HE SPEAKS

Ever wonder what animals would say if they could talk?

Dr. Malcolm Quest, a linguistics and speech-language pathology professor at the University of Toronto, wanted to find out. With the help of a trusted colleague -- Dr. Elise Kudrow -- from the Colorado State University College of Veterinary Medicine and Biomedical Sciences in Fort Collins, the pair set about applying for suitable fellowships and grants from various international organizations.

Governmental and private industry groups were approached, with the exception of any connected with the military. Inevitably with the military, any research and development always wound up tied to some kind of potential warfare application. Quest and Kudrow wanted none of that.

At last, after several months, the University of Salzburg came up with a wonderful five-year funding offer. A vacated facility high up in the Zillertal Alps -- on the border of Austria and Italy -- would be part of the package. The facility had once been a private health clinic for the wealthy that no longer operated. Although the modernistic clinic somewhat resembled a villain's lair from a James Bond movie, the institute featured a full gymnasium, a heated swimming pool, a helicopter pad, and nearby groomed forest trails for walking and jogging exercise in the fresh alpine air. A state-of-the-art laboratory would be outfitted, and an English-speaking staff of five assistants would aid the two professors. The facility's isolation would help keep their research strictly private and away from the prying eyes of the ever curious media. After the five years was up, any noteworthy scientific breakthroughs would of course be announced to the public.

Malcolm and Elise discussed their research plan at length. They wanted to stick with mammals, especially dogs, because they were proven both intelligent and adaptable, and were used by police departments and specialized trainers around the world. The pair further narrowed down their choice to pure-bred German Sheperds, and soon found an ideal three-year old, seventy-pound, brown and black male named Donner as their ultimate candidate. (Although dolphins were known to have even larger brains than dogs and were very smart, working in and under the water was not feasible for what the researchers had in mind for this particular experiment.) Donner -- whose name meant "thunder" in German -- was formerly a fully-trained service dog from Dresden.

"As you know, Elise, we must initiate two developmental stages in order to make Donner able to talk. We need to transplant a small set of human vocal cords into his throat, and we need to augment Donner's brain to be able to understand -- and then respond to -- human speech," Malcolm declared.

As one of the world's top veterinary surgeons, Dr. Kudrow would do the crucial procedures: the vocal cord transplant, and the insertion of a language micro-chip into Donner's brain, which would be encoded with the 3000 most commonly used words in the English language. An infusion of nutrients would also be added to the dog's brain to promote rapid growth of his new 'speech center' in the left frontal lobe. Over time, Donner would carefully be taught to recognize alphabet letters, then eventually pronounce words vocalizing his thoughts and feelings. His speech would someday theoretically be that of a human being! This breakthrough -- if successful -- would dwarf decades-earlier experiments with chimpanzees merely recognizing shapes and objects, and non-verbally communicating with their lab researchers.

"The micro-chip implant is ready to use, Malcolm, so all we have to do now is wait for an unfortunate four or five-year old boy to suffer a fatal accident and then legally harvest his organs -- transporting his unharmed vocal cords here for the transplant into Donner," Elise explained. "I have waited my entire life for a chance to hear a dog actually talk! I know it will take time and patience, but I believe we are on the right track, Malcolm," she added.

Both professors knew that dogs have structurally similar brains to people, and that our canine friends have feelings much as humans do. Studies have proven that dogs can feel optimism, anxiety, happiness, fear, and depression. They can also experience pain like we do, and will retain memories of bad trauma or mistreatment. MRI studies have likewise shown that the same sections of the brains in both dogs and humans will light up when given the identical stimuli.

"Our challenge will be to gently teach Donner the rudiments of simple language, then have him trained to express his responses vocally," Dr. Quest noted. "No more mere growling, barking or woof-woofing...Just think: actual words and basic sentences! I absolutely believe that it can be done...and if successfully in one mammal species, maybe even in more. Perhaps in other animal species someday too. As a boy, I remember reading a fanciful story about a man named Dr. Doolittle. Amazingly, he could talk to the animals! So why can't we today, with all of our modern scientific advancements and technology, do just that? There's a whole unknown world to explore right here, right now, with our animal friends."

Six days later, on June 11th, a young boy was accidentally struck and killed by a car while riding his bicycle carelessly out into the street in the city of Linz. His remains were perfectly suited for a vocal cord transplant into Donner, so the body was airlifted by helicopter to the research institute high in the Austrian Alps.

Dr. Kudrow and two assistants carefully performed the delicate four-hour surgery. Donner was allowed to recover and largely rest for six weeks before undergoing the second surgery to his brain. His throat emitted only occasional whimpering sounds but no barking during this time. The later micro-chip addition to the left pre-frontal lobe and the additional brain-stimulating nutrient injection went well too, and the canine was likewise given several weeks to heal. Before long, the dog was normally playful and active again, and medicines for pain and inflammation were curtailed. Long stretches outdoors on the nearby forest paths seemed to suit the German Sheperd well, and Donner's hearty appetite had also been revived. Over time, his fur grew back and covered his surgical scars.

