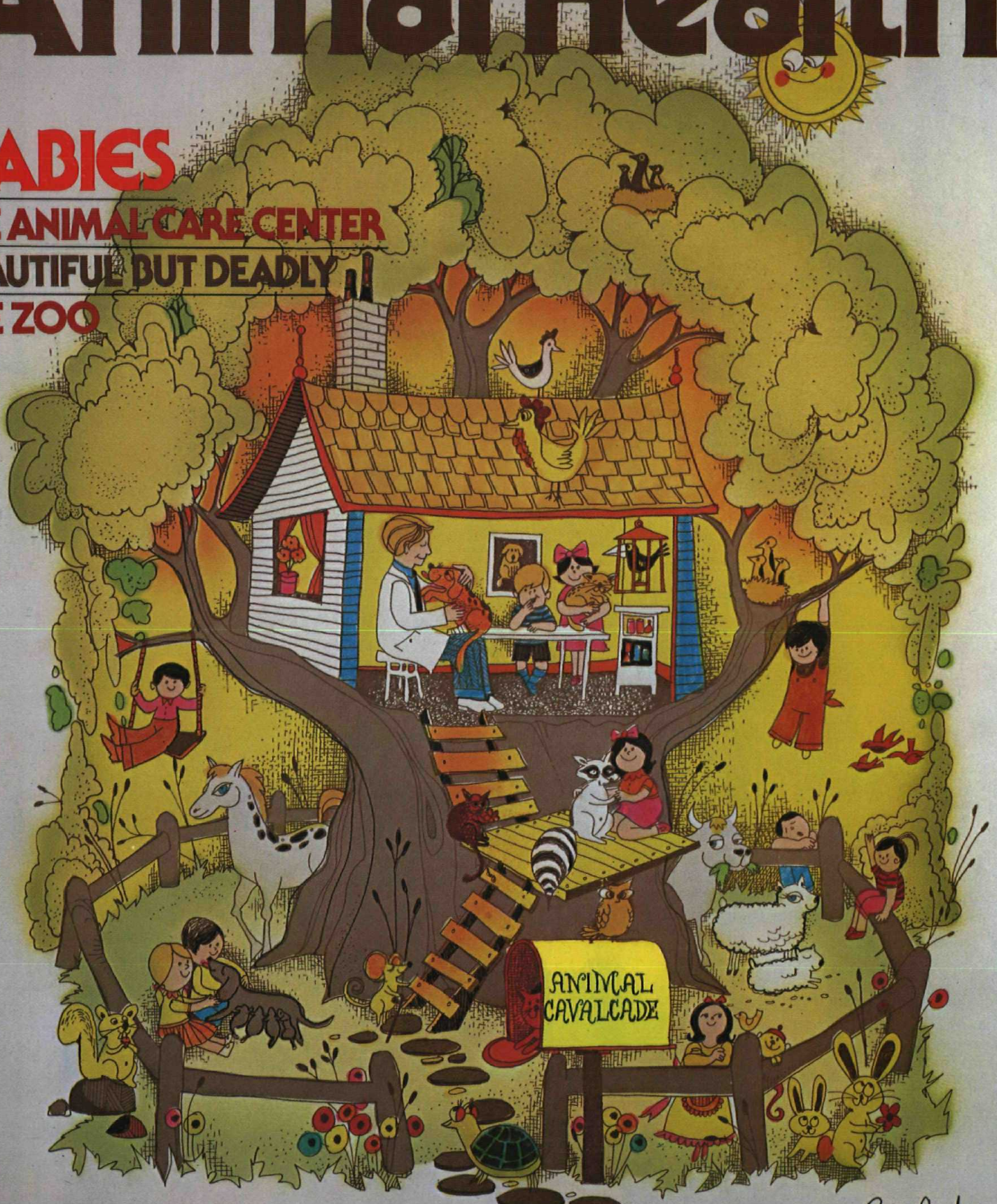


Today's Animal Health

MARCH/APRIL 1977 \$1.00

RABIES

THE ANIMAL CARE CENTER BEAUTIFUL BUT DEADLY THE ZOO



Everyone loves a gentle Veterinarian!

Roger Coats

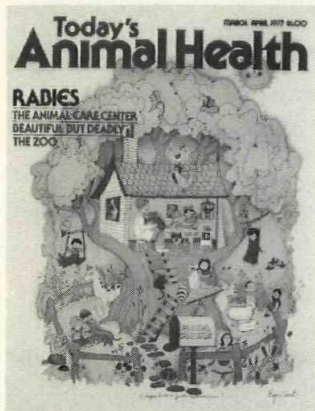
Today's Animal Health

Volume 8/Number 2

March/April 1977

COVER PHOTO:

Cover by Roger Coast, Artist, Author, Traveler; Mr. Coast is well known for his watercolors and engravings of early Americana, as well as for his charming children's prints such as Sunday at the Zoo and The Treehouse. Mr. Coast wrote: "The cover drawing symbolizes the joy a vet brings; my vet saved my dog's life, and I was profoundly appreciative."



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dialogue

I really enjoyed your article on the Spanish Veterinarian in the January/February issue. Are you going to give your readers more news about the practice of veterinary medicine outside the U.S.?

Hopefully, the answer is YES?

Ben Marcus
Chicago, Illinois

We're glad to report this article was only the first in a series about Veterinary Medicine Around the World. You'll note in this issue we've moved from Europe to Latin America and feature a veterinarian in Colombia.

It's obvious the commitment to good animal care is shared by people everywhere. It's our pleasure to report this to our readers.

Why don't you run a story about acupuncture and animals? I understand from my veterinarian that it's a real "livesaver" to many sick animals.

Billie Jean Newley
Shreveport, Louisiana

Sorry you weren't reading Today's Animal Health sooner. We ran a 3-part series on just this subject. You're right, acupuncture has become an important adjunct to veterinary medicine.

We welcome the suggestion, though; perhaps we should do an update!

Why are some women still wearing fur coats? and what is your magazine doing to stop it? I think it's the moral obligation of every animal welfare organization and every animal publication to bring this issue before the public.

Betty Evans
San Francisco, California

We ask the same question. If you must wear fur, ladies, then please make it fake fur!

Be sure to read the article on Endangered Species in this issue. Luckily some individuals and some organizations are doing important things to help.

... Is there any possibility of having an article on the people who put their

editor's viewpoint

In these times of consumer awareness, we hear a great deal about "big business" taking advantage of the consumer, making excessive profits and doing little in the public interest.

As the Editor of this journal of animal health for laymen, I have also been involved in the "business" side of this publishing venture. A magazine has two sources of income - advertising and subscriptions. In our effort to bring knowledge and understanding to as many people as possible, we have tried to keep our subscription rates as low as possible. That means we depend more on advertising income. It has been refreshing to me to find such willing cooperation and support from our current advertisers. These companies are run by people with a conscience, people who are concerned about you and your pet. At the recent Western States Veterinary Conference, I spoke with representatives of most of the veterinary drug companies and pet food manufacturers. It was distressing to find that there were a number of companies who were unwilling to support our efforts to help animals through effective education and communication to animal owners. I was particularly disappointed because these very companies exist **only** because they are supported by veterinarians and the general pet owning public. The efforts of The Animal Health Foundation deserve the support of these companies!

Why am I telling you, a reader, this? Because **you** can do something to help. Take a moment and write to our current advertisers and tell them you appreciate the fact that they support this international effort to help animals through the education of animal owners. If, on the other hand, you buy a product for your pet produced by a company that does not support us, please write that company. Tell them you feel their support of our efforts to help animals is vital! (If you don't know the address, send the letter to us and we will forward it.)

Let your voice be heard!

dogs to sleep in the late spring, because they don't want to be bothered by boarding their dog when they go on vacation? Also, an article on people who buy a puppy for the summer and then just abandon it at the end of vacation time? . . . These people don't see themselves as cruel, and most believe they are "pet lovers". I think the public should be aware of this growing problem. I have been told that these people think it is kinder to let these half-grown dogs and cats run loose instead of taking them to a Humane Society. Evidently they think these animals will be able to "take care" of themselves or that someone will "adopt" them. They don't realize that most starve, are hit by cars or are picked up by the pound anyway. The ones that do manage to

live, become so wild that they can't be approached and many are shot as "pests". These wild strays also have many litters that are even more of a hazard than their parents, since they have not had human contact.

I hope that you will encourage the printing of such an article, since many people do not know this problem exists.

Loewen Becker
Diamond Bar, California

You have pointed out two of the most terrible problems pets in our society face. We will try to have an article covering these subjects. Meanwhile, your letter is a good reminder of the obligations involved in owning a pet.

ask Dr. Smithcors

Q What is Old Dog Encephalitis?

A This is a disease that affects the brain and the spinal cord of dogs. It usually occurs in older dogs, but can occur in adult dogs of any age. Encephalitis is an inflammation of the brain and it causes abnormalities in behavior such as lack of coordination, circling, stumbling, falling over and blindness. Affected dogs sometimes fail to recognize persons and familiar surroundings and they don't respond to being called. The disease is thought to be caused by a virus. (It is also thought to be similar to multiple sclerosis in humans, though not caused by the same virus.) Researchers at UCLA are working on a treatment for Old Dog Encephalitis. Readers interested in knowing about this research are invited to contact the editor. A feature article on this subject is being considered.

Q Can you explain what happens when cats get leukemia?

A Feline leukemia is caused by a specific virus that attacks the blood-forming organs, primarily the bone marrow and lymphoid tissues (lymph nodes, thymus, spleen). Strictly speaking, leukemia is a condition in which there is a great overabundance of leukocytes (white blood cells) in the bloodstream. This may not occur, and another common form of the disease is called lymphosarcoma, which is caused by the same virus. Both of these, and other forms of the disease, are often termed "cat cancer," but not all cancerous conditions are leukemia or lymphosarcoma. Affected cats become depressed, lose their appetite, and often run a fever; enlargement of the liver or spleen may cause distention of the abdomen, and there may be fluid in the abdominal and thoracic cavities. These clinical signs alone, however, are not conclusive enough for a positive diagnosis. To determine the latter, a blood test is necessary.

Q Can cats overeat?

A Although the term "fat cat" is usually not applied to the feline species, cats can and often do overeat if allowed to do so, and the excess intake is converted to body fat. Male cats, in particular, tend to become less active after neutering, and

some are likely to become overly fat if their food intake is not regulated. However, it is almost impossible to overfeed a lactating queen, who usually has to draw on fat reserves (and thus lose weight) she is nursing four or more kittens.

Q Do cats get jealous of other cats or people?

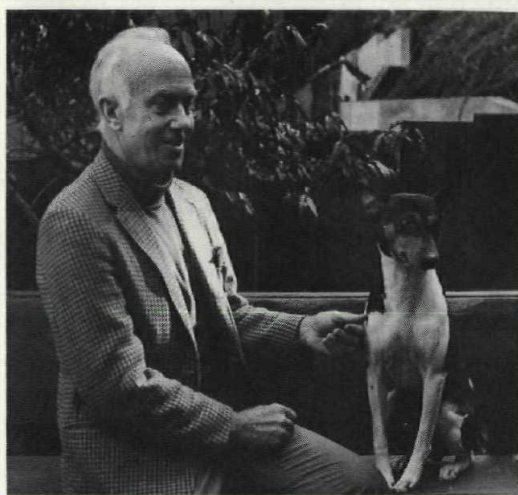
A Like many of the attributes we ascribe to persons, jealousy, as such, is probably best considered a basically human trait — the underlying motives for which can usually be determined by questioning the individual. In the more limited context of exhibiting intolerance to rivalry, however, it

seems safe to say that some cats do in fact show jealousy toward other cats or people. Cats that enjoy attention are likely to "horn in" if they see another cat being fussed over. It is highly unlikely, however, that like children, or childish adults, they *think* they *deserve* the attention another is getting. What might appear to be jealousy in a cat is more likely an instinctive tendency to guard an established territory—not a willful decision that "If I can't be the prima donna, I'm certainly not going to let you be one in my house." And

totally unlike people, cats don't exhibit jealousy toward individuals they have never met.

