INTRODUCTION

A New Sound Awareness

When I first visited New York City, my fiancée proudly greeted me with Rita, her cherished year-old Japanese Akita. A statuesque and soulful dog of nearly 100 pounds, Rita was just what Margaret needed: a business watchdog, a protector while walking the Manhattan streets, and a truly faithful, loving companion.

"Be careful when you let her off the leash," was the only warning—a caution that rang in my ears a few weeks later as I permitted Rita to walk unencumbered through Riverside Park. This little bit of green was Rita's favorite haunt, just a few blocks from our apartment. Our experience, like that of most dog walkers, was that our dog loved her few minutes of freedom from human restriction. She would get a little skittish at times, but would always come when called. That night, however, all it took was the sound from an unseen car's tailpipe backfiring to send Rita off like a shot, running frantically for the safety of home. The only problem

was four lanes of fast yellow taxis on Broadway between the park and our apartment.

"Rita! Rita! Rita!" I screamed as I ran after her in the chilly night. She was one block ahead and fast outpacing me. Two blocks later, I was still running as fast as I could after Rita, who was running as fast as she could toward Broadway.

"Riiiitttttaaaaaa!"

Suddenly there was the sound of horns, followed by skidding tires, a loud *whack!,* and then that pit-in-the-stomach quiet—the kind of stillness where everything starts going in slow motion. As I turned the corner, my worst nightmare awaited me. Rita was motionless on the asphalt, a taxi driver who didn't speak English was gesturing wildly, and people were coming out of the shops and restaurants to see what had happened.

When I reached her side, I looked for movement in her belly—for any sign of breath. *Yes!* She was still breathing. Next, I looked into her eyes but didn't get the same reassurance—they were wide open, watering, and full of fear, pain, and I don't know what. I shouted out a telephone number and a neighbor called my fiancée, who arrived within moments. She placed gentle and quivering hands on Rita's face, running them slowly down her neck and body. No blood or exposed bones, thank goodness—a miracle, considering the size of the dent Rita had left on the yellow taxi, which had now left us alone in the middle of the street. We put Rita's leash back on and slowly coaxed her back to her feet. She could stand up—sort

Rita the Akita with Lyric Tucker-Leeds

of—and we helped her into another cab. Eight long minutes later, Rita hobbled into the emergency animal hospital for x-rays and observation and, for us, an anxious night of waiting.

Rita came home the next evening with lots of pain medication and a diagnosis of severely bruised ribs but no apparent organ damage. Because of her size and young age, she had miraculously survived being hit at 40 miles per hour! Many years later, we discovered that several of her vertebrae had fused together due to the injury. Nonetheless, Rita lived almost a full decade after the accident.

For years, when I thought back on that most painful Manhattan night, I wondered how it was possible that one seemingly

insignificant and distant sound could have shocked such a large, professionally trained animal into bolting for home. What went through this dog's ear? It took me two decades to figure it out. Although powerful and large, Rita was high-strung; she had a very sensitive nervous system. And as with people who are "sensitive" to noise, it didn't take much to upset her balance and cause her to seek the shelter of home.

CANINES IN THE COAL MINE

As Rita's accident illustrates, over-stimulation of auditory senses can have as significant an effect on our animals as it does on humans. While there is no official diagnosis of "noise disease," millions of people suffer from dysfunctional auditory processing or from the inability to control their environments. *Through a Dog's Ear* explores a similarity between human and canine auditory perception, and investigates the effects of the human soundscape on our canine companions.

I am privileged to write this book with Dr. Susan Wagner, veterinary neurologist, academician, and holistic practitioner of animals *and* humans. Her focus on the spiritual nature of animals and the connection between human and animal welfare issues informs her perspective throughout.

In *Through a Dog's Ear,* we explore what's known about sound and dogs, compare current research into music and canine behavior, and begin the process of connecting the dots of a picture that has not been painted before. In the end, the picture reveals a new

kind of canary in the coal mine: the behavioral problems in our dogs forewarn of a much larger problem in the human soundscape, a problem that is affecting us as much as it influences them. In fact, we believe that many anxiety behaviors common in both the American people *and* their dogs may be the result of cumulative sensory overload, starting with the sound environments in which we live.

Is it possible that the uptick in psychological and physiological dysfunctions we're now observing in the canine population may be a reaction to our ever more media-driven, high-tech, 24-7 culture? Is this same environment a direct cause of the increased spread of stress- and environment-related maladies in humans, as well?

Research has shown that dogs are among the most adaptable of animals. Most dog guardians have thus assumed that it is the dog's job to adjust to whatever environment we offer them—no matter how stressful. In this case, perhaps our dogs' willingness to do anything for us has become their Achilles' heel—the result of their total compliance is that canines are more stressed than ever before.

CANINE BEHAVIORAL ISSUES: AN OVERWHELMING PROBLEM?

As many as 90 percent of people who bring their dogs to a vet discuss some type of canine behavioral issue.[1] Dog behavior problems range from mild anxiety to severe aggression. Estimates suggest that more than ten million dogs have separation anxiety.[2] To put this in perspective, one out of every seven American dogs currently suffers when left alone or separated from their main person(s).