It was now that Dr. Quest began his linguistic regimen with Donner. He started with having the dog repeat the sounds of each letter of the English alphabet, one per day, for twenty-six days. Positive re-enforcement and treats were provided by way of rewards, half-administered by Elise. Learning consonant pairs like st, ch, wr, and th came next --practiced over and over. Repeated, repeated, repeated.

Next, the dog was shown videos of both dogs and humans reacting to the same emotion, such as a happy, tail-wagging dog and a smiling person. By stressing canine-human similarities using visuals of such emotions, Donner was made to learn what words like happy, sad, hungry, angry, tired, thirsty, etc. meant. Photographs of objects -- or the actual object itself -- came next: ball, bowl, bird, and so on. The words were endlessly repeated, as the dog acquired a basic but meaningful and working vocabulary. He learned quickly, like an eager school child, soon accurately identifying or responding to what was presented. More abstract learning came next: the meanings of words like who, what, when, where, why, yes, and no.

After eight months had passed, the German Sheperd was deemed tentatively ready by his researchers, and challenged to speak his first human words. Computerized audio and video recordings of these initial yet historic experiments was kept for proof.

At first, Donner struggled to make correct pronunciations of simple words. His voice was like that of the young blind-deaf-mute Helen Keller in the 1962 movie "The Miracle Worker," played by actress Patty Duke, when she tries to speak her first words aloud.

Arghh...wharr...numm...ddee...fregg...bopp...was all the dog could muster. Yet the strange sounds had a definite human quality nonetheless -- just like that of a young boy!

"It's O.K., Donner...take your time," Malcolm urged.

"Alright boy. Relax. Try again," Elise encouraged.

Both experts knew that the physical shape of the dog's mouth, as well as his naturally larger tongue, was sure to cause notable difficulties at first. But they were confident that -- with devoted practice -- such obstacles would eventually be overcome.

The breakthrough finally came on the 609th day since the beginning of Donner's experimental surgery.

The first complete, properly annunciated English word from a dog, in response to a specific question!

With all five of the laboratory's assistants in the back of the room as witnesses, Drs. Quest and Kudrow were in a sound-proof, plexi-glass booth, alone with the canine, as audio and video recording equipment was activated.

"Donner...How do you feel?" Malcolm gently asked.

There was a momentary pause. Donner's normally erect ears creased themselves in somewhat of a droop as he seemed to concentrate. Then the dog made a hard effort, and said the single word, SAD, in the voice-style of a young boy. His dark eyes looked somewhat mournful.

The two researchers looked briefly at each other, surprised. Then Elise asked, "Why are you sad, Donner?"

LONELY. MISS OTHER DOGS.

"I understand. We will bring some other dogs here for you then soon," Elise promised.

NEED PLAY. HUNGRY AND THIRSTY NOW. WANT REST.

"Yes, I understand, Donner. You did well. We will feed you right away, and then you can rest," Malcolm reassured the remarkable canine -- who was now unique in the historic annals of both man and dog.

Over the next few months, more sessions were regularly attempted. The increasing interaction in human-dog communications was fascinating! Quest and Kudrow took turns asking questions. Here is a sample:

"What do you mostly think about, Donner?"

SMELLS. NATURE. FOOD. PLAY. MATING.

"Do you dream when you sleep?"

YES. RUNNING. HUNTING. FIGHTING ENEMIES.

"Do dogs communicate with each other?"

YES.

"Can dogs communicate with other animals, like rabbits, or cats, or birds?"

NO.

"Do you remember being a puppy?"

YES. SUCKING WARM MILK. OTHER PUPS.

As earlier promised, two other male German Sheperds were eventually brought in for Donner to play with. Their names were Ritter and Otto, and they were canine brothers from Graz. At first, the trio got along well, but when the other dogs learned that Donner was unable to bark, or growl normally, they were confused, then fearful, and hence soon avoided his attempts at any further interactions. They were sent away after only a week.

Next, a German Sheperd bitch in heat named Elsa was brought in. Donner enjoyed her company and soon eagerly mounted her, but later she likewise sensed that he was somehow atypical and avoided him. So sadly, she too was sent away.

Donner was again left all alone. His mood soured, and his appetite began lagging. The researchers were stymied as to what to do.

Out of the blue one morning, the canine said aloud: HEAD HURT.

Elise gave Donner a complete physical, and could nothing wrong -- blood work, CAT scan, EKG, etc. all showed no abnormalities.

Dr. Kudrow later confessed to Malcolm, "I think Donner is suffering emotionally. His pep and energy level is becoming more and more sluggish. We have to find a way to somehow bring it back again...or we could lose him. I've seen it happen before in depressed dogs."

Dr. Quest came up with an idea.

"Let's give Donner a mini-vacation. Maybe he feels trapped like a prisoner here, isolated from the rest of the world. Let's take him into Salzburg for an all-day holiday. Give him his favorite treats, walk him in new surroundings, stimulate him with seeing different people and other animals...you know, plenty of new smells, sights, and sounds. What do you think?"