Q What do you do when you aren't answering questions for this magazine?

A Lots of things—many of which would be irrelevant to what I presume is the intent of your question, *ie*, my professional activities. I am the editor of a veterinary reference service which publishes abstracts of articles from several hundred veterinary and related journals, so practitioners can keep up with what's new in their field. We also publish a national journal, *Modern Veterinary Practice*, for which I am an editor and writer. My principal avocation is veterinary history—collecting old books and doing some writing.





HYDATID DISEASE - WHAT IS IT?

Nuzzling with old Rover could be fatal . . . if old Rover has been feeding on a discarded sheep carcass and if the sheep carcass is infected with hydatid disease.

In central Utah, the disease, which causes fluid-filled cysts in the body, has done enough damage to earn a reputation as a significant public health problem. In some smaller communities, it is estimated that 1% of their residents have had or will have surgery for hydatid disease sometime in the future.

Infected sheep have also been identified in southeastern Wyoming and southern Utah.

Brigham Young University scientists have joined in the fight against the serious and sometimes fatal disease to develop preventative and control measures to eradicate the disease.

For the past five years, they have done research to demonstrate the incidence of hydatid disease caused by a tapeworm passed from sheep to dogs to humans. According to Dr. Ferron L. Andersen, professor

of zoology at BYU who is in charge of the project, the occurrence of hydatid disease discovered by the research was sufficient to warrant both individual and community action.

As a result, hydatid disease clinics are being conducted throughout the sheep farming areas in Utah to identify infected individuals and dogs, to treat infected dogs, and to educate those associated with the sheep industry with the life cycle of the hydatid tapeworm and how to prevent the disease.

Similar clinics are also being conducted on Indian reservations in New Mexico, Arizona and southeastern Utah.

Since the clinics began, Dr. Andersen said nearly 1,000 dogs have been examined at field clinics for hydatid tapeworms. While the dogs are examined, the owners are shown pictures and samples of hydatid cysts and given information on the life cycle of the tapeworm. They are also advised that any dog of any size or breed can become infected, if it is allowed to roam free and feed on

discarded sheep carcasses. Most medicines available from drug stores will probably not be effective against hydatid tapeworms in dogs.

During the first survey of dogs, as many as one-third of all dogs in some small rural communities in central Utah were found to be infected with hydatid tapeworms. However, Dr. Andersen said a gradual decline in the number of infected dogs in central Utah over the past five years since the research began suggests that dog owners must be listening to the recommended control measures.

Since 1971, sheep in four abattoirs in central Utah have been surveyed to determine the prevalence of hydatid disease in sheep. The researchers discovered that approximately 10 per cent of the sheep examined had hydatid cysts.

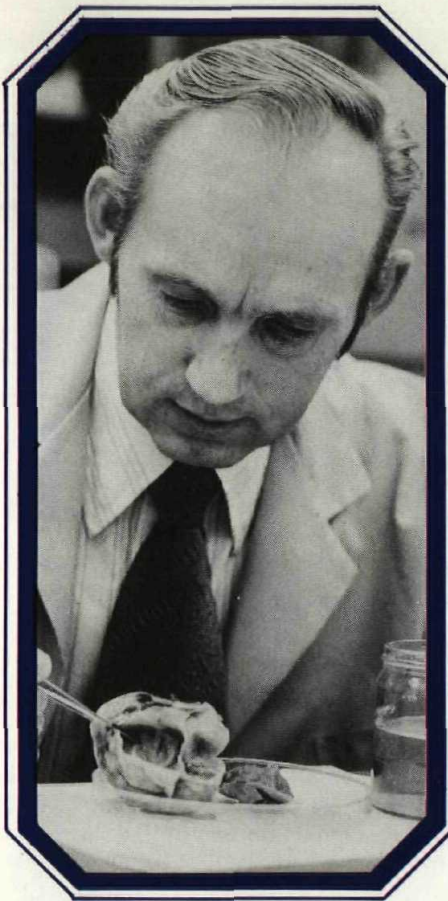
Since an infected sheep has hydatid cysts the rest of its life, Dr. Andersen said it is extremely important that roving dogs not be allowed to feed upon discarded sheep carcasses.

Public clinics were also held in areas where infected dogs and sheep were located to determine the incidence of hydatid disease in people. All persons over age three who attended the clinics were given skin tests. As a result of the clinics, six infected persons have been located and nine other cases reported at hospitals and clinics in the area.

"Even though the actual number of individuals within the state who are infected is extremely low when compared with many other diseases in humans," Dr. Andersen said, "the fact that surgery is the only known cure for the condition emphasizes its public health significance."

He noted that the first case of hydatid disease in humans occurred in 1944, and since then, approximately 40 persons in the state have required surgical removal of the hydatid cysts from either the liver or lungs. He said more surgical cases for hydatid disease have occurred in Utah than in any other state in the United States except Alaska.

In some cases, Dr. Andersen said, the cysts may stay in such organs as the liver for long periods of



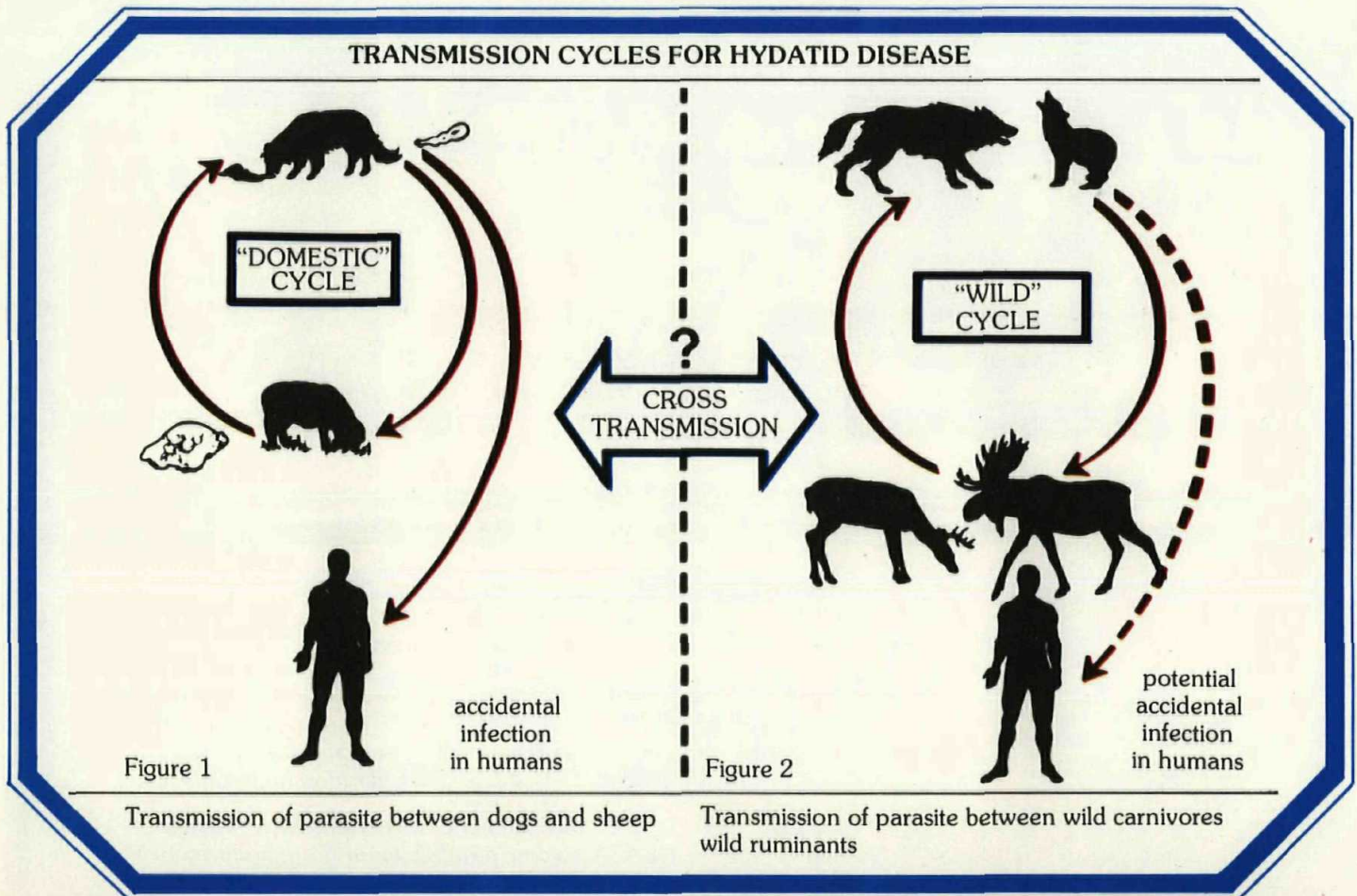
Dr. Ferron L. Andersen examines a hydatid cyst in a sheep's liver.

time without any apparent effect on health before pain is noticed. In other cases, the cysts in the lung may cause breathing difficulties within a few years after infection. A sudden rupture of a cyst could be fatal.

Among the recommendations made by the research team to help eradicate hydatid disease were (1) fence or cover pits where sheep carcasses are discarded; (2) properly dispose of sheep which die on the range so dogs can't eat them; (3) enact and enforce leash laws for dogs; (4) provide periodic checkups for people and dogs to detect hydatid disease as early as possible; and (5) educate the public in areas where hydatid disease occurs.

The BYU research team is working with the Utah State Division of Health, National Center for Disease Control at Atlanta, and the Utah State Department of Agriculture on the study.

Editor's Note: "Today's Animal Health" extends its thanks to Peggy Luedtke, Science Editor, Brigham Young University, for her help in securing this material.



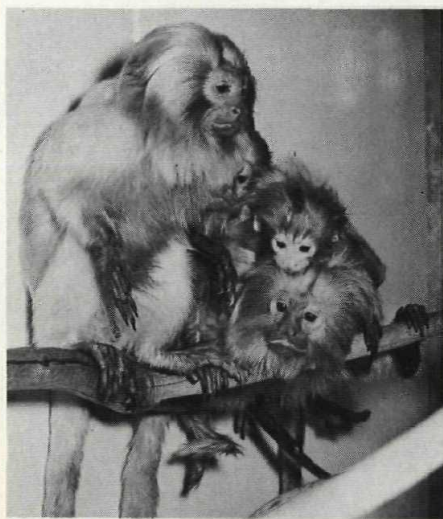
RARE, EXOTIC AND SPECIES AND THEIR RELA

A zoo is a living museum and the Los Angeles Zoo is the nation's newest municipal zoo. It was designed to exhibit its 2,500 mammals, birds and reptiles from all over the world in settings reminiscent of their natural habitats.

Zoos and game preserves are among the last sanctuaries for wild animals whose numbers dwindle due to an ever expanding human population, the destruction of natural habitats, or the needless slaughter of these animals by man. The Los Angeles Zoo has over fifty near-extinct species, officially classified by international conservation organizations as "Endangered Species".

The Los Angeles Zoo is a 113-acre laboratory for the study of animal physiology and behaviour, with hundreds of species from all over the world as subjects. It has had outstanding success breeding many of these rare and endangered animals whose offspring are loaned to or exchanged with other zoos. Eventually such breeding programs may repopulate parts of the wild kingdom. If it were not for such programs in zoos in Los Angeles, Phoenix, London and Abu Dhabi, the rare Arabian oryx would be extinct. (Read "IN THE NEWS", p. 27 for further details.)

A relatively new role for zoos is the concept of preserving those species that,



Rare Golden Marmosets (*Leontideus rosalia*) are in a brand new exhibit area in the Reptile house. The tiny primates, who may weigh only a pound, full grown, are an endangered species from Brazil.

Dr. Warren D. Thomas, director of Los Angeles Zoo, holding "Pertoma" (meaning "first born" in Malaysian). The Los Angeles Zoo is proud of its breeding policy as this is the first successful rearing of a Marbled Cat (*Felis marmorata*) in captivity.

