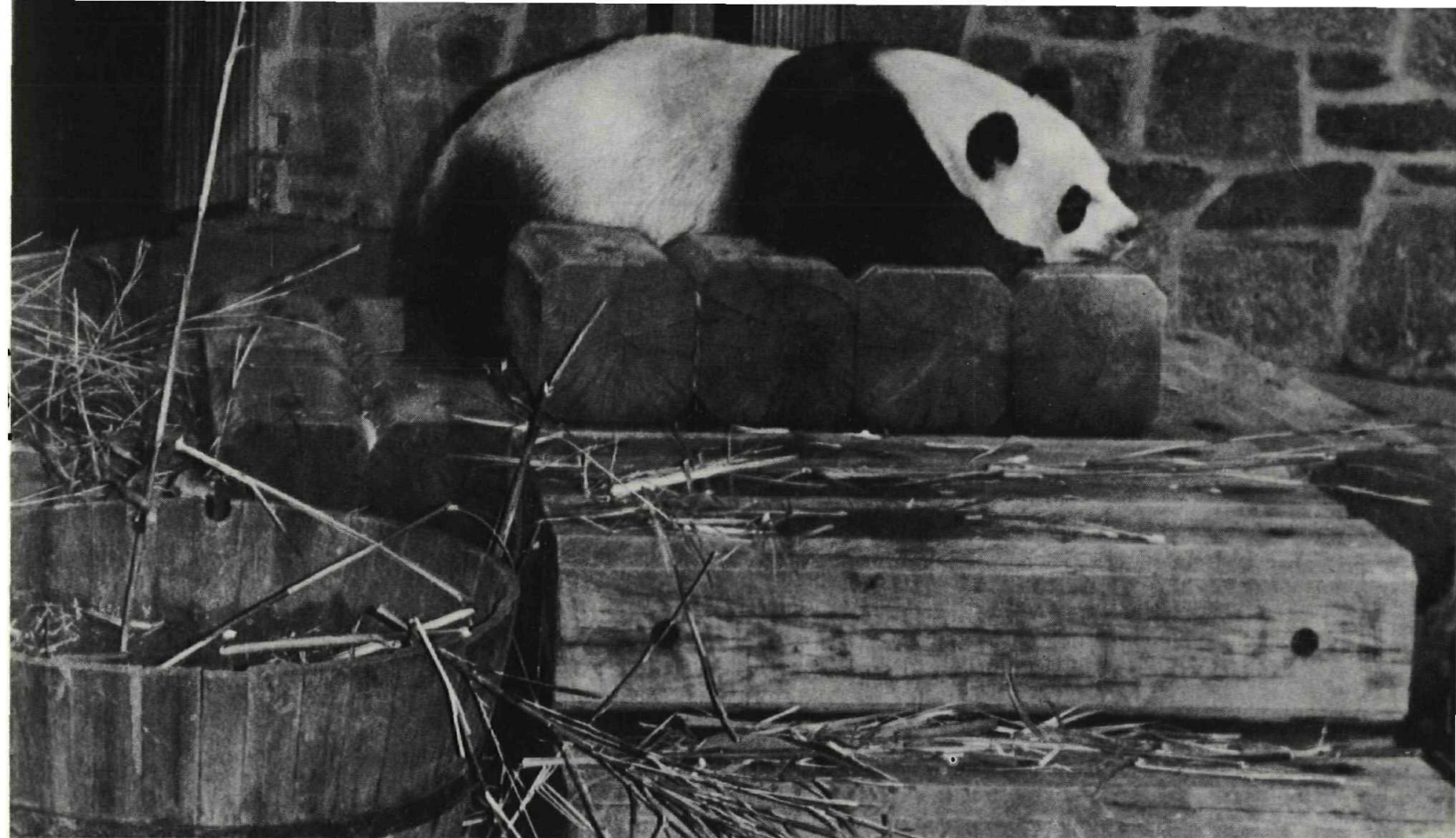
Irresistible in their own right, Hsing-Hsing and Ling-Ling have attracted avid panda watchers for yet another reason; at present, they are the only breeding pair of this rare species outside Asia (a pair promised to Britain has not arrived yet). There are fewer than half a dozen pandas in the Western world, and no panda baby has ever been born in a Western Zoo.

Hsing-Hsing and Ling-Ling were little more than cubs when they came to Washington in 1972. But Ling-Ling, the female, is now a ripe four years old, and Hsing-Hsing, the male, at three and one-half, has reached maturity and has passed up Ling-Ling in size. As near as zoo officials can estimate from available panda information, Ling-Ling and Hsing-Hsing could have offspring any time between now and 1977. The mating season is semi-annual, in spring and fall, and panda watchers have a lot of hopes pinned on spring of 1975.

The giant panda's native habitat is the mountainous Hsi-fan region of Western China, bounded on the west by the forbidding Tibetan ranges and on the north by the steppes and desert of Mongolia. Temperatures range from alpine in the upper reaches, through temperate, to subtropical in the deep valley and ravines. The precipitous mountainsides are covered from about 5,000 feet to about 12,000 feet with almost impenetrable bamboo jungles — the home of the giant panda. Pandas are believed to live alone in the jungles, meeting only during mating season. Young pandas are thought to strike out on their own after about two years. The staple food of pandas' diet is young bamboo shoots, and since they live virtually surrounded by it, few pandas venture outside the sanctuary of the bamboo jungles during their 25 to 35-year lifespans.

The Washington climate is considerably warmer than the bamboo jungles of Hsi-fan, so a good deal of





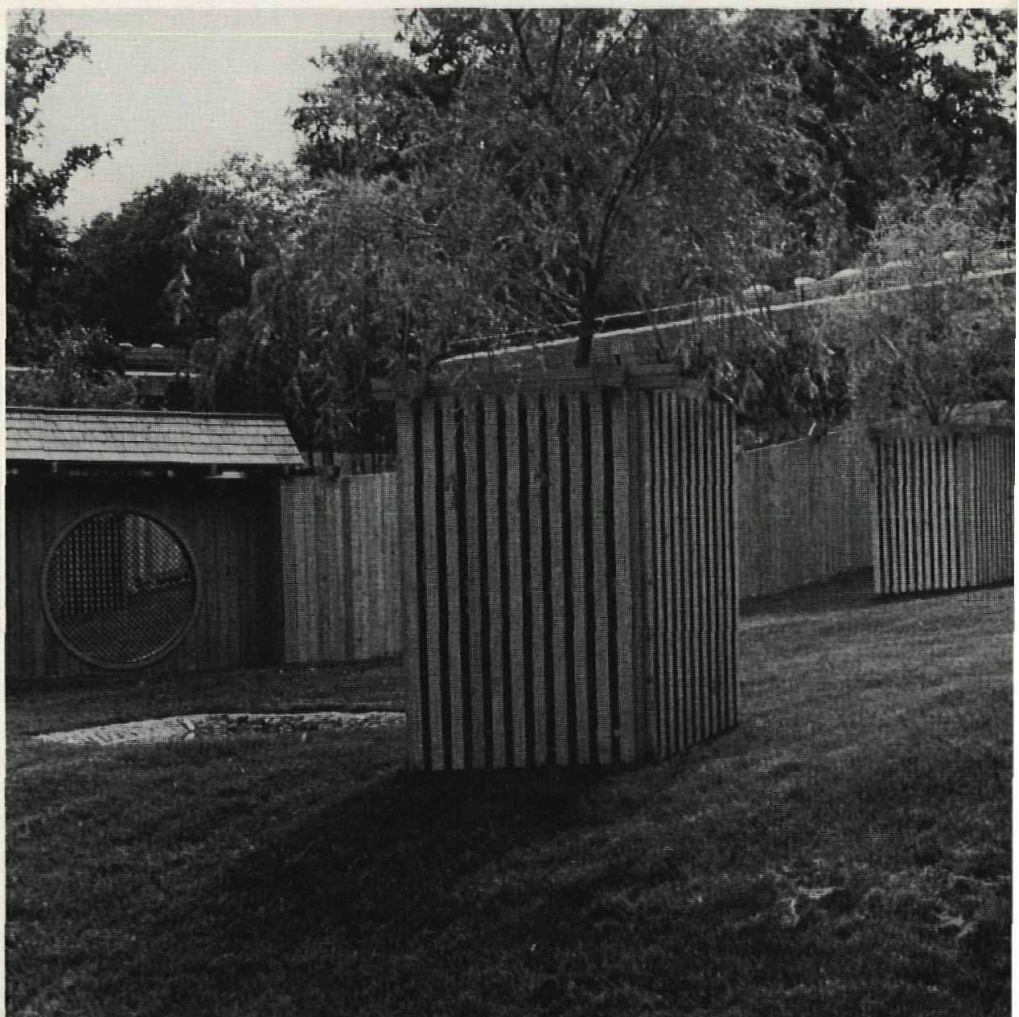
Hsing-Hsing escapes the heat of midday, catching a nap in his cool, roomy cage.

effort (and \$425,000 in funds) was invested in creating the proper home for Hsing-Hsing and Ling-Ling. The pandas have twin, quarter-acre play yards, sloped and planted with Kentucky bluegrass and surrounded by tall cedar fences. Each yard has a two-foot-deep paddle pool, several fenced-in weeping willows, and sticks of bamboo stuck bush-like in the ground. The pandas delight visitors by pulling up the bamboo sticks and snacking on them, and the supply is replenished several times a day. The two play yards are separated by a double fence broken only by a round, six-foot wire mesh "Chinese moon-gate," through which the pandas can see each other and, it is hoped, get better acquainted.