Elise thought for a moment. "Yes, I believe that would be good for him, Malcolm. But we must guarantee that Donner does not talk -- not even one word -- once we are outside of this facility. Our whole research project could be jeopardized by just a single slip from our dog's mouth. He must be warned to be absolutely silent in that regard. So I agree. Let's do it."

In the clinic's Land Rover -- driving to the "Sound of Music" city made famous by the movie of the same name -- the two professors explained to Donner what they were going to do and what was expected of him once they arrived. Elise was at the wheel.

"Donner, we must put a collar on you and keep you on a leash. We can remove the leash when we let you fetch sticks in the Salzach River, which runs through the city. You must heel when we walk together, and sit on command. If any people -- especially children -- want to pet you, that is alright. Do you understand, Donner?" Elise asked.

YES. UNDERSTAND.

"And you must not speak, the whole time we are there. This is very, very important. Do you understand?" Malcolm added, looking sternly into the dog's dark eyes while holding Donner's head in his hands.

YES. UNDERSTAND.

"Good boy! It should be a fun day for all of us then," Malcolm remarked. "Lots to see and do." Donner was given a handful of doggie treats.

Once the trio arrived in Salzburg, they visited two large and peaceful city parks, so Donner could frolic and chase the squirrels. It being July, the weather was warm but pleasant. Lots of foreign tourists were likewise enjoying the sights, here in Austria's most-visited city after its capital, Vienna. Next, they went to the central outdoor market, to see more local people, who were shopping for the many assorted fruits and vegetables which were arranged in attractive displays. [Dogs, having only two cone receptors in their eyes (whereas humans have three) are able to see the colors blue and yellow, so Donner was able to see those colors as the trio explored.] The unique German Sheperd was treated to several delicious sausages which Elise bought for him from a cheerful street vendor when all three stopped for lunch. For dessert, Malcolm also gave Donner his first taste of vanilla ice cream -- a few cold and sweet licks. He excitedly wagged his tail, indicating his approval!

Then it was off to the Zoo Salzburg in Hellbrunn Park, which featured 1500 animals from 150 different species. Elise explained the names of each animal to a cooperatively silent Donner and where they came from. Some of the creatures were in cages or behind bars outside, while others were exhibited in aquariums and terrariums indoors. Donner seemed especially fascinated with the wolves, bears, zebras, lions, jaguars, rhinos, ostriches, and three male peacocks -- who were strutting about, displaying their colorful, fanned-out plumage. The dog's nose was getting real workout, Malcolm assumed, from all of the exotic smells found at the zoo!

Back at the Salzach River in the later afternoon, Donner was allowed to cool himself off in the water, retrieving randomly found sticks and a floating ball that Elise had brought.

The dog had a successful excursion, the two researchers felt, as all three got back into the Land Rover for the trip back, after Donner was given a nourishing bowl of his usual food and some water. The dog had behaved perfectly in public.

"We can have you talk again once we get home, boy...you did a really good job!" Malcolm praised the canine.

"And we want to hear all about your thoughts and feelings from the day too," Elise added.

On the return drive, they were briefly delayed by road construction, which included heavy-equipment machinery uprooting trees and removing the debris to widen the new, improved route. They also noticed, in the remaining time on the road, a few dead animals -- either killed by cars and left crushed in the middle of the tarmac, or rudely shoved off to the shoulder near the moving onslaught of traffic.

Back up to the alpine heights of the research clinic, everyone rested until the following day. Then it was time for Donner's 'debriefing' regarding his field trip to Salzburg.

"Tell me, Donner, what did you like about our trip yesterday?" Malcolm asked.

PARKS. RIVER. SAUSAGES. ICE CREAM. he replied in his little boy's voice.

"That's very nice. What did you not like, Donner?" Elise asked.

ANIMALS TRAPPED IN ZOO. WHY NOT FREE?

The veterinary surgeon, somewhat taken aback, quickly tried to explain the purposes of zoos around the world.

CARS KILLING ANIMALS. WHY?

The speech language pathologist-linguist stepped in to help his colleague, and tried to explain how road-kill accidents sometimes happen.

MACHINES DESTROY TREES AND HABITANT.WHY?

Both researchers tried to explain.

SAD. ANGRY. WRONG TO HARM HABITANT.

A few more months went by. Another winter arrived, with mountain cold and deep snow. Meanwhile, Donner's language lessons and vocal progress continued.

Both Malcolm and Elise now wanted to ask a crucial question to this remarkable, history-making dog.

"What do you think about people, Donner?" Elise asked.

SOME GOOD. SOME BAD. CONFUSING.

"Please tell us more, Donner." she urged.

GOOD PEOPLE GIVE CARE AND LOVE. SHARE LIFE. BAD PEOPLE TAKE LIFE AWAY. HURT ANIMALS. KILL. DESTROY HABITAT. WRONG. MUST STOP.

"What happens if we don't stop, Donner?" Malcolm wanted to know what the canine really understood.

HABITAT GONE FOREVER. LAND WATER AIR DEATH. ALL THAT IS LIVING WILL DIE...

THE END

by Jack Karolewski

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