Mrs. Frederic E. Giersch, Jr., President of GLAZA holding a ruffed lemur (*Lemur variegatus*) in the African section of the Los Angeles Zoo. The

ENDANGERED ATIONSHIP TO THE ZOO

because of lack of protection, can no longer exist or are threatened in their native habitat. An important aspect of this concept is to maintain endangered species in such a manner as to specifically encourage breeding. Diet, privacy requirements, habitat, and total environment are designed to foster reproduction. It is hoped that breeding groups may eventually be reintroduced into the wild when necessary protective measures have been taken. Thus, zoos are fulfilling a purpose that cannot be overestimated. The Los Angeles Zoo has been very successful not only in the exhibition but also in the breeding and rearing of endangered species.

Another facet of the effort made to provide the best possible environment for the animals is the no-feeding policy. Comparatively new for U.S. zoos, *the rule helps assure that all animals on exhibit receive only the food that is essential to their optimum diets.* It also allows the public to study and enjoy the animals in their natural interactions with each other rather than in unnatural responses to visitors. The rule is of benefit, too, in helping prevent the transmission of diseases from humans to animals.

According to the International Union for the Conservation of Nature and Natural Resources (IUCN), there are five main reasons why any species becomes extinct:

continued on next page



4



5

Photos courtesy of Los Angeles Zoo

family Lemuridae is confined to Madagascar and the Comora Islands off the coast of Africa.

4 Mrs. Frederic E. Giersch, Jr., President of GLAZA, feeding a California Condor (*Gymnogyps californianus*). Topa Topa was found by the Fish and Game Department and brought to the L. A. Zoo when he was approximately nine months old and is now nearly ten years. Extremely rare, only 50-60 birds are in existence. Their natural habitat is the coastal mountains of south-central California.

5 "Twinkly Toes", Black Rhinoceros (*Diceros bicornis*) and her offspring born June 23, 1975, in their open grotto exhibit at the Los Angeles Zoo.

RARE EXOTIC AND ENDANGERED SPECIES AND THEIR RELATIONSHIP TO THE ZOO

1. **Habitat Destruction** -Along with hunting, habitat destruction is a powerful influence on the decline of wildlife. The most significant factor is the encroachment of civilization on the wild. Habitats are destroyed and disturbed in many ways, from the draining of wetland to the waging of war.

2. **Overhunting** -For food, sport, clothing, scientific or status-symbol collection, or as a means of "pest" control.

3. **Introduction of a Predator** -These exist most commonly in areas colonized since 1600, where mammal predators particularly have been introduced to "keep down" the explosive populations of other introduced animals, (for example, rats and rabbits) and have readily turned their predatory attention to the native fauna.

4. **Introduction of Competitors** - (a) When man expands into a new area, he brings with him his domestic stock which often competes with the native fauna for food, space and water. In addition, these competitors sometimes bring diseases against which the native species have no resistance. (b) Even normal competitors, due to over-crowding or

other factors, often present insurmountable problems for a given species or number of species.

5. **Natural Causes** -Extinction is a biological reality, part of the natural process of evolution. Few species have lived more than a few million years without evolving in relation to an ever-changing environment or dying out through over-specialization or an inability to adapt.

Nothing can be done about the last reason except to study and understand these causes **but, over the first four activities man has direct control.**

According to Mrs. Frederic E. Giersch, Jr., President of the Greater Los Angeles Zoo Association, the Docent Endangered Animals tour at the Los Angeles Zoo is to acquaint people with the current status of these animals, with the reasons for their decline, and with the steps that are being taken, both in the wild and in captivity, to provide for their survival.

Editor's Note: Special thanks to Mrs. R. T. Garton, GLAZA volunteer, for her cooperation in providing this material.



Gila Monster (*Heloderma suspectum*). One of the only two known venomous lizards.



Snow Leopard (*Uncia uncia*). The species is now protected in Russia and India. The International Fur Trade Federation in September 1970 imposed a total ban on trade in snow leopard.

Most people are quite surprised to find that there are specialists in the field of veterinary medicine. Who are these people and what do they do?

There has always been a natural evolution in any profession for certain individuals to seek all the information they can about specific aspects of the fields or disciplines which their profession encompasses.

Fifty years ago specialists in human medicine were found mainly in university or teaching environments, with a few practicing in the larger cities. Their professional training consisted of the usual internship followed by further academic or supervised training such as a residency. The period of the advanced training varied with the type of speciality they were studying and it usually involved several years. Upon completing the requirements, one then applied for certification.

This certification process is known as Board Certification and indicates that the specialist has not only spent the required number of years in formal training but has completed a series of oral and written questions given by the applicants' peers and has satisfactorily passed this examination and hence is certified as a specialist. It should be noted that not all specialists are or will be Board Certified and, in many cases, those who are not can be as well qualified as many who are.

Now, while this evolution was taking place in human medicine and dentistry, there were also changes occurring in veterinary medicine. The first specialization came in the area of

species specialization. These involved veterinarians most keenly interested in treating specific types of animals such as equine, bovine, companion animals, etc. Along with the species specialization, there were specialists developing in health services and other public service areas.

Teaching and research centers were natural places for specialists to pursue continual development of their special interests. With the wide variety of supporting sources of information and help available, the academic specialists progressed more rapidly than the practitioners seeking the same information during their spare time and more or less on their own. Yet there was an obvious need for specialization in private practice which ultimately made those wanting to be specialists seek further academic learning to go with their practice experience.

Subsequently the academic specialists and the practice specialists banded together and formed speciality certifying boards dedicated to the advancement of veterinary medicine through their specialties.

Today there are many certifying boards in veterinary medicine and there will be more to come in the near future. The one I would like to tell you more about is the specialty of veterinary dermatology.

Veterinary Dermatology is truly a needed and rewarding area of specialization because at least 25% of all companion animal cases deal with problems involving the skin. When you think of the skin, think of it as an organ such as you would the gastro-intestinal system, the skeletal system, etc. The skin is one of the largest body organs comprising approximately 16% or 1/6th of the body weight. The skin has many functions; besides the protection and

support it gives the body, it also has many protective functions. It is also responsible for the beautiful hair coat you see on your favorite animal. Included in the protective function of the skin is a normal shedding of the skin--this goes on constantly and during the process, it consumes about 20% of the protein requirement in man and probably 25-30% in the dog and cat.

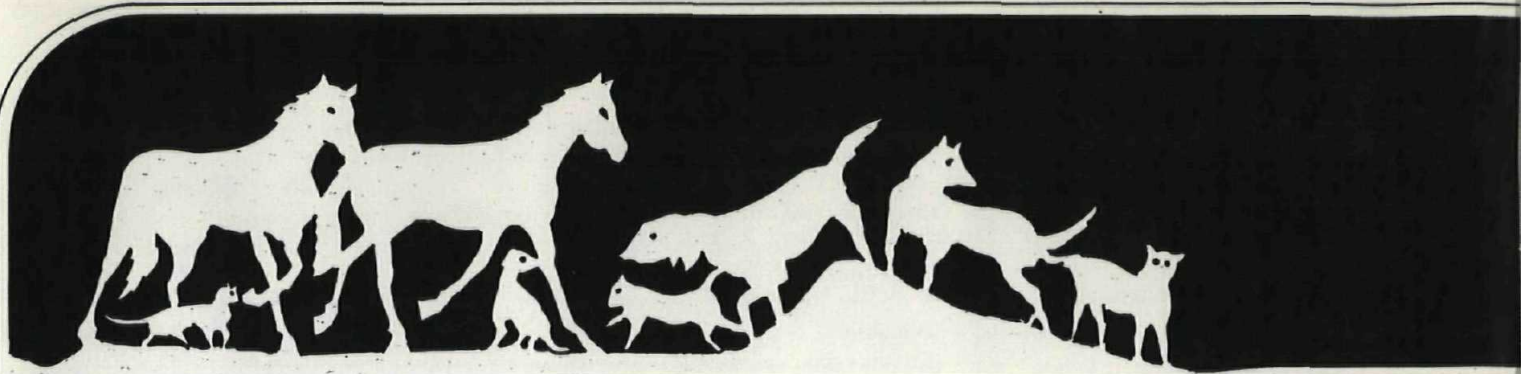
When something goes wrong with the skin and we see a skin disease, we have to consider all of the functions and structure of the skin in deciding upon a diagnosis and treatment. Also other factors that influence the skin are nutrition, environment, presence of ectoparasites, injuries, care and many others. **Probably the most important factor in maintaining normal skin--and most people never figure this is as important--is the amount of water that an individual drinks.** Eighteen to 40% of the total body water (the amount decreases with age) is contained in the skin. Therefore, if a person or animal becomes dehydrated, no matter what the cause, the first place that it shows is in the skin and instead of being soft and falling back into place when pulled out, it remains dry and very slowly assumes its normal position. The more the dehydration the longer it takes. Many other normal body functions are reflected by the skin. Improper ventilation of the body changes the color of the skin. Improper circulation may change the color of the skin and many internal diseases such as those associated with liver function may change the appearance of the skin. Hence besides all of its own functions, the skin acts as a mirror reflecting the general body condition.

The list of causes of skin diseases in animals is wide in scope. To name a few we could classify them into large groups such as bacterial, viral, nutritional, congenital, hereditary, metabolic, hormonal, parasitic, cancerous and others.

Therefore the veterinary dermatologist is as concerned with the total body functions as he is with the skin alone, and this is what makes the speciality such a constant challenge and a rewarding one when we are able to help the animal once again become normal.

The Skin Doctor

by Victor H. Austin, D.V.M., M.S.



Near the small Southern California coastal town of Rancho Santa Fe, a unique experiment in human-animal relationships has recently been launched at the San Dieguito Animal Care and Education Center. The Center, located in an environmentally beautiful area, is housed in a handsome facility which includes modern hygienic quarters for a limited number of dogs, cats, and livestock.

The facility also includes a small library, in-house surgical and recovery units, a bathing and grooming unit, exercise and training areas for both dogs and horses, kitchen facilities, photographic development unit, and several small conference areas. Plans for further expansion include an auditorium and an expanded surgical unit which will also include facilities for emergency care of diseased and injured wildlife from the surrounding areas.

Under the expert guidance of the Center's internationally known

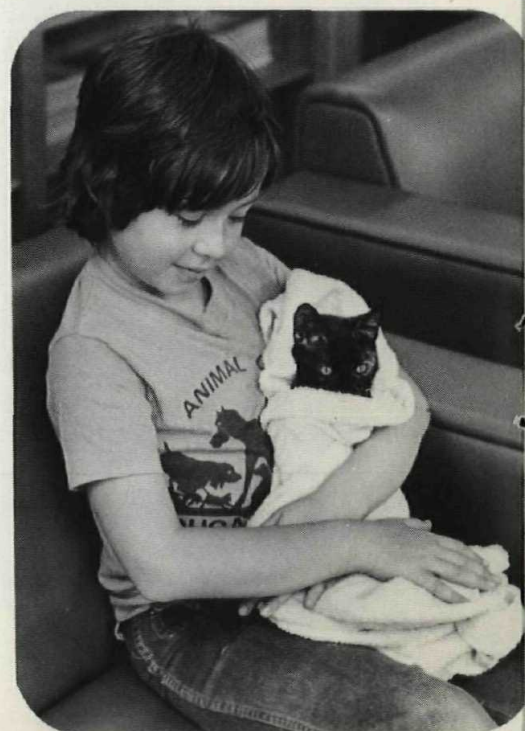
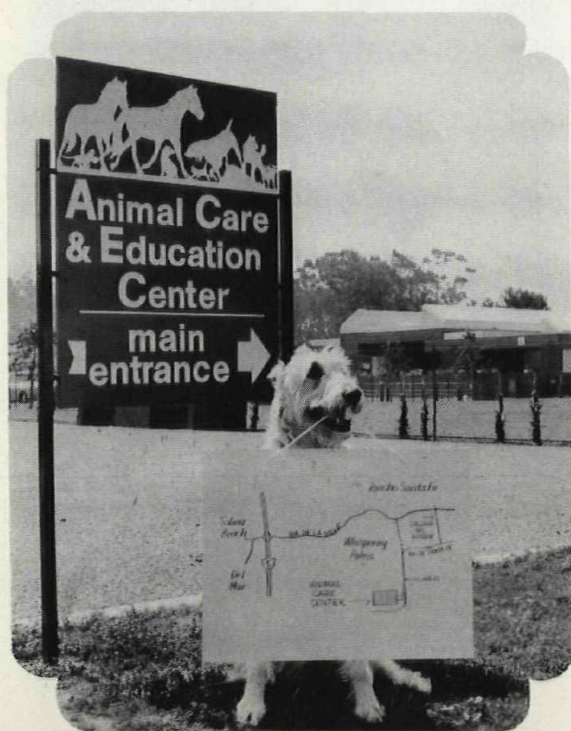
director, Mr. Mel L. Morse (past director of both the American Humane Association and the Humane Society of the United States), long-range programs are being carefully designed which will hopefully contribute new insight toward the understanding of and solution to many problems pertaining to the field of human-animal relationships resulting from the trend toward massive urbanization.