At the opposite end of the behavioral spectrum is aggression, a complex issue. In 1994, an estimated 4.7 million Americans were bitten, with 6,000 hospitalized.[3]

The link between interpersonal violence and animal cruelty is an area important to the authors and worthy of everyone's attention. If you would like to learn more, visit www.ThroughADogsEar.com.

Through a Dog's Ear suggests that we examine our environments to determine if we are creating the best sensory space possible to support behavioral balance and health in our dogs—and, subsequently, in ourselves. These concepts should not be construed as a pampering; rather, they are about finding solutions to the growing problem of constant stimulation—an issue few have recognized. Who would have thought that simplified music could be part of the solution for de-stressing our best furry friends?

PSYCHOACOUSTICS MEETS BIOACOUSTICS

An official definition of psychoacoustics is "a branch of science dealing with hearing, the sensations produced by sounds, and the problems of communication."[4] Psychoacoustics may also be thought of as "the study of the perception of sound."

As a psychoacoustician, I study the effect of sound on the human nervous system. After a few decades of research and observation, I know that auditory input has a much larger impact

on the psyche and body than most people think. When our auditory process is under- or overwhelmed, or when we have difficulty processing sound properly, there can be multiple and far-reaching ramifications.[5] One of the profound joys I have found in the clinical studies of music for dogs is the discovery that many of the same principles and effects of sound are shared by people *and* animals. This reinforces what soundworkers already know—that sound is a potent energy that is not to be taken for granted.

Over the last fifty years, musicians, producers, and therapeutic professionals have clarified and innovated music and sound techniques that naturally affect our human body pulses—brain waves, heart rate, and breath. We've learned to *play* the human body in a purposeful way. By adding the natural processes of *resonance* (the ability of one vibration to alter another), *entrainment* (the effect of periodic rhythms to speed up or slow down the brain, heart, and breath), and auditory *pattern identification*[6] (determining when it is conducive for the brain to be in an active or passive mode) to the musical palette of harmony, melody, and form, it is now possible to create potent soundtracks for specific purposes.

But what does psychoacoustics have to do with the health and well-being of our canine companions? This is where *bioacoustics* comes into play. The Acoustical Society of America defines *animal bioacoustics* as the study of sound in non-human animals.[7] Like psychoacoustics, it is a branch of science that deals with the

relation between living beings and sound.[8] That said, bioacoustics is not a field I ever expected to find myself studying. But when a remarkable woman and her even more remarkable dog showed up on my doorstep, everything changed.

HOW THE MUSIC AND BOOK CAME TO BE

In 2003, concert pianist Lisa Spector and her puppy, Señor Sanchez, attended one of my lectures. Lisa telephoned me soon after. "How about making an album of classical music for dogs?" she asked.

Señor Sanchez and Lisa Spector

An avid dog lover, she had raised puppies for Guide Dogs for the Blind and witnessed a profound effect on the dogs when she played her nine-foot Steinway. Instead of looking for puppy trouble, rambunctious sixteen-week-olds would tumble under the piano in a furry clump and fall into calm and gentle sleep.

While the image was adorable, I was not sure about Lisa's request. After twenty years of hard work, I could see my reputation quickly going, as they say, to the dogs. I figured if I did this, I'd probably be struck by the wrath of Bach or Beethoven. After all, these were serious guys who wrote music for God—not dogs!

As crazy as it was, the idea stuck with me. Intrigued, I went to a local university to see if there was any research on the effect of music on animals. Reading abstracts for two days can be a dry and laborious process, but the data I found (or more often than not, couldn't find), was compelling enough to propel me even further down the path—to a veterinary university a hundred miles away.

After another few days of picking through complex databases, I was hooked. I learned that:

- Country music calmed ponies
- Country music best brought cows home
- Classical music made cows produce more milk
- Dolphins swam in exuberant synchrony to Bach
- Classical music improved the growth rate in chickens

- Classical music caused hens to feed more
- Classical music relaxed dogs

It is interesting to note that in these research results, rock music and jazz were often the styles that got the least desirable results from the animals.

THE MUSICAL PREFERENCES OF DOGS

While interested and amused at how classical and country music were sweeping the animal music awards, I became aware of the lack of credible research into the effect of resonance (tone) and entrainment (rhythm) on domesticated animals. However, once I found the research of Irish animal behaviorist Dr. Deborah Wells,[9] I knew there were truly interesting possibilities in creating music that would positively affect our animal friends.

Wells's 2002 study, conducted in dog shelters in San Francisco and Northern Ireland, found that classical music created notable relaxation in canines, while heavy metal music resulted in more agitated behavior.

Dr. Wells concluded: "It is well established that music can influence our moods. Classical music, for example, can help to reduce levels of stress, whilst grunge music can promote hostility, sadness, tension and fatigue. *It is now believed that dogs may be as discerning as humans when it comes to musical preference* [italics ours]."