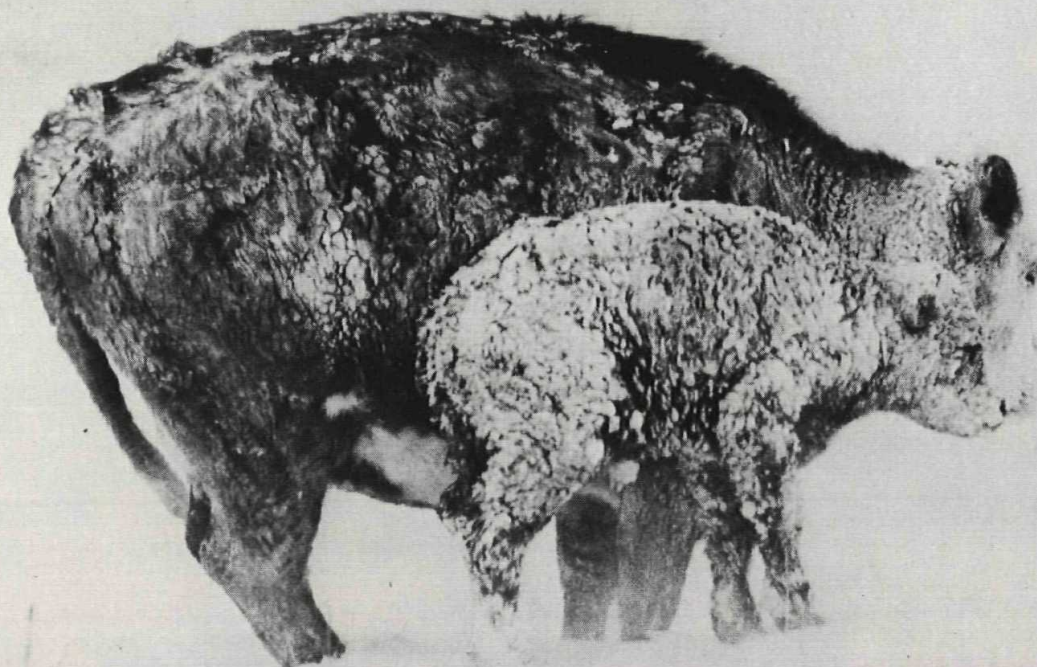
Inside the panda house, Hsing-Hsing and Ling-Ling are safe from the vagaries of the weather in their separate, glassed-in temperature controlled cages. They cannot tolerate high heat ("Anything over 70 really flakes them out..." one zoo official commented), so the cages are air conditioned in summer, and heated in winter to maintain them at a constant, comfortable 60°.

Zoo officials are taking no chances with their valuable charges. In the event that commercial power is disrupted by outages or brownouts, an Onan electric generating set is standing by ready to take over

One of the spacious twin play yards.



CALF SCOURS VIRUS MAY OFFER CLUE TO INFANT DIARRHEA



*Reprinted courtesy Norden News
Fall 1974*

Following the University of Nebraska's announcement that researchers in the Veterinary Science Department had successfully isolated a reo-like virus which causes early calf scours, Dr. Charles A. Mebus, who headed the research team making the discovery, received a letter from an Australian researcher who predicted "...you may well be surprised to find a group of non-veterinarians suddenly taking an interest in your calf scours virus, but I suspect that they will be only the first of many..." The prediction has proven to be an accurate one as scientists from around the world have arrived at the Nebraska campus seeking help with their research on infant diarrhea.

Prior to the isolation of a reo-like virus held responsible for neo-natal calf diarrhea, and a coronoavirus, found to cause scours in older calves, scien-

tists in both the veterinary field and the medical field had worked on the assumption that the disease was caused by bacteria, primarily *E. coli*. When results of the Nebraska work on calf scours were published, medical scientists started looking for viruses in connection with infant diarrhea. A virus has been found in children with acute diarrhea in England, Canada, Australia and Singapore. It appears to be a close relative to the reo-like virus first isolated in Nebraska, according to Mebus. A team of scientists at the Hospital for Sick Children, University of Toronto, Toronto, Canada, reported that their findings supported the view that non-bacterial acute diarrhea in infants is viral.

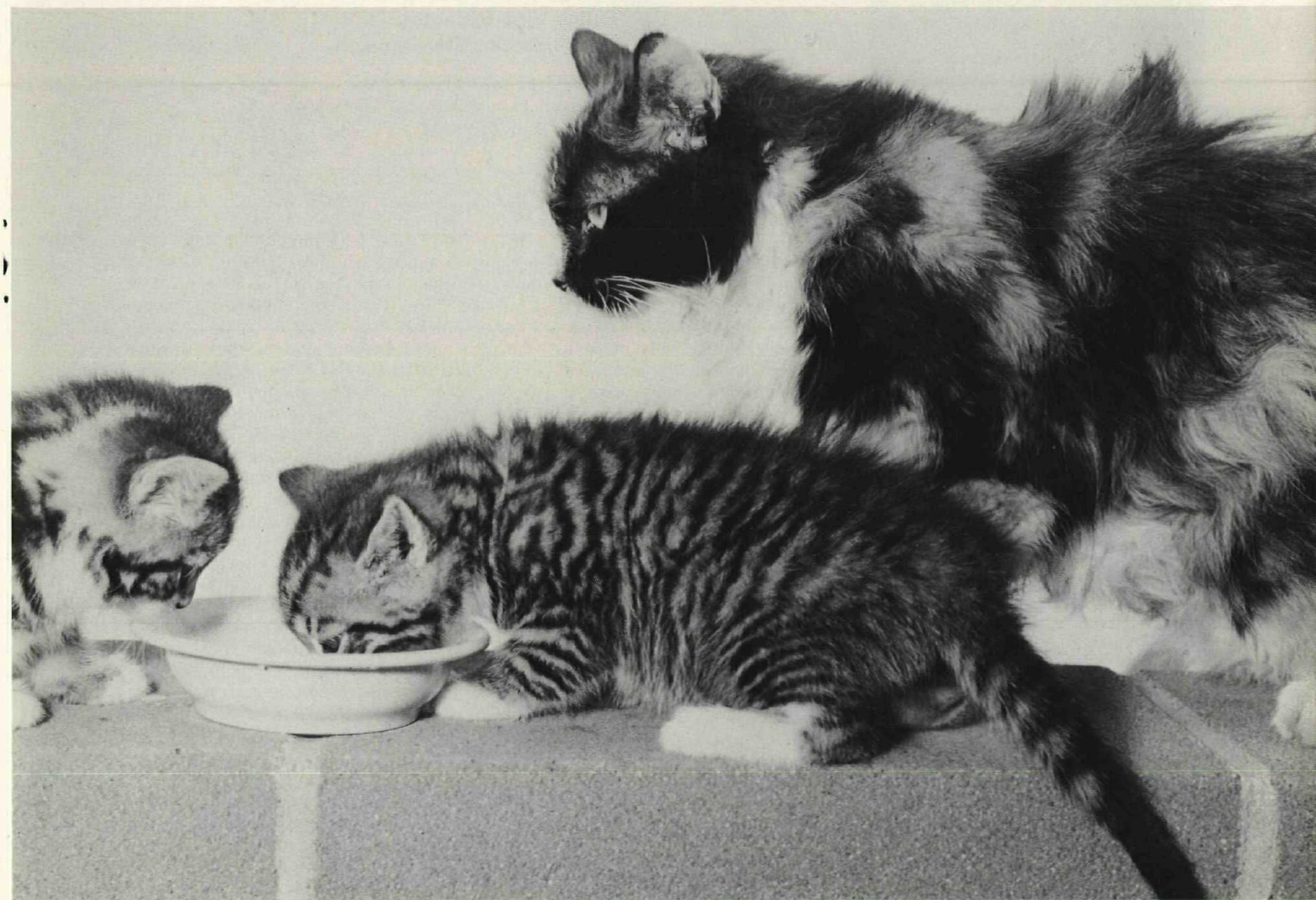
One of the problems the medical scientists are encountering with the virus from children is the difficulty in culturing it, Mebus said. The virus in children apparently is as difficult to culture as was the reo-like virus involved in early calf scours. The Nebras-

ka team developed methods to culture the calf reo-like virus and weaken it into a vaccine only after much time and many experiments, Mebus said. Scientists from the University of Nebraska and Norden Laboratories in Lincoln have developed a vaccine which effectively controls the reo-like virus and have had good laboratory results with a combined vaccine developed to control both the reo-like virus and a coronoavirus found to cause later calf scours.

Calf scours, with a high morbidity and mortality rate, has been a costly disease for beef and dairy producers. Diarrhea is described as one of the leading causes of infant death in the world, especially when related to malnutrition.

One of the latest scientists to visit the Lincoln campus was Dr. R. R. W. Townley, director of the Department of Gastroenterology at the Royal Children's Hospital in Melbourne, Australia.

SAFEGUARD YOUR NEW KITTY AGAINST CAT DISTEMPER



Was your family blessed with a new arrival recently? Possibly a furry, friendly little kitten? If so, you will want to make sure that your pet receives the best in necessary health protection.