An unwanted animal adoption program serves as the nucleus for the Center's activities. The adoption program is unique and probably the first of its kind to be found in an animal adoption facility in the nation. The emphasis of the program is on **responsible animal ownership**. The gravity of expecting someone else to assume the responsibility of that ownership is emphasized to every owner wishing to relinquish the ownership of his animal to the Center. A statement describing the

gravity of that decision has been prepared by the Center and is presented to every person wishing to leave his animal in the Center's care.

A second statement describing in detail the chain of events which each animal will undergo after admission to the Center emphasizes the reality of the on-going unwanted pet problem which so drastically affects the chances of any pet being adopted.

"Currently in the United States approximately 415 human beings are born each hour. During that same time, some 2500 dogs and cats are born resulting in a daily excess of some 60,000 dogs and cats for which there are no available homes. Your animal must compete for its new home in this over-burdened market. The Center cannot, therefore, make any promise or assurance that the animal which you surrender to the Center will be adopted into a new home. We can, however, promise to provide for your animal the best



A MODEL FOR RESPONSIBLE PET OWNERSHIP

possible conditions within our power to encourage for it responsible new ownership."

Animal owners who wish to relinquish ownership of their animals are introduced to the hard, cold, and realistic fact that not every animal can or should be placed into a new home.

Those who choose to leave their animal at the Center are required to complete a form which is designed to serve three purposes. The first of these purposes is to provide pertinent information concerning the animal's physical status, the second is to provide as much data as possible concerning the behavioral status of the animal and the third purpose of the form is to serve as a research tool in gathering information which will lend invaluable insight into the problem of the unwanted pet—**where do these pets come from, how long are they kept, why are they no longer wanted, etc.**

Another form has been prepared

for those who seek to adopt animals from the Center. This form gives the Center some idea of the knowledge which those persons may or may not possess concerning the species of animal in which those persons are interested. The questions on the form are geared to familiarize the prospective owner with the tenets of responsible ownership—the feeding, housing, and proper care of the pet they are adopting.

Once an animal surrendered to the Center has passed the initial psychological examination and physical examination (which includes both clinical as well as laboratory work-ups) and has been accepted into the Center, it receives preventive vaccinations (DHL and para-influenza) and is then given a medicated bath and groomed in the bathing facility before processing into its new living quarters.

A staff veterinarian whose special interest is in animal behavior is in full-time employment at the Center to

manage the physical and psychological aspects of in-house animal care. Under her direct supervision are four animal care technicians whose professional duties include such activities as kennel and stall sanitary maintenance, feeding and grooming of in-house animals, laboratory work-ups, surgical assistance, and in-house animal training. Each of these technicians is responsible for the total care and training of a specified number of animals for however long those animals may be held at the Center. In this fashion, each animal develops a personal relationship with its assigned technician enabling that technician to make critical judgments concerning the type of home for which that particular animal will be best suited. Along with their animal care duties, these technicians also assume the responsibility of training and supervising the volunteer workers and students involved in the Center's career training program.

continued on page 29

THE CENTER'S STATEMENT

One of the basic functions of the Animal Care and Education Center is to teach the animal owner to care **enough** for his/her animal that he/she will be able to act with the highest degree of responsibility toward, and in the best interest of, that animal.

In keeping with this concept, only physically healthy and psychologically well adjusted animals will be processed to new homes by the Center. To place sick, injured, or psychologically maladjusted animals in new homes would not only be totally irresponsible on the part of the Center, but it would also be totally unfair to the animals concerned.

Physically unhealthy animals belong in a veterinary hospital. The Center is **not** designed to function as a veterinary hospital. Psychologically disturbed animals cannot be responsibly placed in new homes for obvious reasons.

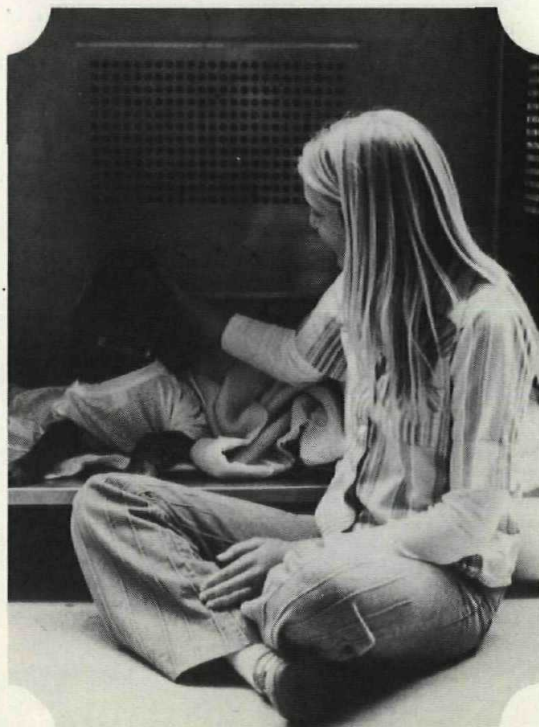
All animals surrendered to the Center undergo physical and psychological tests by a

qualified Staff Veterinarian. Those found to be unsuitable for placement in new homes will be humanely euthanized with a painless injection.

If the owner who is surrendering an animal wishes, he/she may wait at the Center to find out if the animal passes the veterinary examination. If the animal does not pass the examination, the owner is at liberty to take the animal back into his or her custody.

It is our sincere hope that owners who choose not to surrender psychologically unsound animals will realize the irresponsibility of attempting to place such animals in new homes and will act accordingly. It is also our hope that owners who choose not to surrender physically unsound animals to the Center will seek advice of their personal veterinarian for proper care of such animals.

Once the animal has been properly cared for and has regained its health, it may then be returned to the Center for readmission.



RABIES:

STILL FRIGHTENING, CONTROL IS BETTER



W. H. Dieterich, D.V.M., M.P.H.

The recent epizootic of rabies in Laredo, Texas, involving at least 25 dogs and twice as many people, after 29 years of freedom from this insidious disease, makes it appropriate for us to take another look at this whole problem.

Symptoms

Rabies is still a frightening disease. Although few people in the U.S.A. are victims, thousands have to take the treatment each year because of animal bites or scratches. Unlike most illnesses that strike humans, **rabies is almost always fatal**. The virus attacks and destroys the brain and spinal cord and this causes paralysis; spasms of the muscles of the throat when one attempts to swallow lead to fear of water ("hydrophobia"). Delirium and convulsions follow, and death is usually due to paralysis of the breathing muscles.

In animals, the inability to swallow and the production of

generous amounts of saliva lead to frothing of the mouth -- a well-known symptom of "furious" rabies. Another sign is the attacking of anything that moves -- as well as sticks, stones, and other inanimate objects. An animal with "dumb" (paralytic) rabies shows dullness, stupor, blood-shot eyes, and a peculiar voice.

Rabies Around the World

In India, it is estimated that 15,000 humans die annually and nearly three million receive treatment; jackals and dogs are mainly responsible, but mongooses and monkeys have been involved. The common vampire bat has made it economically impractical to raise cattle or horses in large areas from Mexico to Argentina; over 500,000 cattle are estimated to be lost each year. In the Philippine Islands, several hundred humans and around 25,000 dogs die annually. In Europe, the wildlife rabies cycle is centered mainly on the fox, and an epizootic there is moving forward at a rate of approximately 47 kilometers (29 miles) per year. In Africa, rabies is most

photographed by Norden News

often found in dogs, but it has also been reported in meerkats. In the mid-East, the problem is in dogs and rats; in Russia, it is dogs, foxes, and wolves, and these lead to deaths in cattle and wildlife. In Granada, there is a serious mongoose problem; complicating this is the fact that viruses similar to rabies have been isolated from apparently normal rodents.

England, Japan, Hong Kong, Australia, New Zealand, and Hawaii are currently free from rabies; two significant factors are that these are all islands, and most of them have quarantines ranging from four to six months for ALL carnivores being imported.

In the United States, as a result of control and vaccination programs during the past 20 years, **the incidence of rabies in dogs has declined from 5,000 reported cases to less than 200 per year.** The distribution of cases in dogs has closely followed the pattern of distribution of rabid skunks and foxes. Of 629 rabid dogs recently reported, 87% were owned and 13% were strays. Of the owned animals, 89% had not been vaccinated; in the others, the vaccination was outdated, it had been given to pups too young to respond properly, or it had been given after a known wildlife exposure. Despite the decline in the number of dog rabies cases reported, dog bites are the major reason for antirabies treatment in this country; dogs also remain the infection link from wildlife to humans.

The disease in wildlife -- especially skunks, foxes, raccoons, and bats -- has become increasingly prominent in recent years, accounting for more than 70% of all reported cases of animal rabies every year since 1968. Wild animals constitute the most important source of infection for humans and domestic animals in the United States today.

New Problems

Wild animals from rabies-endemic areas in the U.S.A. have shown evidence of previous contact with rabies virus, as did dogs in Ethiopia and Thailand and as did rodents in Thailand and Central Europe; such evidence suggests that exposure to rabies virus is more common in nature than previously believed. Another frightening discovery is that rabid bats can excrete

the virus in their urine; when susceptible persons or animals are in a bat cave, they may become infected merely through contamination of an open wound or even by inhaling the infected "fog". Prolonged incubation times have been observed; one skunk incubated the disease 177 days, and a recent human victim could remember no exposure subsequent to the implicated bite fourteen months prior to development of symptoms. (The time from bite to disease averages 34 days for a head bite, 47 for one on the hand, and around 60 for a leg wound; man seldom survives more than a week after showing symptoms.)

Prevention in Dogs

Many approaches to the prevention of rabies have been tried, and new methods are continuously being developed. **All depend upon the reduction of susceptible animals. In dogs, the best control is to require rabies vaccination prior to licensing, and to enact and enforce strict leash laws. Vaccination should be required at four months of age, and all unvaccinated animals should be required to be physically confined.** (If the vaccination is given before the age of four months, the puppy's antibody-production mechanism may not be fully developed and a less-than-satisfactory immunity may result. If the vaccination is delayed until dogs are six months of age -- by which time antibody production is good -- many dogs may become exposed and spread rabies.)

Prevention in Cats

The highest incidence of cat rabies is in the vicinity of wildlife rabies. Cats are the animals most likely to come in contact with rabid bats -- which are still found in areas which have been free from rabies in other animals for years. Although it has been shown that a high level of immunity in associated dogs will protect most cats, **it is recommended that cats should be either vaccinated annually or kept completely confined.** As mentioned above, special vaccines are required for cats.

Prevention in Cattle

Newer methods of reducing cattle losses in Central and South America from vampire-bat-induced

rabies are proving effective. In one, an anticoagulant is injected into cattle; it rapidly enters the blood stream and may be consumed by bloodsucking vampires. The low dosage does not harm the cattle, but it kills the bats. In another variation, nylon mist nets are used to catch bats near cattle corrals; technicians carefully remove the bats and smear their bodies with petroleum jelly laced with an anticoagulant. Upon release, the bats return to their roosts where they lick the chemical off each other, becoming fatally poisoned in the process. The economic benefits of these two programs are expected to be tremendous.

Control in Foxes

Two approaches have been used to control rabies in foxes. One is by reducing the population of foxes to less than one per square mile by poisoning, by gassing dens of pups, or by having "open" hunting seasons; the other is by vaccinating the foxes. (In either case, as in urban rabies control, the basis is elimination or reduction of susceptible hosts for the virus.) The problem is, of course, to vaccinate the foxes. The most promising technique so far developed has been to incorporate rabies vaccine, properly coated to prevent destruction by stomach acids, into bait which will be attractive to foxes and which they will promptly eat.

RABIES PREVENTION IN MAN

Pre-exposure Protection

In preventing rabies in man, many approaches and factors must be taken into consideration. Pre-exposure immunization is recommended for veterinarians, animal control officers, kennel attendants, meter readers, and others who are most likely to be exposed. When a previously immunized person with demonstrated antibody is bitten by a rabid animal, he or she can be treated with as few as five daily doses of vaccine, plus a booster 20 days after the fifth. For non-bite exposures, an immunized person with antibody needs only one dose of vaccine.

First Aid for the Victim

Immediate and thorough local cleansing of all bite wounds and scratches with soap and water is the

continued on page 28

HOW THE VETERINARIAN HEART PROBLEMS IN

There are several different signs a dog may show indicating that the heart may not be functioning within normal limits. Coughing can be one of the first signs to appear when the heart fails to pump blood properly. However, coughing can be caused by many different diseases of the lungs, main airways and throat (pharynx) of the dog without the heart being involved in any way. "Cardiac cough" usually starts after heart disease, unnoticed by the owner, is well underway.

A reasonable amount of change, usually in the valves of the heart, has to occur before symptoms are noticed by the owner. The very observant owner, or the animal's veterinarian, may notice a decrease in the animal's activity and energy. Shortness of breath, especially after exercise may also be noticed.

The "cardiac cough" usually is first noticed as a night time cough, or early morning cough. The dog awakens in the early morning hours, is restless, breaths hard and has a soft-moist, low-pitched, choking type of cough. The cough is caused by fluid (from the blood) that accumulates in the lungs when the animal is asleep, and the failing heart allows blood to pool in the lungs. After awakening, exercising and coughing for awhile, the circulation improves, removing the fluid from the lung tissue and the cough goes away.

Dogs with severe, terminal heart disease almost always have severe, persistent coughing, lung fluid (called edema), and very difficult labored breathing. In very advanced cases the liver becomes congested with blood from the heart failing to pump blood and maintain good blood pressure. The congested liver seeps fluid into the abdomen (called ascitic fluid) and the animal gets a pot-bellied appearance from the fluid that accumulates.

Fainting or syncope is seen very commonly in the dog with advanced heart disease. These syncope events must be distinguished from true convulsions. In general, cardiac syncope events usually last only 10 to 12

seconds, and the animal returns to normal almost immediately. Convulsions associated with a brain or other systemic disease usually last one to two minutes and may take 30 to 60 minutes before the animal comes around to normal and is no longer "dazed".

Cardiac syncope occurs because of a sudden drop in blood pressure with failure to pump an adequate amount of nourishment and oxygen to the brain. This can occur when the heart stands still for a short period, or even slows down suddenly or speeds up suddenly. A slow heart rate (bradycardia) of 50 beats per minute is usually associated with syncope, or a fast heart rate (tachycardia) above 250 beats per minute is associated with syncope.

Cyanosis or turning blue (tongue and mucose membranes of the mouth) is seen on occasion. It is most common in puppies with inherited heart defects such as "holes" between the chambers of the heart so that venous blood returning to the heart leaks to the arterial side of the heart without passing through the lungs to be oxygenated.

Often the veterinarian on a routine physical examination, such as is usually given with the annual distemper, hepatitis and leptospirosis booster vaccine, will detect an early heart problem when he listens to the heart with a stethoscope.

A heart murmur is one of the first signs of heart disease and may have been detected one or two years before the animal shows any symptoms such as a cough, weakness, inactivity or fainting. Heart murmurs can be functional in puppies on occasion, but usually in older dogs indicate degenerative disease of the valves in the heart. The murmur is produced by the turbulence of the blood leaking back through the diseased valves. Murmurs are graded in different ways depending on the loudness, pitch, length of duration and location in the chest. Sometimes very bad murmurs can be heard and no symptoms are shown by the

patient, but usually the more severe the problem, the louder the murmur.

I remember one case I had where a ten year old dog named "Tippy" had a very loud musical squeaking type of murmur. It was so intensive that the vibrations of this murmur radiated from the chest wall as a loud speaker so it could be heard from a distance of 10 to 15 feet. Each morning when "Tippy" and her owner went to the kitchen in the quiet of the morning to fix breakfast, her owner could hear this noise. Tippy's owner called the refrigerator repairman out twice to fix the refrigerator before she realized the noise was coming from her very normal behaving dog.

The stethoscope also allows the veterinarian to evaluate the rate of the heart and whether it is a regular or irregular rhythm. It also allows one to evaluate respiration rate and the lung sounds.

Hearts that are diseased can beat too fast (usually above 160 beats per min.) or too slow (below 80 beats per min.); they can have a regular beat or an irregular beat. Different from man, the resting dog has an irregular heart beat that is normal. The rate varies with the breathing, the heart beating faster when he breaths in (respiration) and slowing when he breaths out (expiration). This is called sinus arrhythmia and is normal for dogs. This can be quite upsetting to the owner who for the first time checks her dog's pulse and finds the irregular heart beat.

When the lungs become congested with edema fluid, the breathing rate increases, and the lung sounds become more harsh and easily heard. When edema from heart disease is severe, respiration is very labored and crackling type of sounds are heard.

There are other areas that can be examined to get an idea of blood circulation. The pulse of the femoral artery can be taken inside the hind leg. It is usually full and easily felt except in very small dogs and cats. The pulse rate should be the same as

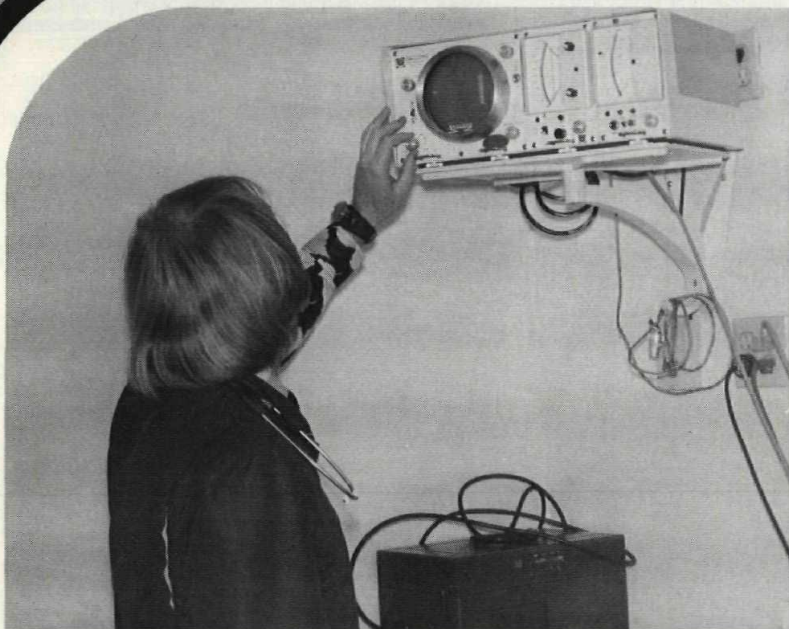
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AN RECOGNIZES THE DOG

Heart Disease and Your Dog

by Marvin W. Frace, DVM

PART II



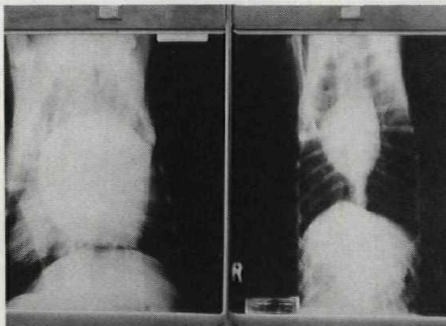
The electro-cardiogram and heart rate monitor are used during surgical procedures.



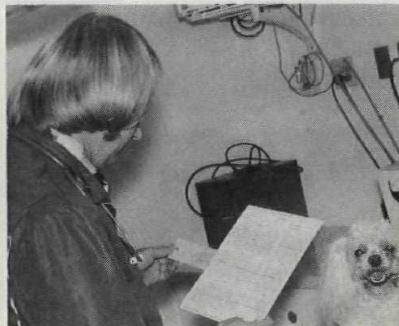
Sometimes it is helpful to do an electro-cardiogram on a dog with a heart problem.



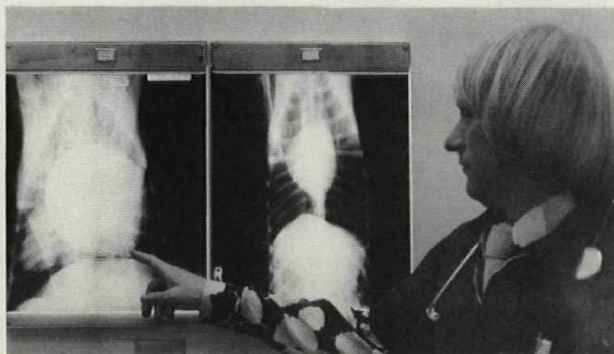
Your Veterinarian can obtain valuable information utilizing the stethoscope to listen to your dog's heart.



Radiographs are a valuable aid to diagnosing heart problems. The view on the left is of an enlarged heart while the one on the right is of a normal heart.



Another valuable diagnostic aid the veterinarian uses is the EKG. Here Dr. Frace examines a patient's EKG.



Dr. Frace points out the enlarged heart on the left. The heart seen on the radiograph on the right is normal in size.

photographs by D. M. Diem

ANIMAL HEALTH AROUND THE WORLD

2nd in a series

by Pepe Lobo

Reprinted courtesy Norden News, Spring, '76

William Zapata Cordona's life as a practicing South American veterinarian is a curious mixture of old and new, of science and tradition. In an environment which has only recently encountered the twentieth century, his clients in and near the town of Cartago, Colombia, range from the most uneducated, superstitious campesino to graduates of North American Universities. He must be at once scientifically accurate in his work, current in his knowledge, and gentle in his teachings.

Coming from a poor family in a poor country, Dr. Zapata was able to educate himself through loans from friends and relatives. Five years of primary education and six years of secondary schooling prepared him for the Faculty of Veterinary Medicine at the University of Caldas. There, he studied five years, graduating in 1966. He was not immediately successful.

"Just as soon as I terminated my studies at the University, I went to the city of my birth, Seville, in

practice only. True, they know something about how to work animals...certainly, they know how to work animals. But listen, what happens is this. They empirically deduce that because this animal was sick and one did such and such a thing and it worked, that to the other animal one can do the same thing and perhaps it will work. Sometimes it comes out all right...other times, no."

Dr. Zapata remained a year in his home town of Seville. Finally, a friend recommended that he come to Cartago at the northern end of Colombia's Cauca Valley. Over four hundred years old, this town of 100,000 is a regional center for cattlemen and farmers



These laying hens are some of Doctor Zapata's patients

in Valle, the Cauca Valley. Zapata does not regret the time he spent in Seville.

"It helped me a great deal," he says. "The practice I needed, and there was a great deal to do."