Your kitten is susceptible to a number of diseases, some which can be fatal. Cats may have internal parasites, skin disorders, fleas, or ear infections. And they appear to be much more susceptible to several forms of anemia than any other domestic animal.

One of the most serious diseases which threatens your kitten is cat distemper, also known as cat plague, agranulocytosis, panleukopenia, and infectious enteritis. Distemper mostly attacks kittens; thus kittens should be vaccinated against the disease as soon after weaning as possible.

What is Cat Distemper?

Cat distemper is a highly contagious virus disease which may bring death to as many as 90 percent of the cats it

infects, if they are not treated. The disease occurs at various times of the year in epizootic forces, usually in areas where there is a large kitten population.

What are the Symptoms?

Cats that contract distemper lose pep, cease to play, and refuse to eat or drink. It is not unusual for a cat to appear partly recovered from the disease after one or two days. Usually, however, the symptoms return within 24 to 48 hours and the cat becomes seriously sick.

During this stage of the illness, a cat acts dazed and becomes extremely untidy. It may lie on its stomach with its head on its front paws or hover over a saucer of water or milk, although it is unable to drink. Unless treatment is begun immediately a cat with distemper will usually die within five days after becoming sick. Even when treatment is begun quickly, the healing process is generally difficult

and prolonged. Despite intensive care, 20 to 50 percent of cats having distemper will not survive.

Fortunately, because of veterinary medical advances, kittens may be protected against distemper. Today there are antiserums which provide immediate temporary immunity against the disease, and vaccines for long lasting protection. These products are safe and effective. Remember, a trip to the veterinary clinic isn't nearly as frightening an experience for your pet as is struggling through a bout of distemper.

●
**IF YOU HAVEN'T SUB-
SCRIBED TO ANIMAL CAVAL-
CADE — ASK YOUR VETER-
INARIAN FOR A COPY TO
READ.**
●



NEW PROGRESS IN

VACCINE SAFETY

FOR YOUR PETS

Feline Viral Rhinotracheitis (FVR) Vaccine Development

by James L. Bittle, D.V.M.

*Reprinted courtesy Practicing Veterinarian
Sept/Oct 1974*

The history and efficacy of the F-2 FVR* vaccine strain was outlined in a previous report (*The Practicing Veterinarian*, Vol. 46, No. 4, pp 14-15).

Just as important as demonstrating vaccine efficacy is the effort made to ensure the safety of the vaccine. FVR vaccine is produced in a feline cell line that offers the advantage of consistency of production and makes possible the extensive testing for purity of the product. This greatly reduces the possibility that unwanted agents may contaminate the production system.

The following tests for safety and purity were conducted on the vaccine; bacterial sterility; mycoplasma sterility; adventitious viruses of feline, bovine and porcine origin; and safety tests in mice and cats. Each test was conducted according to the requirements of the Animal Plant and Health Inspection Service of the United States Department of Agriculture.

The vaccine was also tested for feline leukemia virus. Because of the insidious nature of this virus and its potential to infect cats with a dangerous disease, tests were conducted to demonstrate the purity of the vaccine for leukemia virus. Fourteen cats were tested and held one year after vaccination to determine if even minute amounts of leukemia virus were present that would transmit from the vaccine. No evidence of leukemia virus was found.

Because FVR vaccine is a modified live virus, there was concern that it might cause disease, or that the vaccine virus might spread to other susceptible cats in contact with the vaccinated cats. Tests with the F-2 vaccine strain showed that it will cause only mild symptoms when given to cats by the intranasal route. When given by the parenteral route, the vaccine strain causes no adverse effects.

Attempts to isolate the vaccine virus from the blood of vaccinated cats were unsuccessful. Samples taken at intervals of 3, 5 and 7 days after vaccination did not transmit virus when given to susceptible cats. It was also shown that virus did not spread from vaccinated cats to susceptible cagemate cats held together for as long as one year. Thus the danger of the vaccine virus reverting to virulence through animal passage is minimal.

Other adverse immunologic effects

occasionally seen with other vaccines such as hypersensitivity reactions, both immediate and delayed, or symptoms due to immunologic deficiency or immunologic suppression, have not been observed with the FVR vaccine.

The teratogenic and abortigenic potential of the vaccine is of concern, and in limited studies, these adverse effects have not been detected. However, it is not recommended that pregnant animals be vaccinated with any live virus vaccine. The breeding habits of both male and female cats have been studied after vaccination, and no abnormal changes have been observed.

Protecting the respiratory epithelium is a difficult task because surface cells are not bathed with appreciable amounts of humoral antibody. Although the exact mechanism for protection of the FVR vaccine is not known, measurements of humoral antibody show that adequate levels are induced in susceptible cats. It has also been demonstrated that in cats with low levels of natural antibody, the vaccine will boost antibody titers approximately tenfold. Thus cats with minimal antibody titers which may not be completely protective are boosted after vaccination to antibody levels that are protective.

The question of duration of immunity is important, and studies in this area are continuing. The recommendation that cats should be vaccinated every six months was made to ensure the maintenance of maximum antibody titers. However, it has been shown that vaccinated cats maintained in isolation for one year with susceptible cagemates (to ensure that no virulent virus contaminated the environment to boost the antibody titers), and challenged with virulent virus, were protected to a significant degree. Cats that had been revaccinated or boosted prior to challenge were protected to an even greater degree. Thus, vaccination may be at a yearly interval, or for maximum protection, at shorter intervals.

In summary, FVR vaccine has been tested thoroughly and has been shown to be safe and pure. The mechanism of protection is not entirely clear, but when related to levels of humoral antibody, there is evidence that a relationship exists and, finally, the protection has been demonstrated as long as one year after vaccination.

PUPPY HEALTH-TIPS

FROM A DOG'S BEST FRIEND

by
Karen O'Connor Sweeney

"Mating should be for the purpose of holding or improving the quality of the breed," says Art Huddleston of Southern California, a former breeder who has turned professional handler.

Art and his wife Lil, a gentle, likeable couple, have raised several litters themselves and given helpful advice and service to many dog owners. Their special interest is the improvement and continuation of the Boston Terrier.

For about twelve years, Art has been a correspondent to the "Boston Bulletin," the only Boston publication in the country. In addition, he collects data on the Boston breed, some of which goes back to the nineteenth century. Most of his clippings, articles and photos were donated to him by oldtime breeders who know of Art's love for the breed. His is the largest collection of its kind in the United States.

Art believes that an important part of the preservation of any purebred line starts with healthy puppies. He warns prospective breeders, however, that "no dog should be mated just to sell a stud service, to supplement income by selling puppies or to teach children the facts of life."

Puppies are fragile, dependent creatures and deserve respect, love and care from their masters. That kind of care begins at birth.

Here are some of the Huddleston's suggestions for handling newborn puppies:

1. Cover a roomy box with a sheet or blanket with padding underneath. Put a heating pad in one corner. Clip the edges with closepins so the puppies cannot crawl underneath the bedding.
2. Never use shredded newspaper. Several puppies have died from printers' ink poisoning. At the very least, it soils light-colored puppy coats.
3. To promote regular elimination, swab the puppies under their tails with cotton dipped in warm water. This is essential the first few weeks of life.
4. Keep pups warm and handle as little as possible. Do not allow outsiders to touch them for about ten days.
5. See a veterinarian if anything irregular develops such as crying at night. Often a dam will reject a small puppy. He will need help in finding a nursing station and perhaps supplemental feedings until he builds his strength.
6. Around ten days of age clip the "hooks" off their toenails and continue to check them every few days thereafter. As the pups begin to move around they can scratch each other in the eyes.
7. About the third week, cut a door in one end of the box so the pups can move in and out. Place newspapers outside the box to encourage early training.
8. Check with your veterinarian on the proper feed and feeding schedule for your new puppy.
9. Weaning should be completed by the sixth week.
10. Bring a stool sample to your veterinarian to check for worms. Follow your veterinarian's advice on worming. Many medicines can be toxic if given improperly.
11. Begin shots at eight weeks of age. Keep a record for prospective buyers.
12. Limit puppies' playtime and supervise them when outdoors. They'll gradually yield to a workable schedule for themselves and their owners.
13. Limit puppies' playtime and supervise them when outdoors. They'll gradually yield to a workable schedule for themselves and their owners

Art's motto — one which he lives — is "To promote the breeding of pure Boston Terriers and to do all in my power to protect and advance the interest of Bostons and other purebred dogs." He is a man of extraordinary kindness and gentility towards all creatures, great and small, and certainly a dog's best friend.





Trophy hunters and food-seeking natives have greatly reduced the numbers of the Cape Buffalo, considered America's most dangerous big game animal because of its aggressiveness and fearless attacks.

WE ARE A BEAUTIFUL,
MAGNIFICENT,
WONDERFULLY
IMPORTANT

ZOO

An interview with Mrs. Frederick Giersch, President of the Greater Los Angeles Zoo Association, (G.L.A.Z.A.) by members of the Animal Cavalcade staff, Barbara Sweeney and Norene Harris.

Some people have said that zoos have outlived their usefulness, that they are old fashioned, unnatural, and even cruel. Presented here is an interview with a woman who feels strongly that zoos are just beginning to come into their own, and that, regardless of controversy, eliminating zoos would be dangerous to our entire eco-system.