His first job in Cartago was in the slaughterhouse. While working as an inspector, he took courses trying to specialize in those areas his community needed; pathology, dairy and beef cattle, and chickens. Now, he divides his time into a number of areas, including a private practice and as a paid consultant to the Comité de Ganaderos where he keeps his office. This "Cattlemen's Committee" is a private organization designed to serve the needs of cattlemen and breeders of livestock. A presence in every town in Colombia, no matter how small, they sell drugs, fertilizers, farm equipment and small implements. Approximately 30 percent of Zapata's business comes through this source, and he receives a salary for these services.

"I don't belong directly to this entity. What I do in the way of services for Gandaderos members is paid for by the comité," he explains.

His work with the Ganaderos involves him with various patients which bely the name, among them birds, pigs and horses, as well as cattle.



The doctor discusses a case with a client

Valle. There, I started to work with great difficulty because our campesino (peasant) here is not accustomed to paying a professional for these services. I kept going, little by little, but it was very hard at first. I would go to collect and the people would be terrified, saying, 'No...no, this is not to be paid. Never have we had to pay for this!'

There are reasons for these attitudes. Until recently most of the veterinary personnel in the country have been government employees, or members of some private organization which lent aid to the country people.

"They don't have an exact idea of what is a professional veterinarian," Zapata goes on. "They confuse the veterinarian with a foreman type of person with some background in caring for animals. But these are not people who have studied at all; they know from

You have to be able to do everything," Zapata says. "Here we are just starting the process of specialization."

The majority of Zapata's work is now private and ranges from the smallest campesino with a sick chicken to the largest landowner whose livestock is under the threat of hoof and mouth disease. When the client is an important one, as in the case of a large hacendero, Zapata visits the area. For the smaller farmers, naturally, this does not pay, but Zapata will often use his visits to large landowners as an opportunity to stop by the small houses which dot the back roads of this primarily agricultural country. Here, he will give aid and training to the small campesino. Sometimes these services are free in the hope that the campesino will seek his services next time around.

"In the past the campesinos would not bring their animals in until they were ready to die. They did not give much importance to veterinary medicine. This is changing rapidly though. Now, at least, they have learned to ask for the aid of a veterinarian, thanks mostly to the work of the various organizations like the Comité or ICA (Instituto Colombiano Agropecuario) or the Comité de Cafeteros (Committee of Coffee Growers)."

A large and growing part of his work concerns itself with direct technical assistance contracts drawn between himself and a specific client. Under these contracts he will make a regular series of inspection visits over a predetermined period of time giving advice and aid. This preventive approach is particularly suited to sophisticated feeders farming along the American model. One of these contracts with La Senora Carmon de Canjon calls for weekly visits to her chicken farm to inspect the coops and make recommendations for cleanliness and prevention of disease. These contracts provide for emergency services as well.

"Naturally," says Zapata, "should a problem present itself in the birds or in the hacienda where they live...as soon as they tell me, I go to attend the problem. It is not just the visits I make, but the assistance I give, which is part of the contract. In certain areas of the country the people are much more conscientious. They pay attention to the recommendations which I make; they work to rid their animals of parasites which they did not do before. Before, they were more reactionary to these techniques."

Often Zapata must fight to have his recommendations accepted. "They don't do what you tell them," he says. "They say it's too expensive, but they don't realize that these are bad savings which will cost them more in the end." Here he is fighting tradition. It is a process of continual education, raising the level of veterinary consciousness in his community.

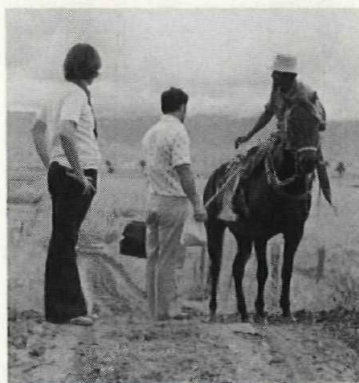
"Naturally," he goes on, "there continue to be cattlemen who go on with their traditions. I imagine that also in the United States this happens a great deal. The large landowners are usually more sophisticated; many have been educated in the United States, or at least their children have."

Professionally, Dr. Zapata does well now. He has many clients and his ties with the Ganaderos means steady income. He owns a jeep, a necessity for his work, and maintains an office in the Comité de Ganaderos where his private clients bring their dogs and cats or whatever smaller problems present themselves. He is obviously unhappy with some problems he faces,

however. The lack of any professional organization makes it hard to trade information or set rates.

What to charge is always a problem, and a frustrating one. "Never at the University did they speak of the prices which one ought to charge," says Zapata. "A subject which I consider to be one of the most important and which ought to be addressed. Whether one is charging too much of too little...this one learns through time and experience. I charge according to the cattleman. Also, I try to take into account the value of the animals."

For major house calls Zapata charges 300 pesos — about \$10 U.S. This will rise to as much as 500 pesos if he must stay all day or night, and drugs are extra. A visit in town to a sick dog will bring 50 pesos (somewhat less than \$2 U.S.), while an animal brought to the office



An equine patient.



Doctor Zapata examines a seriously ill calf.

costs about 30 pesos (\$1 U.S.) Naturally, the cost of living is significantly less than in the U.S. By comparison, a well-paid farm worker in the Cartago region earns in the neighborhood of 300 pesos a week.

These are not, however, his only troubles. For the past seven years, Dr. Zapata has been fighting an apparently new disease which has killed over 8,000 horses in the area. This is significant to a community which still relies heavily on horse power. The disease causes an inflammation of the bowel and the animal suffers a great deal of pain which none of the drugs tried seem to relieve.

"I've searched the literature continually and tried one drug after another," comments Dr. Zapata, "and nothing works."

Experts came from all over Colombia, and even from the United States, to try to determine the cause of the disease which researchers finally concluded was caused by a bacteria similar to tetanus.

Although a vaccine has now been produced to protect against the disease, according to Dr. Zapata, "It looks like the vaccine doesn't give very good protection. To me it is very unpleasant to see an animal and know that there is nothing I can do. One feels a little useless."

"It just keeps on killing," he says. "This week we had another one. So far as I know, here in Cartago is the first place this disease was ever seen, but now it is in other regions as well."

William Zapata is a resourceful, hardworking individual doing his best to be a good professional. Although tradition and poverty contribute to the obstacles he encounters, his efforts to overcome these obstacles are his contribution to modernizing the agricultural industry in his country.

can you depend on it?

J. F. Smithcors, DVM

"Your Pet Should
Have a Litter
Before Being Spayed"

Should a young bitch or female cat have one litter before she is spayed? Ask any number of persons and you will get a mixed response. However, a fair proportion will probably give you an unequivocal yes. Several decades ago this opinion was even more generally held, which suggests that it is rooted in folklore, if not based on scientific fact. Whatever the answer, this should prompt the question: does this practice benefit the animal? If not, is it an anthropomorphism based on our attempts to "humanize" our animals?

One of the obvious examples of the latter is the cropping of the ears of certain breeds of dogs, although some persons try to justify this by claiming it lessens the likelihood of injury or ear infection. It is true that flop-eared dogs have more ear problems, but following this proposition to its logical conclusion would mean that we should be more concerned with hounds and spaniels than with Boxers and Dobes. The fact is, ears are cropped because the standard for certain breeds calls for this mutilation. And who devised the breed standards? We can be certain there were no Boxers or Dobes on the committee.

Whether an old wife's tale or an established truism, practically every long-held belief can be traced to some precedent in the early literature. And this one is no exception -- or so I thought when starting to compose some ideas on the subject. In my **Evolution of the Veterinary Art** (1957), I used the writings of the noted British veterinary historian General Sir Frederick Smith as a source of various materials, especially early works which I was unable to consult in the original. One of the important early works on dogs in **The Noble Arte of Venerie or Hunting** (1576) the British poet and sportsman George Turberville. Smith writes: "Apparently the spaying of hounds was a common operation at this time (16th century), for we are informed that it must not be done before the animal has had her first litter." So perhaps we can give old George the credit or blame for being the first to put this in writing.

Having recently acquired a copy of Turberville, it was an easy matter to verify this quote, which two decades ago I had naturally attributed to the original author. To my surprise, I discovered that what Turberville actually wrote was: "If you would spaye a bitch, it must be done before she have ever had litter of whelpes." What a difference the addition of one three-letter word (**not**) makes! In this instance, it twists the tale considerably.

If Smith's version had been widely believed, we would expect to find some mention of it by sporting and veterinary writers during the several centuries since Turberville. But a close examination of some two dozen of the more important works on dogs, to recent times, fails to reveal a single additional statement supporting this belief. Several writers totally condemn the practice of spaying, while others recognize it as being useful and recommend waiting until after the bitch has had her first heat period. This practice has a rational basis in that the bitch is likely to have somewhat better physical development if the operation is deferred. Unfortunately, she is also likely to have a litter, inadvertently or otherwise!

The two veterinarians who were primarily responsible for development of small animal practice in Britain during the early 19th century were William Youatt and his colleague Delabere Blaine. Both were passionately fond of dogs and considered spaying both unnecessary and cruel, and through their writings they also had a major influence on canine practice in America after 1850. Youatt in his book on **The Dog** (1848) notes that spaying "used to be often practiced, and packs of spayed hounds were, and still are, occasionally kept." The spayed bitch, he says "becomes listless and idle, and is almost invariably short-lived. The female dog, therefore, should always be allowed to breed. Breeding is a necessary process, and the female prevented from it is sure to be affected with disease sooner or later."

In his **Canine Pathology** (1832) Blaine claims, "This is so cruel an

operation, that it should not be practiced except when there is a real necessity for it; when it is done merely to convenience the owners, by preventing estrum and breeding, it defeats its own purpose ... Bitches, after they have been spayed, become fat, bloated, and spiritless, and commonly short-lived; for Nature usually punishes any considerable deviations from her common laws."

Despite their accurate observation, Youatt and Blaine did a disservice to later generations of dog owners and veterinarians by publishing some statements of dubious merit. Thus a spayed bitch will become fat only if she is fed too much and allowed to become lazy. Breeding may be necessary to preservation of the species, but spaying decreases the risk of mammary tumors in bitches and of urethral obstruction in cats, either of which can shorten life considerably. Some pain was necessarily associated with the operation in the days before anesthesia, but this is no longer the case. The argument that spaying at any time is harmful, except during estrus, is totally invalid.

It is apparent then, that this belief is truly an old wife's tale passed on largely from one person to another by word of mouth, and that there is no scientific basis for it whatsoever. Having a first litter confers no physiologic benefit on the animal, and if she is improperly attended or left to fend for herself during whelping, it may be harmful. Some bitches die during their first whelping even with proper attention.

However irrational, this leaves us with the anthropomorphic concept, i.e., it is the owner who obtains some benefit--real or fancied--by allowing the animal to have a litter before she is spayed. Assuming this to be the case, we can speculate on why. Some veterinarians recommend spaying a bitch **before** her first heat period, at four to six months of age. However first heats have a way of appearing without warning, and by then it is too late. Since many bitches manage to get themselves bred despite seemingly reasonable preventive attempts, some pet owners may adopt a defensive

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Arthur A. Case, M.S., D.V.M.

Reprinted courtesy: Norden News

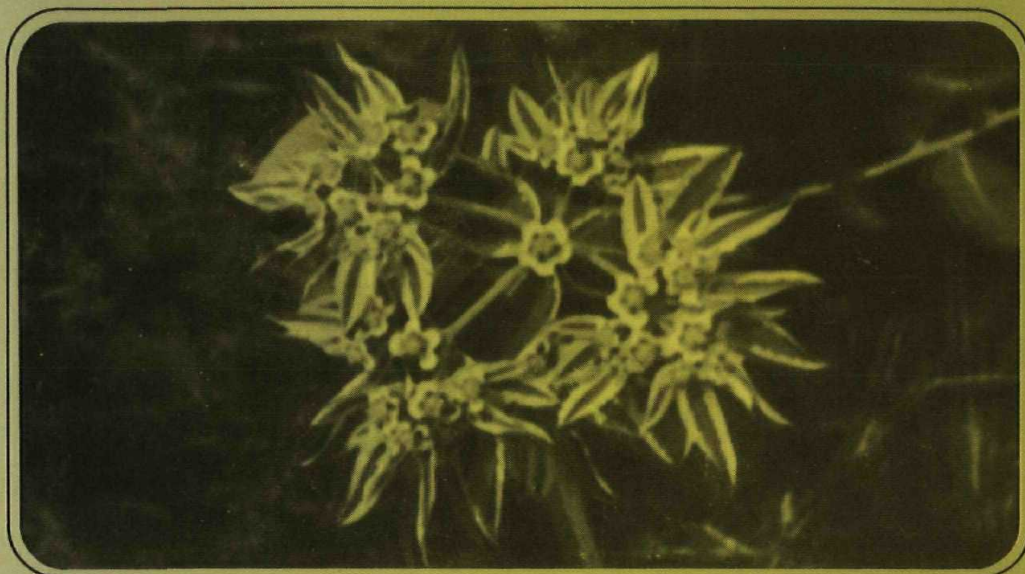


FIGURE 1

"BEAUTIFUL BUT DEADLY"



FIGURE 2

The beautiful **Snow-on-the-mountain** (*Euphorbia marginata*) grows wild and is also planted as a garden ornamental (Fig. 1). A member of the spurge family, as in the toxic Christmas Poinsettia, the plant's milky juice is a violent gastrointestinal irritant if taken internally and an effective blistering agent if applied to the skin. **Gill fungi**, which include mushrooms and toadstools, are common in most areas of the U.S. Although those of *Amanita* spp. are most deadly, the small bite from this common toadstool (Fig. 2) made a kitten extremely ill. Beside it is an acorn sprout, also responsible for extreme digestive disturbance in a kitten. The widely planted hemlock or mountain fern is the most toxic member of parsley family. **Poison hemlock** (*conium maculatum*) is toxic in all parts, including flowering stage (Fig. 3).



FIGURE 3

Backyard beauty can be deadly to the household pet and is an important area of potential hazard of which the pet owners should be made aware. Plants which are toxic to animals include many of the ornamental shrubs, potted house plants and garden flowers commonly grown around the home.

Puppies, kittens, and small children are most likely to chew or

attempt to eat such vegetation, particularly potted plants, but it is also common for cats to scratch toxic plants and to become affected when they lick their claws, especially when such powerful irritants as the juice of large lilies, dumbcane, snow-on-the-mountain, oleander or jessamine are involved. There is also a danger to pet ponies or riding horses which can be poisoned, often fatally, if allowed



FIGURE 4

The **ground hemlock** or **yew shrub** (*Taxaceae*, *Taxus* spp.) is commonly grown in shady areas (Fig. 4). Small animals and toddlers are often poisoned by chewing on branches; cows and horses, by eating discarded trimmings. Useful as a source of digitalis, the **flowering foxgloves** (Figs. 5-6) are also showy ornamentals found in backyard flower gardens or as potted house plants. They are deadly, however, to cats, pups, and children. **Dumb cane** (*Diffenbachia*) and the **Philodendrons** (Fig. 7) are common potted house plants that are "bad news" for pets or children. Cats are affected when they claw the leaves then lick their feet. Humans describe intense burning sensations, laryngeal edema (which can lead to suffocation) and intense, violent gastroenteritis.



FIGURE 5

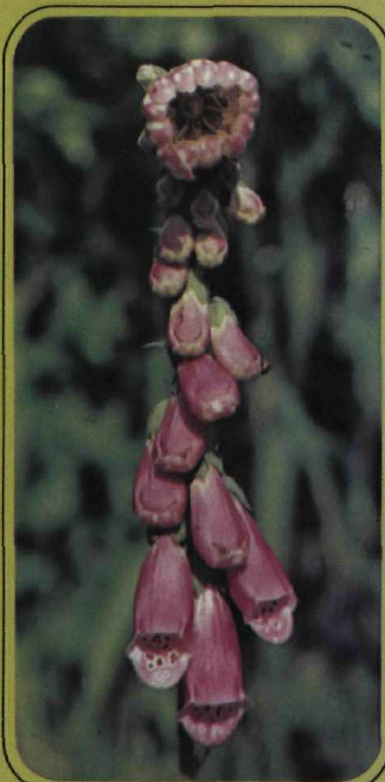


FIGURE 6

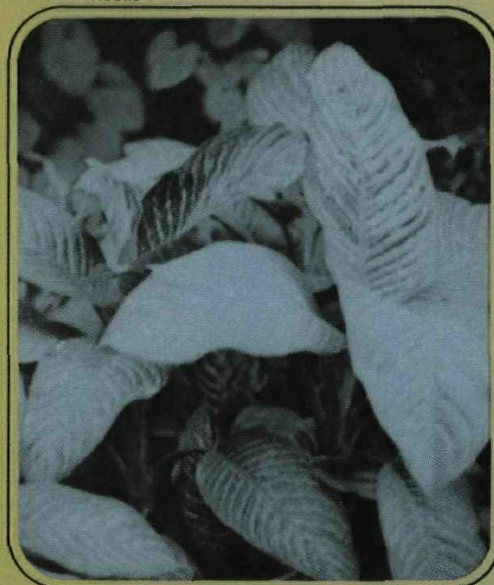


FIGURE 7

access to toxic native or ornamental plants. Since it is neither feasible nor desirable to eliminate some of the most useful or beautiful plant species even though they are poisonous, it becomes necessary to exercise extreme care to protect children and pets from such hazards just as with any other toxic agent.

Other and longer lists have been published. Kingsbury has authored

excellent and complete references which concern poisonous plants. Hardin and Arena recently published an excellent reference covering the hazards to human beings from native and cultivated plants. Many other authors have given lists or other information for more restricted categories such as monkeys, pets, children, or other specific target species. Actually, there is no practical

way of knowing how many instances of poisoning occur in animals as such are not considered legally reportable conditions and it is likely that most go unrecorded. For example, Missouri has 195 genera of plants which are known to contain one or more toxic species. Only those most likely to be involved in the poisoning of pets or small children are usually summarized in most tables. Many of these plants are commonly grown about apartments, homes, and yards or gardens. Some are tropical plants used as potted ornamentals in other than subtropical areas; many are either domestic or wild flowering species. A few are important commer-



FIGURE 8

"BEAUTIFUL BUT DEADLY"

Black Nightshade (*solanum nigrum*) merits its nickname "deadly nightshade." All parts are toxic except the mature, ripe fruit (Fig. 8). Even more toxic than yew is the **Oleander** (Fig. 9) grown in southern U.S. as a potted ornamental shrub or small tree. Both leaves and twigs are toxic. Cats have been poisoned after scratching the plant then licking their paws. Humans have even been poisoned after using oleander twigs as weiner sticks.

Photos by Dr. Arthur Case

cial crop plants which also have toxic parts; for example, the nightshades include potato, tomato, egg plant, and garden huckleberry as well as Chinese lantern and other ground cherries. Onions of the lily family can, under certain circumstances, poison dogs and other animals, or they may be confused with daffodil or death camas, both of which are quite toxic members of the lily family. Both Conium (poison hemlock) and Cicuta (water hemlock) are showy ornamentals as well as common wild plants, and both are very poisonous if eaten by any species. Various species of ornamental yew (*Taxus* spp.), common ornamental shrubs grown in shady areas, are very toxic. Other shrubs which are poisonous are box, privet, the laurels, and black locust.

26 Today's Animal Health/Animal Cavalcade



FIGURE 9

Many of these are used as hedges around a yard. Some of the showy garden flowers which are also toxic include monkshood, digitalis (foxglove), larkspur, oleander and daphne. There is no more picturesque plant than the large, well-formed, and sometimes brightly colored, castor bean plant (*ricinus*); but the hull of the seed is rich in ricin, a powerful poison if eaten by man or beast.

SUMMARY

Many substances in the household, as well as many plants commonly found on the premises, are highly toxic and can pose a serious threat to the family pet. The pet owner should become aware of these hazards and take precautions to protect pets as well as small children, from accidental poisoning.

in the NEWS



From (l) Ginny Grant, President, Orange County Chapter, Women's Auxiliary of the SCVMA, Dotty Aspinall, Vice President, Women's Auxiliary, SCVMA, Jackie Joseph, Vice President, Actors & Others for Animals, Earl Holliman, President, Actors & Others, Sue Grosse, Treasurer, Women's Auxiliary, SCVMA - all getting together to benefit animals as Earl gives Ginny \$350.00 check to purchase 1,000 humane education kits for 2nd graders in Orange County, California.

NEW TELEVISION SHOW ON ANIMALS LAUNCHED BY SOUTHEASTERN MICHIGAN VETERINARY MEDICAL ASSOCIATION

Pet owners in Southeastern Michigan now enjoy the unique opportunity of simply picking up the phone and calling in a question concerning the health and care of their animals to a TV panel of veterinarians -- and having the question answered, live on TV!

It all comes about through a new public information television program called, "All About Animals", telecast live over public television station WTVS, Channel 56, Detroit, Michigan.

The new show, produced by WTVS in cooperation with the Southeastern Michigan Veterinary Medical Association (SEMVMA), is aired once a month during prime time.

The broad purpose of the show, according to SEMVMA, is to bring a televised veterinary guide to happier, healthier animals right into the living

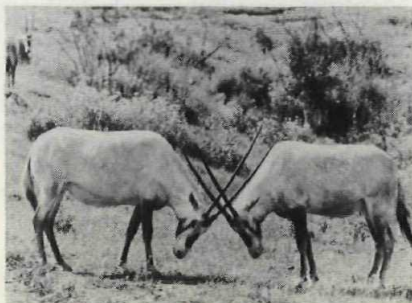
rooms of Southeastern Michigan pet owners.

SPECIFIC DIAGNOSES OR CLINICAL PRESCRIPTIONS ARE NOT GIVEN OVER THE AIR, but rather advisory information on matters of health, behavior and control of animal pets with suggested steps to take based on the knowledge and experience of the veterinary panel.

ARABIAN ORYX AT THE SAN DIEGO WILD ANIMAL PARK

Courtesy "Animal Keepers Forum" Nov. 1976 - publication of American Association of Zoo Keepers

Photo courtesy of San Diego Zoo



The Arabian oryx is steadily increasing in numbers at the San Diego Wild Animal Park.

On October 22, 1976 eight of the antelope were released at the Park following their arrival from the Phoenix Zoo. The new oryx...four males and four females...join a herd of 15 of the animals already in residence at the wildlife preserve.

Once ranging over most of the Arabian Peninsula, the oryx now is considered extinct in the wild and exists only in a few breeding stations in the world...the Wild Animal Park, the Phoenix Zoo, the Gladys Porter Zoo in Brownsville...all members of the World Herd. (Some of the oryx are also believed to be held in captivity by private owners in the Mideast).

The World Herd was established in 1963 to assure the Arabian oryx' survival. Founders of the World Herd include the Fauna Preservation Society, the World Wildlife Fund, the Shikar-Safari Club and the Zoological Societies of London and Arizona. The Los Angeles Zoo also maintains a herd and works in cooperation with the World Herd, but is not a member.

In 1963, Maurice Machris, a former president of the Shikar-Safari Club arranged for a nucleus herd of Arabian oryx (nine animals) to be brought to the Phoenix Zoo (200 at Phoenix Zoo now). In 1972, the Zoological Society of San Diego joined the World Herd and Machris and arranged for four male and four female oryx to be transferred to the Wild Animal Park to form a second breeding station.

Since then, 12 offspring have been born at the Park. The latest, a female, was born on October 19, 1976.



for young people

RABIES: STILL FRIGHTENING, CONTROL IS BETTER

continued from page 17

most effective rabies preventive. If at all possible, the attacking animal should be captured, confined, or carefully observed so the rabies-investigating person can apprehend and quarantine it for observation.