ALL PHOTOS COURTESY L. A. ZOO

AC Mrs. Giersch, why should we have zoos? Is it time to phase them out?

G Having a zoo is certainly imperative, in my opinion, if we are to continue saving species of animals. Natural habitats and breeding grounds are literally being eaten up by construction of human habitats. *A zoo keeps an animal better than any place else in the world.*

An animal lives for two basic reasons - to survive and to procreate. An elephant for example, walks three miles a day at least, foraging to exist. He finds mates and procreates.

In a zoo they don't have to forage. They are given the finest foods with the best proteins and vitamins. And, they are given a mate. Hopefully they will reproduce. When there is any kind of disease or injury they receive immediate care. Animals in zoos live a great deal longer than they do in the wild. They have no predators, they have no prey. They are cared for physically. Is it natural? No, it is not "completely natural." *But it works.*

AC There are so many elements that make up a zoo, how does one evaluate whether or not a zoo is a good one?

G A zoo can be evaluated in many ways. You would probably ask: How many different species are there; how many animals are there on the endangered species list; how many people working for and coming to visit the zoo; how much acreage is there?

AC Who comes to the zoo these days, especially in a city like Los Angeles where there are so many forms of entertainment?

G I think the trend is swinging back to the way it was in my grandfather's day - when going to the zoo on Sunday was very much the thing. The younger generation, with their children, are beginning to do that again. We see a great many young people in here with very young babies and children, and they are beginning to relate to the animals the same way I did as a child. It's becoming a personal thing.

It's not as good in our zoo as I wish it were. It doesn't begin to be. We have about one and one-half million people a year. Possibly two million. Out of a potential 12 million, that's terrible.

As far as entertainment goes, we compete with Disneyland, Knott's Berry Farm, Lion Country Safari,



From left : Mrs. James Stewart, Mrs. Ann Mudd and Mrs. Frederic Giersch, President of GLAZA, making friends with a goat.

Attaining weights of over 600 pounds, the majestic Siberian Tiger ranges over the cold forests of that land in solitary splendor. The Los Angeles Zoo has three magnificent specimens of this endangered species.





This maned wolf, an endangered species, roams the pampas and swamps of Brazil, Uruguay, Paraguay, Bolivia and northern Argentina, and is seldom seen by man, although the weird howls of the species can be heard from afar.

Tiny, gentle and endearing are the Axis Deer of Ceylon and India. Their coats are reddish-gray, brown or yellowish brown, enhanced by small white spots.



Busch Gardens and so many other attractions, not to mention movies, etc. But our prices are so low, and for a day's entertainment it is invaluable."

AC What about rivalry with the San Diego Zoo?

G When most people think of zoos in California, they think of San Diego, not Los Angeles. One of the reasons for this is money. For instance, the budget for the San Diego Zoo is about six times more than is spent for the Los Angeles Zoo. *There is no question that zoos of today do not have enough money.*

AC Can you elaborate?

G Basically all zoos in this country are in trouble. The only zoo that runs in the black is the Washington Zoo, and that's because it's federally funded.

AC Would you say that financial problems for zoos stem from a lack of interest on the part of the public?

G A great deal of it, yes. For instance, it is almost a sin not to belong to the San Diego Zoo if you live in San Diego. The pride in the zoo by the people there helps to make that zoo as exceptional as it is. The L. A. Zoo cannot afford to pour its money into Public Relations. We must give most of what money we have to the animals.

AC What about federal funding for all zoos?

G I don't think you'd ever get the bill passed. There are probably 300-400 zoos in this country — and where could they possibly get the money to fund each one as it should be?

AC What are some of the other ways zoos are run and funded?

G There are many ways to do it. 1) the city can run it. And it's a known fact that *that* doesn't work. It doesn't work because people don't give donations to the city and earmark them for the zoo. 2) Another way is that the city and an association jointly run a zoo, which is the case in Los Angeles with GLAZA. 3) Still another way is that an association runs the zoo, which is the way San Diego does it. The association runs it completely. They are not bogged down with city red tape, laws, charters and all that sort of thing.

We in the Los Angeles Zoo fall



The "Go-Away-Bird" was named after its call and is disliked by hunters because it scares off their quarry with its cries. The animal is found in eastern and southern Africa.



A small, handsome cat found in Central and South America, the Margay has been hunted nearly to extinction for its skin; masked like an Ocelot, it preys on small animals in the tropical forests.

under the jurisdiction of the Department of Recreation and Parks. We are just one of hundreds of projects that they have. They are very aware of and extremely fond of the L.A. Zoo, and it is one of their most important projects. It's not like a golf course or a tennis court. *You have animals that live and die that have to have priority.* When they need attention, they need it now. I sympathize with the Recreation and Parks' people. Their budgets are cut to the hilt and they have so many places to put the money which are equally as valid as the zoo.

AC Aside from finances, what would you say is the biggest problem for a zoo?

G Without a doubt, it would be filling the demands for more and/or different space in the compound areas. It takes so long through legal procedure — the "jungle" of stages, phases, and city red tape to get these compound changes taken care of. You have to go through health and safety codes. You have to go through the municipal arts commission, and many, many other steps that take months and months. Animals grow up very quickly. Suddenly you have a

wonderful birth which you're very proud of — but this dictates that the compound be made larger. They must have water, or pools, or a more secure type of cage, or more air, or more darkness, or more light, or more space as their family grows, as anybody's family grows. It's not budgeted for because no one really knows what's going to happen. You can't guess if there will be three young or eight. It's a difficult problem for a city and it's a difficult one for us.

AC How have zoos changed through the years with regard to aesthetics?

G Zoos of today have done a complete turn-around in their thinking. An exhibit aesthetically pleasing to the public is a natural one, and we try to emulate what the animals have in the wilds.

But take a breed like the cheetah, for example. Their breeding habits are such that they chase each other for three days and run miles and miles and miles. They mate in a state of total exhaustion. Well, surely no zoo can afford to have a compound large enough for this natural procedure to take place. There is a particular breed of horse from Russia that literally chew themselves to pieces while mating. This is naturally very offensive to the public. The breeding of this horse must be done on the back-40 where the public cannot watch. The animals are sewn up and given antibiotics afterward.

Often what we think of as aesthetically pleasing means nothing to the animal. You just can't put curtains on the walls. People say, why don't you have glass for the orangutans. They'd throw their defecation all over the glass, and, they want to climb. They want fencing. And it goes this way with every animal. Cats defecate in water, so if you put water in front of any cage where you have cats, you also have a horrible mess. It has to be at the back of the exhibit. Every hose connection is very important because you spread disease when you hose and pass urine from one cage to another. *The slope of the floors, the drains, where the drainage goes — every single thing you do in a zoo has to be detailed precisely and absolutely correct. That all takes money.*

Be sure and read Part II of this Interview in the May/June issue of Cavalcade.

BOZO IV

KING OF THE HILL

by
Douglas Prindle



Meet Bozo IV, King of the (Prindle family) hill in Brown Deer, Wisconsin.

Bozo IV is a classy little Yorkshire Terrier that started out as a replacement for our late family dog but became a substitute for our children, somewhat to the consternation of our son Jeff. Daughter Nancy is much less perturbed, because she's married and has her own home and life. When Charlie, a long-haired Chihuahua, died last Spring after almost 13 years as the fifth member of the Prindle family, I decided against any more canine pets for this household.

Nancy, our firstborn, had been married for a year to a teacher and was further self-reliant with a career as a graduate medical technologist. Jeff, a college sophomore and part-time maintenance man, was still living at home, but in weeks would marry and move away, too. Charlie had been purchased during an ancient February to fulfill a promise to the kids that when we owned our own house we'd have a dog. My newfound freedom without a dog to be concerned about was something to savor.

It was during last year's summer vacation period that Marijayne, my wife, announced one sunny afternoon, "I want another dog. I'm lonesome." Never really fond of dogs, she had accepted Charlie for the kids' sake. He was "their dog," she once said, and never really formed an attachment for him.

"Well, if we're going to have another dog," I answered, "we'll have to

get the kind I want." My desire to own a Yorky was long-standing. I had seen only three in my lifetime, but became an incurable admirer.

A quick look at the pet column in the Sunday Milwaukee Journal want ad section showed only a few Yorkies for sale — a good sign of their rarity, I thought. After three phone calls, I selected a kennel not far from my home. "Blow Your Horn and Wait," cautioned a large sign at the end of the driveway into the kennel yard, once part of a farm.

The proprietor, a woman of about 45 with straight hair pulled back into a bun, canvas bib apron and other work clothing, came scurrying from a barn that obviously housed barking dogs. She stopped inside a four-foot-high, wire-meshed fence that separated visitors from animals. I was impressed that she did not invite me in, recalling, as a former agricultural editor, having written about the importance of livestock sanitation. I had learned that breeders of valuable cattle, swine and other animals avoided disease transmission by prohibiting indiscriminate public contact with livestock.

"Your ad says you have Yorkshire Terrier puppies for sale," I said to the lady kennel owner. An astute saleswoman, she assessed my net worth and asked whether I was interested in a male or female. She left and reappeared in seconds with just one, not a selection of male Yorkies as I had anticipated.

"This is Tiger," the proprietor said

as she held the pup high enough for an unobstructed view of him. The lady, both she and I knew, had chosen THE dog for me. Not until I asked "How Much?" did she open the gate, come out and hand the dog to me. I was lost.

"Two-hundred-fifty dollars," she answered. Jolted ((had expected \$150 at most), I told the lady, "I'm sure he's worth every penny of it, but my wife wouldn't let me spend that much money for a gold-plated dog."

"Well," said the lady with disdain, "this breed of dog, in his class — his father is a champion, you know — really should bring \$450, but, as our ad says, we're having a sale. We have other breeds much less expensive. How about a nice Schnauzer?"

She knew better. "Take the dog home and show him to your wife," was her next suggestion. "Would you let me drive out of your yard with this dog?" I asked in disbelief.

"You have an honest face," she said, matter-of-factly. I was tempted, but I knew the dog's appeal would not counterbalance the price tag. Marijayne years before had thought \$30 was a steep price for Charlie.

"Tell you what," I said to the lady kennel owner. "I'll go home and talk to my wife. Hang onto this dog until I call you one way or the other; it won't take long to let you know the answer."

"I've found the dog I want," I announced on stepping into our kitchen.

"How much?" was Marijayne's response.

I then spent 15 minutes listing the pup's fine points, how cute he was and that he simply had to be our next dog. Like the buyer of an automobile, my wife's main concern continued to be, "How much?"

"You're out of your mind," was her predictable reaction when I no longer could avoid answering the repetitious question.

"Sorry, my wife absolutely will not let me buy the dog," I told the lady kennel owner over the phone. The rest of the afternoon was spent in persuading my wife to at least go with me to look at the dog. Surprisingly, I was successful, though she insisted it did not mean a change of mind.

"Yes, he's a cute dog," Marijayne conceded. "No, it's too much money and we can't afford it," she argued. "No dog in the world is worth that much!"

"Don't you think you're worth a dog like that?" the proprietor asked my wife. That strategy to no avail, the kennel owner brought out a full grown male Yorkie, whose grace was that of an Arabian horse. Mickey, was the little prancer's name; his long silver coat gleamed and his topknot was flaunted like a knight's plume.

"How old is Mickey?" Marijayne asked. "Will this black puppy look like him when he's full grown?" she wondered. Tiger had been nipping and attempting in vain to distract an aloof Mickey. The older dog was two years old, and yes, the puppy would look like him on maturity, Marijayne learned.

"Oh, all right, if you've got to have this dog, we'll take him," was my wife's astounding decision. The lady kennel keeper immediately picked up Mickey and the pup and returned to the barn, explaining she would make out a bill of sale, and check his ears for superfluous hair.

Marijayne wanted me to understand although we agreed to a stipulation on the bill of sale that the kennel operator "reserves the right" to use our dog for stud service three times, this would not be the case. No dog of ours, she decided, would be exposed to that kind of "bad habit."

Our new bounding ball of fur became "Bozo" on his first night at home. "Tiger" seemed inappropriate; nor did I want a name that implied babyishness. Yorkshire Terriers, we learned, are as courageous as the largest of dogs. The incongruous name of "Bozo" was my first choice on the registration card sent to the American Kennel Club (second choice: "Bozo I"). A new card arrived with "Bozo IV" as his official name.

Bozo's championship bloodlines did not distinguish him from ordinary puppies at bedtime the first week. Unbelievable was the volume of his wailing and yipping. To no avail was keeping a light "on" in Bozo's new, Jeff's old, bedroom. The solution: Me in a deer-hunting-type sleeping bag on the floor. Bozo immediately flopped himself on the bottom portion, plunked his head on my upper right arm, sighed and went to sleep.

Bozo has changed our entire household routine. On-stage at all times, his demand for attention is insatiable and his clever ways of obtaining it are a marvel to us all. He plops like a flea onto the highest of furniture during dead-heat runs from carpeted kitchen to living room, laid with braided rug. Little escapes his soft, narrow tongue when he demonstrates how highly he regards his owners.

It is with almost disbelief that Jeff

watches his mother as she goes through well-planned steps to groom Bozo. From double kitchen sink wash and rinse operations, the pup goes to Turkish toweling; then comes "No More Tangles" application and brushing under an expensive hair dryer set up on the living room floor. Admitting the dog really is handsome after this treatment, my son nonetheless delights in immediately rolling Bozo on the floor to "mess him up" again.

"Maybe you think you're running this house," Jeff told his parents during a recent visit, "but you're wrong. Bozo is the boss around here." With obvious envy, our son often characterizes his "replacement" as a "big baby" and "king of the hill."

Admittedly, Bozo IV is a big baby and perhaps somewhat of a nuisance. But even Jeff knows that Bozo never could *really* replace the two kids who once were king and queen of this hill.

THE NEED FOR A NEST BOX

By Dr. James E. Corbin, Past Director Purina Pet Care Center

The use of a nest box has enabled the Purina Pet Care Center to wean nearly 90% of the puppies born alive in the Purina Dog Care Center during the past ten years. We feel that a nest box has a lot to offer for good management of puppies. Normally when the bitch approaches whelping time, she becomes restless and searches for a secluded spot. The nest boxes seem to answer her needs and afford a place to be alone.

Nest boxes are normally placed in the pens five to seven days before whelping is expected. Shredded paper is used as litter for whelping for it is clean, inexpensive and relatively dust free. If litter other than shredded paper is used, it should be absorbent, non-toxic, clean, and free of contamination such as dust splinters, burrs and stickers. Some people have used prairie hay or ground oat straw for litter. However, the fine splinters from the straw tend to puncture the skin and cause irritations in young puppies.

If the weather is cold, a heating pad placed in the bottom of the nest box keeps the pups from chilling. The heat pads are controlled with a thermostat that maintains a temperature that is warm to the touch, but not hot enough to cause discomfort. The heating pad should not cover all of the whelping box floor. In that manner, the bitch will not have to lay on it and if the thermostat malfunctions and overheats, the puppies can move off to a cooler area.

Some people prefer a cloth type litter in the belief that the puppies can get a better pawhold on a firm surface. A pressed board surface is generally used under this type of bedding. This movable surface is covered with a cloth containing elastic hemming at the edges. This keeps a cloth fitting tightly and makes it easy to change and wash the litter cloth daily.

If you desire, you may put an extra metal shield in the lower part of the whelping box doorway which acts as a barrier to keep the pups within the whelping box during the first three weeks. The strips of metal protecting the board edges discourages chewing of the whelping box.

A nest box 36" long, 23" high, and 28" wide will take care of most dogs weighing 50 to 80 pounds, while a smaller box measuring 32" long, 21" high and 24" wide should be satisfactory for dogs weighing under 50 pounds.

The whelping box is clean, inexpensive, and with proper care will last a long time. Building or purchasing one will no doubt prove a wise investment.

EDITOR'S NOTE: If using shredded paper, be sure it is not newspaper or any paper with printing on it — the ink could be poisonous to puppies.

LITERARY ANIMALS

By Linda Bosson

Answers on Page 30

Do you know what kind of creature is featured in each of these literary works?

1. Born Free
2. Lassie Come Home
3. My Friend Flicka
4. Moby Dick
5. Winnie-the-Pooh
6. White Fang

1. A rider takes for granted, of course
That a thoroughbred's a riding _ _ _ _ _.
2. A farmer has the keen know-how
To identify a Jersey _ _ _ _ _.
3. A butcher likes to see a big
Black and white Hampshire _ _ _ _ _.
4. It's hard to keep in a pen
A flighty, nervous Leghorn _ _ _ _ _.
5. Though the hillside's very steep
It's easily climbed by Shropshire _ _ _ _ _.

ANIMAL "RIMES"

by
Evelyn Witter

Answers on Page 30

CINDY'S KITTENS

by
D. J. Dorfman

Dear Animal Cavalcade,

Here is a story I wrote. I would like it if you could put it in your magazine. I hope you like it. Thank you for reading it.

Danny Dorfman
Manchester Center, Vermont

When our family came home from a trip, we heard squeaky noises in our garage attic. We climbed up the ladder for a look, and found four kittens. They were the cutest kittens we ever saw. Cindy was their mother.

Our other cat, named Kippy, didn't think so, because he was so jealous. The kittens were getting too much attention. He had a plan. So he tried something. He pushed one of the kittens from its milk. He still didn't get any attention. So he gave up.

After awhile they got bigger and one afternoon one of the kittens got too close to the edge and fell from the attic. Then we heard a crying sound. We went out to the garage to find out what it was. And we found one of the kittens. It had a bloody nose. We took the kitten in the car to our veterinarian and he fixed it up. When we got home we gave the baby kitten back to his mother.