Risk of Exposure

The physician's decision as to whether or not to treat a victim, and if so, how, depends upon a number of factors, including the kind of animal and the circumstances of the exposure. Bites inflicted by such species as skunks (including civet cats), foxes, bats, coyotes, bobcats, badgers, and weasels are considered to carry a high order of risk of exposure (over 5% of such animals submitted for examination have been found positive.) Such species, if captured alive in connection with a biting incident, should be sacrificed immediately for laboratory examination. Bites by such animals as the dog, cat, and raccoon, carry a lower degree of exposure to rabies (less than 5%). On the other hand, such species as gophers, mice, rats, hamsters, squirrels, rabbits, guinea pigs, and chinchillas play no role in the propagation of rabies in nature; in addition, if these animals have been raised in cages, the possibility of exposure to rabies is even further reduced. Therefore, bites inflicted by these species are considered to carry an extremely low risk of exposure and seldom, if ever, should necessitate systemic antirabid treatment of the bitten persons.

Another consideration is the circumstances surrounding the exposure. Animals which are protecting their young, food, or home may bite intruders; experts consider these "provoked" attacks. Youngsters riding skateboards and bicycles often attract bites from dogs whose aggressive instincts have been aroused. On the other hand, wild animals in cities, nocturnal animals in daylight, and bats on the ground are all situations which should alert people to the possibility of rabies; bites from these animals could be genuinely "unprovoked".

A rabid animal usually has virus in its saliva only during the last five or six days of its life; therefore, if a biting animal survives ten to fourteen days of quarantine, it is unlikely to have rabies, and certainly did not have the virus on its teeth at the time of the

continued on next page

New Editor for Young People



If you read the small print, you may have noticed that we have a Special Youth Editor, Ms. Dyana Paul. I've always been somewhat uncomfortable with the "Children's Page" but I really wasn't sure why. It occurred to me that what we needed was a young person to take over the responsibility of editing and planning this part of our magazine. Ms. Paul is 10 years old and has agreed to edit the section for young people. In this issue, she has written a short piece that should be of interest to our readers who hope to be veterinarians some day.

If any of our young readers want to write to Dyana, send your letters care of the magazine. — Editor

Animal World

by Lynette Hampton

Listed here are 6 towns that took their names from the animal world. Can you match the town to its state with connecting lines? (It's okay to use a map or atlas to help.)

Tiger	Missouri
Beaver	Montana
Beagle	Wisconsin
Pony	Maryland
Red Bird	Washington
Pinto	Kansas

ANSWERS

Encyclopedia
Comptons

- Washington	Tiger
- Wisconsin	Beaver
- Kansas	Pony
- Montana	Red Bird
- Missouri	Pinto
- Maryland	

How I Got My Job With a Veterinarian

by Dyana L. Paul

I have always wanted to work with animals. Last year, I wrote a letter to our animal doctor and told him how much I love animals and that one day I am going to be a veterinarian too.

After a few weeks I went into his office and asked if there was anything I could do. I explained I would be willing to do anything -- clean cages, clean the examining table and examining room, clean surgical equipment, just anything to help.

I asked our doctor to give me a chance to come in just once and prove to him what a good job I really could do.

Guess what? He promised to give me that chance the very next day after school.

Well . . . that was one year ago. I have been working ever since then as a volunteer on Saturdays and one day after school. During school vacation, I try to help out as often as I can. What is really great is that I help Dr. G., but he helps me even more because he is willing to teach me everything. I have really learned so much!

So, if you want to work with a veterinarian, the first thing to do is prove that you are a responsible, good worker. Then, if you get the job, you have to keep on doing your best so that you are a real help and best of all a real help to all the animals.



photographed by Peter W. Morris

The young man pictured is Thadius Smith, who lives in Raleigh, North Carolina. His unnamed friend is "an early Christmas present".

bite. If a pet biting animal dies, or if a wild animal is sacrificed, the head should be taken to a qualified laboratory for examination.

Treatment of Exposed Persons

Treatment for persons who have been bitten has gradually changed over the years. Louis Pasteur proved that injections of vaccine made from the brains of goats or rabbits which had died of rabies would protect humans; in his honor, we still call the post-exposure treatment against rabies the "Pasteur treatment".

One of the problems with any vaccine given after the exposure is that antibody levels satisfactory for protection require nearly three weeks to develop. Severely exposed victims might develop rabies during that first three week period if not otherwise treated. For this purpose, anti-rabies serum (ARS) produced in horses has been administered on the first day to give immediate but temporary protection. The use of this material, however, is always accompanied by the risk of serum sickness or even anaphylaxis. In spite of serious obstacles, production of a human-origin immune serum has finally been realized, and this globulin is now available.

Therefore, for exposed persons who have allergies against either eggs or horse serum or both, treatment is now possible using both serum and vaccine of human origin.

SUMMARY

All of these developments have reduced the incidence of rabies in animals, lessened the likelihood of people being exposed, hastened and improved the diagnosis of the state of the biting animal, and made the treatment of persons exposed to possibly rabid animals more sure and less painful. We owe a debt of gratitude to all concerned.

Let's all do OUR part by keeping our pets immunized and controlled.

Editor's Note: Dr. Dieterich is Veterinary Public Health Director, Orange County Health Department, California

Name Change

Several readers have written to ask why we changed our name. We felt that **Today's Animal Health** better described our editorial content, so we made a change!!

A MODEL FOR RESPONSIBLE PET OWNERSHIP

continued from page 15

Each animal at the Center is housed in its own individual quarters and daily records are maintained concerning its physical and psychological condition with appropriate veterinary attention given wherever needed. Controlled exercise is afforded dogs in the form of elementary behavior training. This controlled work not only provides exercise for the dogs, but it provides the necessary human-dog relationship needed in a kennel situation as well as providing an excellent opportunity to further study the psychological status of each individual dog.

If a dog or cat which is admitted to the Center has not been previously surgically sterilized (spayed or neutered), it will undergo that surgical procedure before adoption into a new home. **There are no exceptions to this policy.**

Inasmuch as it is possible, through use of these programs, persons adopting animals from the Center are assured of adopting a physically and psychologically sound animal. If for any unforeseen reason, the arrangement does not work out, the adoptive owner is urged to return the animal to the Center.

As can be readily seen, the overall emphasis of this unique adoption program is centered on responsibility--**responsibility of an owner to care enough for an animal to act only in the best interest of that animal and responsibility of an adoption institution to see that only sound and surgically sterilized animals which will adjust happily and well at the society level are recycled back into that society.**

Through its example of responsible animal care, the adoption program at the Animal Care Center could stand on its own in the realm of education for animal owners, but it will serve only as a nucleus in the overall educational program which is now in the formative stage at the Center. The Center will be a data resource facility with materials, aids, and information on subjects concerning the proper care and treatment of animals. Materials will be made available for those in need and film, visual aids, models and supplies will be developed for the dissemination of programs and ideals to the public.

A volunteer worker program is

in full swing at the Center which affords to those persons involved in the program the opportunity of learning many animal care skills. This program has proved to be a very rewarding experience for all concerned. It is a beautiful sight to see a young child developing a deep sense of gentleness and patience as it learns to teach a young puppy kindergarten behavior training, or as it learns how to care for and reassure an animal recovering from surgical anesthesia. It is equally rewarding to view the enthusiasm and competency of the many adult volunteers at all levels of activity at the Center.

Special programs will be instituted for the handicapped utilizing in-house animals, such as awareness experiences for the autistic child and provision of specially trained in-house dogs as companions for the deaf and for those in wheelchairs. The Center will be made available to those organizations and persons whose aims and purposes are closely aligned with those of the organization's educational programs.

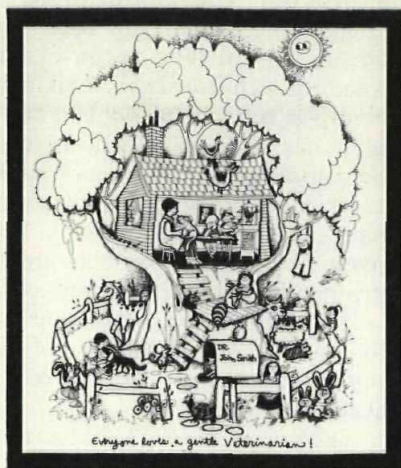
One of the principal long-range objectives of the Center is to help influence the significant reduction of dog and cat overpopulation namely through dissemination of pertinent information through local communications media, newsletters, newspapers, magazines, radio, television, and films.

"Our programs are ambitious, and we've only just begun", Mr. Morse says, "but we are encouraged by the progress so far, and the increasing support we've been getting."

The Center is a non-profit organization, receiving no tax funds. It is supported entirely by memberships, donations, and endowments. Individual memberships are scaled from \$10 to \$100 per year; family memberships are scaled from \$25 to \$100. Donations and endowments may be in any amount. All are tax-deductible.

The Center's mailing address is Animal Care and Education Center, P.O. Box 64, Rancho Santa Fe, CA 92067. The telephone number is 714/756-3791. The Center is reached by taking the Via de la Valle turnoff east from Interstate 5 in Del Mar, and then travelling 3.3 miles inland to the Center's signs. The Center is open to the public Tuesdays through Saturdays from 9 a.m. to 4 p.m. and visitors are always most welcome.

continued from page 17



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can you depend on it?

continued from page 22

don't-care attitude, or rationalize that it may be a good thing after all, at least until after they have endured the nuisance of looking after a bitch in heat.

Still, the nub of the problem is the owner who sincerely believes having a first litter is good for the animal, perhaps so the kids "can observe the facts of life first-hand." Too often the ultimate fact of life is that the pups are given away--to perpetuate the myth in another family--thus adding to the already burdensome pet overpopulation problem. And kids today are more aware of sexual matters than their parents might want to believe. Others object to spaying at any time as "unnatural" and assure themselves that the bitch will be "happier" if allowed to lead a "normal" existence. So what is normal? Dogs left to themselves naturally run wild in packs.

In summary, if anyone should tell you that your young bitch will benefit by being allowed to have a litter before she is spayed, **don't** you believe it.

Today's Animal Health

IN THE NEXT ISSUE, WATCH FOR:

1. What Is A Heart Murmur?
2. Toxic Hazards Around the House
3. Feeding and Care of Orphaned Wild Birds
4. Poisonous House Plants
5. Sleeping Sickness in Horses

HEART DISEASE

continued from page 18

the heart beat at the chest, but in heart disease the beat can be weak, hard to feel and irregular.

The color of the mucous membranes of the mouth can indicate circulation problems. Dogs with severe heart disease can have a white mucous membrane instead of the normal pink. This is cardiac shock and must be distinguished from shock caused by injury, loss of blood or severe disease of other organs in the body. Capillary refill time is important too. When you press your thumb against the gums of the mouth above the upper canine teeth it should take about one second for the pink color to return. Failure to do this indicates poor capillary circulation.

Feeling the abdomen for an enlarged liver and ascitic fluid, small or empty urinary bladder from poor blood pressure to the kidneys, and failure to produce adequate urine; or seeing a "jugular pulse" at the area where the neck blends into the chest are all areas that need to be considered when the heart fails.

To confirm heart disease and make a correct diagnosis, your veterinarian may recommend tests to be run on your dog. These may be done by himself or by a colleague



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who has the interest and equipment to do the needed tests. Proper diagnosis will assure proper treatment and, hopefully, relief of the symptoms. Most heart diseases are incurable, and proper treatment and management only compensate for the heart's inability to pump blood normally.

Tests that are usually run on suspected cardiac cases are a complete blood count, blood urea nitrogen (kidney test), glucose (blood sugar), SGPT (liver test), total protein (blood protein), sodium (blood salt) and potassium (another blood salt). An EKG (electro cardiograph) is most helpful and x-rays of the heart and lungs. The EKG and x-rays can be used to help pinpoint the nature and location of the disease.

Most heart diseases are handled with drug therapy, especially in older dogs, but many heart defects that dogs are born with can be repaired surgically. *Veterinarians are much better acquainted with the diseases of the heart of the dog today than in years past. They are able to diagnose and treat the specific diseases of the heart and greatly extend the life expectancy of our animal friends.*



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