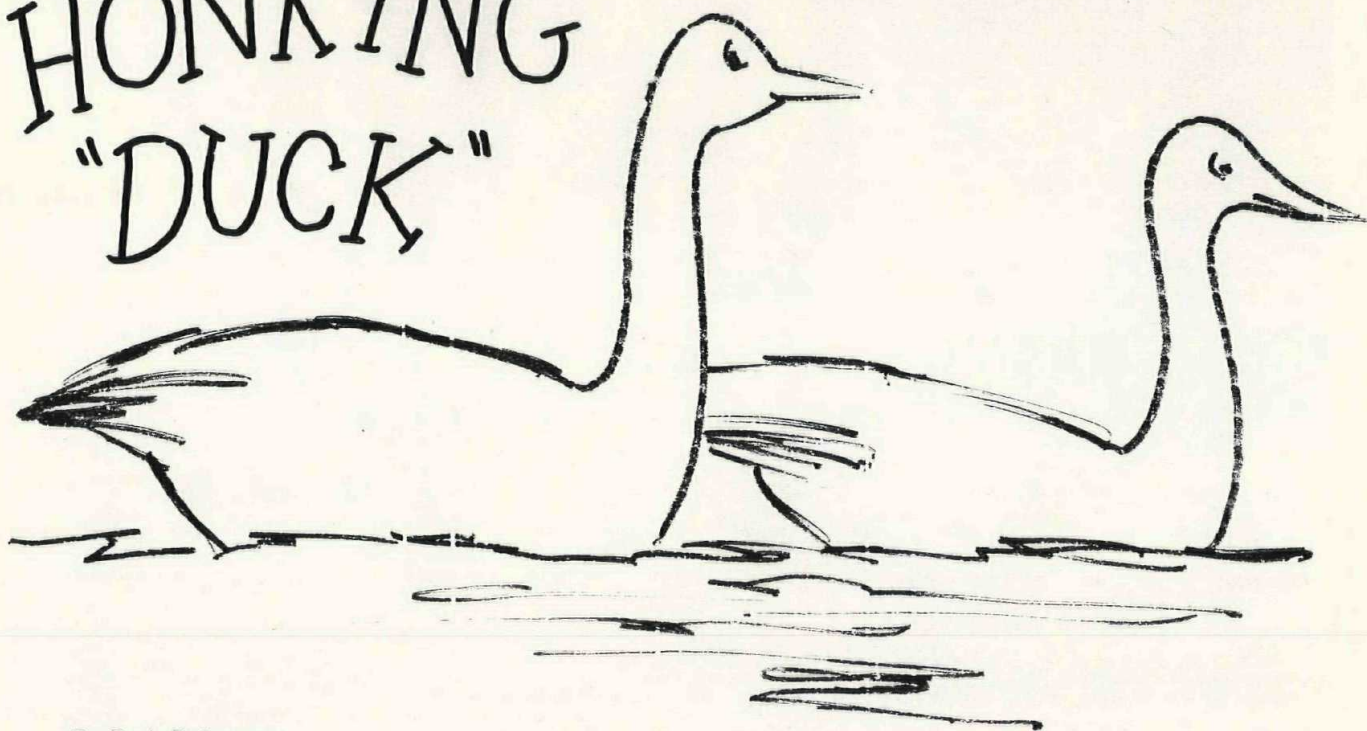
On another day, our neighbor's dog Clancy came into the garage. Cindy and her babies were lying in a corner. When Cindy saw him coming, she jumped up and sprang at Clancy. The big dog jumped back, but Cindy didn't give up. She jumped on his back, and he was so frightened that he ran home. Cindy saved her children.

They got bigger and bigger and they started to eat food out of a can. Since we already had two cats to feed, we gave them away. We gave them to the cook at the Equinox Hotel, and they played with ping-pong balls and were fed and had a good time there.

EDITOR'S NOTE: *Animal Cavalcade* is happy from time to time to print stories written by children about their pets. Although compensation is not provided for these, the editors will be happy to provide additional copies of the magazine for the youngster for his family and friends.

CHILDRENS page...

THE HONKING "DUCK"



By Ruth Robertson

Early this past summer my eight-year-old granddaughter discovered a big white bird sitting on a nest beside a lake in Westmoreland Park in Oregon, near a cluster of bushes. Remembering my own childhood days, I expected a loud yowl, and a pinched hand. But, to my amazement the nester allowed Karen to pet her. Was she a wild bird become tame, or a tame one running wild? Then I noticed other children going into the bushes to feed and pet her. She seemed a little nervous, but wouldn't leave her eggs. That first time, when she stood up to turn her precious possessions, we counted six eggs.

Karen labeled her a duck, and I didn't dispute the identification, having spent a lifetime unable to tell the difference between a duck and a goose of the barnyard varieties. She promptly christened her new pet, "Heidi." As you can guess, we returned to the spot a number of times, when Karen would sit for several minutes at a time petting and talking to her duck.

On one visit we counted twenty-one eggs. Did she lay them? Or, did some park attendant try to encourage her by bringing in extra ones? We never found out. When she stood up to turn her eggs, a precarious chore, with

her big feet, in that shallow pile of reeds and sticks, one egg rolled out and she allowed me to return it to the nest, though she had a wary look in her eyes. I was a little wary too, not being sure she would be friendly to a full-grown human.

We went again about a week later, carrying a picnic lunch. Karen was too excited about being with her old friend to eat much. I sat a few feet away with a book, and glanced up occasionally at the tableaux in the bushes. Karen would take a bite, then give the next bite to her duck.

We had taken along a sack of hard bread to feed the birds. Karen walked over to the edge of the lake to throw some crusts to the swimming ducks. I was startled to hear a loud "HONK," obviously no quack. Karen came back to caress her pet. Again she went over to feed the ducks on the lake. Again I heard an angry "HONK."

I said, "Karen, was that your Heidi making that noise?"

She said, "Yes, Grandma. She doesn't want me to feed the ducks."

Three more times Karen tried to feed the swimmers, and each time Heidi honked angrily; but she wouldn't leave her eggs to scramble for the bread.

My bird watching friends would

have cringed in shame. All summer I had called that white bird a duck, until she honked. Then I realized she must be "Mother Goose," or maybe even "Father Goose."

The next time we visited Heidi, she was still patiently sitting, but on a half-empty nest, surrounded by several pieces of broken shell.

The last time Karen enticed me to go visit her friend, we found the nest empty. After scanning the lake, we located "Mother" or "Father Goose" on a rocky island out in the center. We could see seven young birds swimming nearby, and Karen was ecstatic.

"There's Heidi and her babies!"

For a while we watched them through field glasses. Finally a speckled brown mother duck rounded the island, and swam off across the lake, followed by seven fluffy babies.

Karen's eyes filled with tears. "Grandma, those weren't Heidi's babies! What happened to her babies?"

I had to admit that I didn't know. I didn't want to tell her, that in her exposed position, Heidi probably had too many friends; and that maybe some of those friends weren't as loving as Karen had been.

When we left the park that last time, Heidi was honking loudly, and sounding very much like a gander.



Photo by Louise Van Der Meid

feline behavior

by Benjamin L. Hart, D.V.M., Ph.D

Reprinted courtesy *Feline Practice*
Sept/Oct 1974

Behavior of the Litter Runt

Feline practitioners are occasionally asked by cat breeders and cat owners for their advice in dealing with the runt of the litter. Most of us advise against selecting the runt because of the general feeling that it will be less healthy and less well adapted in a behavioral sense. Although there are many runts that have been given special handling and treatment and have made perfectly satisfactory pets, I would agree with many practitioners that the runt should be euthanized to lessen the chance that someone may end up with a cat with which he is not happy. I would like to discuss some of the specific factors involved in predicting that behavior of the runt may turn out to be a problem.

Early Behavioral Experiences

A runt is often born particularly small. Being smaller than its littermates, it suffers more because it is less able to obtain or retain a nipple during nursing periods. As the kittens grow older, the runt is likely to be harassed frequently and intimidated by its

littermates. Although I know of no experimental studies dealing with the effects of this type of early social interaction, I would predict that it may have permanent influences on the behavior of the animal as an adult. It may be excessively timid or perhaps unpredictably aggressive towards other cats or people, depending upon some of the subtleties of early social interactions.

Effects of Infant Undernutrition

A factor that may be significant in kitten and adult behavior of the runt is the effect of infant undernutrition. Work with laboratory animals has suggested that severe nutritional deprivation in the early stages of life, when the brain is undergoing rapid development, may permanently impair some aspects of brain function. You may be aware of this area of research because of the implications for human behavior. Depending upon the particular brain region, neurons undergo a once-and-for-all growth during fetal and early postnatal life. Severe restriction of the diet at this time reduces the rate of brain cell mitosis and growth.

People conducting research on infant undernutrition and behavior refer to the vulnerable period hypothesis. The vulnerable period for cats, as in most other polytocous species in which the young are born rather im-

maturely, is in the early postnatal period. Nutritional deficiency during this time probably has more severe effects on behavior than nutritional deficiencies during gestation.

There is a danger of inadequate nutrition when litters are excessively large. In such instances the strongest animals in the litter may control the best producing nipples and not suffer at all. This tends to exaggerate the effects of malnutrition on the smaller animals, and the runt is certainly the most likely to show the effects of undernutrition. It is conceivably possible for the runt to suffer from nutritional deficiency even if the total milk supply is adequate because of its low social position.

One thing to keep in mind regarding behavioral effects of infant undernutrition is that the nutritional restriction must be very severe to have behavioral influences. In experimental studies, even restricting the diet of the lactating mother to 40% of the ad lib amount had no effect; a reduction to 20% was necessary to produce any noticeable effects.

Types of Behavioral Changes

What are the types of behavioral changes that have been seen as a consequence of infant undernutrition? Several studies have examined learning
Continued on page 26

Joe's dog

by Ressie Crenshaw Watts

Dear Editor,

I am Joe's dog, that is what's left of me. When Joe got me I was the "cutest darn pup," and at that time I was overfed, underwatered, overplayed with, and overwhelmed by all the love and attention showered on me. Real "Dog Heaven" if you know what I mean.

Well, the sad part about it all is a pup remains a pup just so long, and before too many weeks I was a tall gangling dog with big paws and a long tongue, sharp teeth and a big appetite.

I was a pushover at play. I pushed over everything, including a three year old, a six year old, and one time, accidentally, a friendly neighbor, who I might add, was no longer very friendly.

From that day on I was known as "that darn dog."

I realized I had been wrong, but it's my nature to be friendly, and the desire for a pat on the head overcame caution.

Joe decided I had to be penned up, so he built what he called a "dog run." I never really knew why it was called a "run" since it consisted of four big steps forward and four back. At one end Joe constructed what he called a "doghouse." Well, let me tell you, that was no house. It turned out to be a creation of the most awful torture. A tin roof, tin sides and what's more important, no air holes. I'd heard talk of torture for prisoners of war, let me inform you, and I know what it was like.

Having never lived in a doghouse at

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the end of a dog run, Joe had little knowledge, or concern, for my discomfort. In the morning when it was cool, I had shade. As the sun traveled westward, I began to pad back and forth. From 10:00 a.m. until sundown I was exposed to the broiling hot rays of the sun. The only shade anywhere near was a shadowy thin line of fence.

The sun did me one favor—it dried my feces to a powder. That still didn't eliminate the stink and flies. The accumulation would cover the run before Joe took the trouble to clean it out. He scolded me something terrible, but I did the best I could. I licked his hand. Even that seemed to be the wrong thing, so I gave up trying. I snarled, I fretted, I barked. I begged and pleaded to be heard. I became the source of broken friendships in the neighborhood.

I was Joe's problem. His wife, who appeared to dearly love me when I first arrived, refused to have anything to do with me.

Neglect was my constant problem. Joe would give me a can of cheap, salty dog food and a piddling pan of dirty water, and a rare pat on the head on one of my better days. Sometimes I went all day without food or water. In that sun and confined in such quarters, I longed to die.

Occasionally, the six year old would stop and stroke me through the wire. One day she had the taste and luscious smell of hamburger on her hand. In my eagerness, I guess I bit her hand just a pinch, but from that day on I was "That Damn Dog."

By night time, after waiting, begging, and hoping for food and water all day, I begged, howled, and whimpered. I had to! Believe me, discomfort overcame caution.

One night the neighbor I had accidentally knocked down, came over with her hose and forced all the feces into one corner. She filled my bowl with fresh cool water and pushed a bone through the wire fence.

"You poor thing," the neighbor said, "If they don't want you, why do they keep you?"

I whimpered my agreement.

You can never know how wonderful that gesture of friendship was. That night I slept the sleep of happy exhaustion.

The free dogs in the neighborhood would stop by occasionally—slick, well fed—and tell me all about their families. I longed for just a tiny bit of freedom. I was a sad and sorry sight for a dog.

Winter crept in, the rains came. My "run" became just that. Water ran all over the place. It rained continuously. My "hot box" became a cooling shed. It was not dry, nor was it protected from the cold. I shivered and howled louder each night.

The neighbor called the Humane Society. They said "call the sheriff." The sheriff said, "call the Humane Society." And, according to the report of one neighbor to another, something had to be done.

I agreed. Anything!

I am mangy, have fleas, my eyes are bad from lack of care and food. I look like something out of another world.

My stomach worms had become accustomed to one meal a day, so if I went two days without my can of salty food, I twitched and jerked and had awful dreams trying to shake the pangs of hunger, never fully satisfied.

Something was finally done! The Humane Society came and got me.

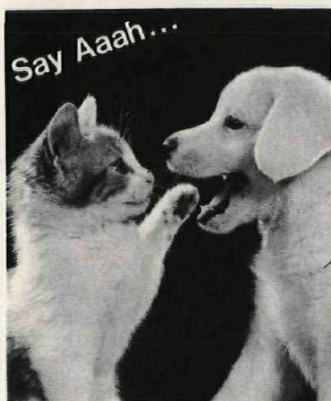
Since being placed here among others of my kind, I understand my plight was not as bad as others.

My kind neighbor consented to write this letter for me, and if it helps just one dog, my life was not in vain.

Sincerely,



Joe's Dog



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FELINE BEHAVIOR

continued from page 24

ability in rats and the conclusions are still equivocal. Changes in emotional behavior have been revealed in several animals and some observations suggest that behavioral changes can be expected with considerably less nutritional deprivation than impairment of learning ability. Interestingly, excitability in the presence of food and a tendency to eat more or to eat more frequently are the most prominent behavioral abnormalities attributed to infant undernutrition.

We are just beginning to get the picture of the kinds of neurological changes that may result from infant undernutrition. The cerebellum is one of the fastest growing regions of the brain during infancy, and some recent research reveals impairment of motor reflexes and locomotor behavior in animals undernourished during lactation. Other work suggests that the development of neural mechanisms responsible for controlling pituitary release of the adrenocorticotrophic hormone during stress may be impaired after infant undernutrition.

**While
They
Last . . .**

**2 BACK ISSUES OF
ANIMAL CAVALCADE
WITH EACH SUBSCRIPTION**



NEED A HOBBY
THIS SPRING?
**ask your
POODLE**
WHAT HE THINKS . . .

Story and Photo
by Phil Sperier

One day as a neighbor was watching Tabitha Rossitter of New Orleans groom her poodle, he noticed the large amount of hair yielded by the dog and commented, "What a waste." The comment launched Mrs. Rossitter on an unusual hobby. She taught herself to spin the hair, to weave the yarn. She now owns two looms and five spinning wheels — and two poodles.

With hair from her poodles, she produces yarn that finds its way into such objects as gloves, shawls and handbags, made by her. The hobby

proved fascinating enough to Mrs. Rossitter's husband Paul, a bookstore manager, that he also became involved. Currently, he's weaving what will eventually be a handbag. It's largely of conventional off-white wool, but it has a brown design of dog hair worked into it.

Mrs. Rossitter, a nurse, was a member of the U.S. Public Health Service for 30 years. When she retired — with the rank of lieutenant commander — she cast about for ways to keep busy. Now, her dogs, one of which is a champion, her knitting and her weaving keep her quite busy. Even with two huge poodles, which she grooms often, Mrs. Rossitter is hard pressed to find an adequate supply of dog hair to keep her spinning wheels spinning. As a result, she's enlisted other dog owners to collect hair for her. "The best place to get dog hair," she notes, "is actually under the grooming tables at dog shows."

When interested dog-owners learn of Mrs. Rossitter's unusual hobby, they send her hair from their dogs. But, there's a gimmick in that procedure. Hair that's not clean is almost impossible to work, Mrs. Rossitter says, and she adds, "It's very difficult—almost impossible—to clean." When a dog's hair is destined for

weaving, she advises, the animal should be bathed immediately before it is groomed. Thus, during the grooming process, the dog yields a clean crop of hair. Clippings, because they are the outer (guard) hair, are no good for weaving. You need the under hair, which is yielded in grooming.

To be woven, the hair must not only be clean, says Mrs. Rossitter, it must be in long fibers. It must not be sticky or smelly. Poodle hair, which has very little oil, she says, sometimes must be sprayed with oil to make it sufficiently pliable to be worked.

"I'm really a spinner, not a weaver," Mrs. Rossitter explains. And she'll readily show you how spinning is done, demonstrating on one of the three spinning wheels in her parlor. She'll show you how the spinning process is preceded by carding: The fibers are placed on paddle-like instruments which have wire bristles and which resemble a balding wire brush. With these, the hair is separated, laid flat and rolled into a web-like spiral. Then it goes to the spinning wheel.

The new fiber is held in one hand and twisted onto a length of yarn that has been previously spun and placed on the spinning wheel, where it, too, goes through the process of being twisted into yarn.



Mrs. Tibitha Rossitter grooms her poodle. His hair will be spun into yarn and yarn will be woven to make shawl, handbag or gloves.

NEWS

Continued from Page 7

AMERICAN ASSOCIATION OF EQUINE PRACTITIONERS CONTINUED GROWTH AND PROGRESS IN 1974

The 20th annual meeting of the American Association of Equine Practitioners topped all previous records and indicated continued growth and interest, especially among foreign members. This organization of Doctors of Veterinary Medicine who specialize in equine medicine and surgery, now numbers 2500. More than 1700 members and guests attended the four-day Las Vegas meeting in December 1974.

A total of 45 foreign members from 11 countries, including a delegation of 17 from Australia and another of 11 from Great Britain and Sweden, were in attendance. The organization now has more than 200 foreign members representing 30 countries, not including Canada and Mexico where 184 members reside.

While improvement of professional proficiency was the theme of the meeting, several actions were taken.

Record attendance at specialty panels on veterinary service for *horse shows, race tracks and endurance and trail rides* reflected increasing popularity and interest in these three sports areas.

Other subjects covered ranged from hospital construction and management to equine insurance problems, the serious damage done by parasites, navicular disease, laminitis, soundness examinations, reproduction, orthopedic surgery — two new teaching films on abdominal surgery — X-ray techniques and equipment, new products and an update on several infectious diseases.

Most popular was the expanded autotutorial programs wherein numerous teaching video tapes, movies and slides covering a wide variety of subjects were shown continuously throughout the four-day meeting.

NEW PAMPHLET ADDED TO PUPPY BUYER'S KIT

Something new and interesting has been added to the Puppy Buyer's Kit being offered again this year by the Gaines Dog Research Center.

For the first time, the kit includes an American Kennel Club pamphlet titled "Are You a Responsible Dog Owner (Or Owner to be?)" The pamphlet contains helpful information under such headings as "Caring For Your Dog," "Your Dog and Your Neighbors," "Think Before Breeding" and "Obedience Training for Every-

one." It also explains what the AKC is and how it achieves its goals.

Seven other helpful guides to proper selection and care of a dog are included in the kit, which can be obtained by sending \$1 in cash or check to Gaines Kit, P.O. Box 1007, Kankakee, Illinois 60901.

The "Gaines Guide to America's Dogs" wall chart shows the AKC-recognized breeds in color and gives a brief description of each. The breeds are shown in the six groups recognized by the AKC.

Before selecting a breed, the future dog owner would do well to check "Where to Buy, Board Or Train A Dog," the Gaines Professional Services book listing thousands of kennels across the United States. In addition to listing the breeds raised at each kennel along with the address and telephone number, the 80-page book contains a special section titled "Which Dog For You?" which discusses such points in breed selection as large vs. small, short vs. long-haired, male vs. female and a dog for a child.

After the puppy has been selected and purchased, the new dog owner will find invaluable advice in such Gaines Research Center booklets as "Welcoming Your Puppy," "How to succeed in Housetraining Puppies and Dogs," "Feeding Your Dog Right," "That's My Dog," and "What Every Good Dog Should Know."

All families planning to buy a puppy are urged to use the kit as a guide to a wise selection — one that will bring joy and love to every member of the family for years to come.

EQUINE ADENOVIRAL INFECTION

By James J. England, Ph.D.,
Colorado State University

The virus, Equine Adenoviral Infection, was originally isolated from newborn foals with respiratory infections which were presented to the Colorado State University Veterinary Clinic for treatment. Several of the foals died, and they were diagnosed as having suppurative (pus forming) pneumonias of unknown cause.

It was felt that this disease was possibly a result of herpesvirus infection. However, the pattern of infection was unusual for a herpesvirus since it was seen in young foals instead of aborted fetuses or yearling horses.

Herpesvirus causes such things as cold sores in man and rhinopneumonitis in horses.

Herpesviruses were eliminated as the cause of these infections.

Based on the production of intra-

nuclear inclusions, DNA core, and either resistance, it was concluded that this was probably an adenovirus. We examined for a chemical property of the virus which is characteristic for all adenoviruses. Indeed, it did possess this common property.

That convinced us that we had an adenovirus. These viruses cause upper respiratory infections in man and other animals.

After identifying this agent as an adenovirus it was necessary to determine if it was a new adenovirus specific for horses. We compared the virus with most of the adenoviruses that had similar properties, which amounted to about 20 human adenoviruses, four bovine adenoviruses, one canine virus (hepatitis) and an adenovirus from pigs.

This virus was completely unrelated to the others, except that it had what is termed a group specific antigen. From this data it was concluded that this adenovirus was unique to horses. In addition, we have isolated it from all 11 diseased foals.

Transmission studies, have been conducted in an attempt to reproduce the disease. We have not reproduced the clinical disease that is observed in naturally infected foals; therefore, a possible genetic predisposition for the disease or an inability of some animals to develop a fully competent immune system is being considered.

Much more work is necessary before a control measure can be perfected. Since infected foals may not be able to produce immunity, a vaccine given to them would not be of any value. The answer probably lies in finding a way to stimulate the ability of these foals to produce immunity.

NUTRITION KEY TO PUP'S GROWTH

A human grows to maturity in about 18 years, but a dog does so in about 18 months, notes the Gaines Dog Research Center, so feeding a puppy improperly for one month is roughly equivalent to feeding a child improperly for one year. The damage done in that time could be irreparable.

The belief that human leftovers are adequate for any pet is a fallacy. A puppy needs a complete, balanced ration to mature properly and to maintain health when full grown.

Rather than feeding hit-and-miss mixtures of meat, fat, vegetables, cereals and assorted human foods, the Center declares that dog owners owe it to their pets to feed only complete, balanced rations backed by a qualified competent manufacturer.

Continued on page 30

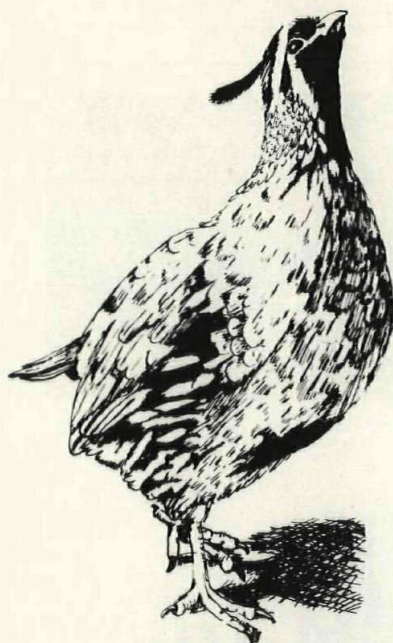
BOOK REVIEWS

A QUAIL IN THE FAMILY

by William J. Plummer

Illustrated by Brian Miller
(Henry Regnery Co.)

\$5.95



A truly heartwarming story of how a Gamble's quail, named Peep-Sight, joins a family. Mr. Plummer handles this account expertly. Informative, and yet not a technical treatise, we learn how the Plummer family struggles to keep a rare, wild breed of bird as a pet. We watch as they learn to respect Peep-Sight's idiosyncrasies, and love him as a distinct member of the family. Mr. Plummer has carefully avoided the sentimentalizing which is easy to succumb to with a story like this. *A QUAIL IN THE FAMILY* is a good book for pet owners and animal lovers of all ages.

ANIMAL DOCTOR

The History and Practice of
Veterinary Medicine

by Leon F. Whitney, D.V.M. and
George Whitney, D.V.M.

Although this book is written from the male point of view, and is directed particularly toward younger people (high school and early college), it is a "must read" for anyone considering a career in veterinary medicine. The authors, father and son, give a clear and complete, if not always glorious, picture of their subject. All the different aspects of veterinary medicine are discussed: large animal practice, mixed practice, companion-animal practice,

veterinarians who compile research, inspect food and teach, as well as the history and future of veterinary medicine. They take the reader through three typical days of their own practice, discuss the education needed to become a D.V.M., the State Boards, and getting established. The love and loyalty that Drs. Whitney and Whitney have for their profession comes shining through in this book. *Animal Doctor* will teach and inspire all who read it.

YOUR DOG AND MINE

by E. C. (Dick) Olsen

Exposition Press, Illustrated \$4.00

This book would be of particular interest to:

1. anyone considering owning a dog
2. first-time dog owners
3. anyone interested in dog show competition.

YOUR DOG AND MINE has good, factual information on medical care, feeding, training, breeding, and traveling with a pet as well as ideas on choosing a dog, children and dogs, and neighbors and dogs. And, for dog show enthusiasts, there is a great deal of information on competitions. This is a concise and knowledgeable book worth having.

REX, ABYSSINIAN AND TURKISH CATS

by Alison Ashford and
Grace Pond

ARCO Publishing Co. \$4.95

Half of this book is devoted to the histories, characteristics, personalities and mutations of three of the newest cat breeds — the Rex, Abyssinian and Turkish cats. There is also a very interesting chapter on elementary genetics. If you're interested in breeding, the authors give solid information without getting into blinding technicalities. The rest of the book works for cats in general: buying, breeding, raising, grooming, exhibiting, spaying and neutering, and caring for some of the common ailments of cats and kittens.

ANIMAL RIMES

from page 22

1. horse
2. cow
3. pig
4. hen
5. sheep

Continued from page 28

KEEP CALF HOUSING SIMPLE

Simple units can be as good as more expensive, complex buildings in preventing the spread of infection in calves, says Dr. D.W.B. Sainsbury, of Cambridge University's department of veterinary studies. He told a meeting of veterinary surgeons in Somerset that he had recently looked into a large herd where 40% of the calves were being lost in the first 12 weeks. The calf houses were expensive and complicated, but they were never emptied and were in close contact with the follow-on stages. He advised using pens made of straw bales well away from older animals run on an all-in all-out basis. Three hundred calves have subsequently gone through with a loss of only 3. (*Farmers Weekly*, July 14, 1972.)

COUNCIL BLAMED FOR EIGHT PUPPIES

LONDON: Mrs. Jessie Way is seeking compensation from the Hammer-smith District Council because her pedigree Boxer bitch, Tammy, was accidentally let out by municipal workmen and the result was eight mongrel pups.

"It's costing me around \$24 a week," explained Mrs. May, 46. "I obviously can't sue the father for maintenance, but I think the council should pay up."

LITERARY ANIMALS

SOLUTION from page 22

- | | |
|------------|----------|
| 1. Lioness | 4. Whale |
| 2. Dog | 5. Bear |
| 3. Horse | 6. Wolf |

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Rusty the smiling dog and the Chasm of Doom

