

Creating Sound Health

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with Dorothy Lockhart Lawrence

All of us, children and adults, are bombarded every day by noises and sounds that have deleterious effects on our nervous systems and well-being. Even when we consider our houses to be quiet, there is often a hum from the lights, refrigerator, and other electrical appliances. We have to work hard to "tune out" extraneous sounds in order to focus on conversations, our studies, or the task at hand. One practical solution to this modern problem is to create healthy sound to mask the irritating environmental noise pollution. Developed by Advanced Brain Technologies, Sound Health grew out of the work of the National Academy for Child Development (NACD) over a twenty-year period. NACD researched and experimented with many ways to create a better sound environment and Sound Health, which helps to enhance mental function and serve as a shield against sound pollution, was created. Sound Health is unique in the marketplace. Much of this uniqueness comes from the accumulated experience of the team involved in its production. We want to give you a basic idea of the main elements involved and why we believe they make Sound Health so effective. Here are some of the elements that have gone into its design.

Choice of Music

Selection is done by integrating a great deal of experience and research. Bulgarian psychiatrist Dr. Lozanov researched the effects of Baroque slow movements on learning and memory. English composer Cyril Scott wrote extensively about the effects of different composers and how their music affected the society of their day. French Medical Doctor Alfred Tomatis experimented using different composers and found Mozart was the most effective for his specific research with hearing and its affect on the brain. Dr. John Diamond has done extensive research into both the effects of listening to certain composers and the intention of the conductors and musicians performing and how this affects the energy they exude. The list goes on. I have spent over 20 years studying the effects of music on the human body and psyche. I've also performed extensive classical repertoire in various orchestras and chamber ensembles in Europe, Canada, and the US over the years. So, from this experience and perspective, we chose music depending on the desired effect of each particular album.

Arrangements

This element, rearrangement, is one which sets us considerably apart from most other products in the marketplace, as most other classical music products which claim to be good for learning and health are simply taken from previous recordings. We have taken select pieces and rearranged them to increase their effectiveness. Sometimes this is as simple as removing a section that really does not fit the general mood of the music. Classical composers after all, had a very different mission in mind. They needed to keep the interest of the listener in a live concert situation. We on the other hand, are often using the music as a background and therefore want to eliminate some of the sections of the music that tend to grab our attention or jolt us briefly out of the current mood. Because this music was recorded specifically for an intentional use, we had the opportunity to make changes of many different kinds, which companies using music from existing recordings cannot do.

Sometimes these arrangements go almost to the point of writing new pieces based on the original. As an example in the CD called LEARNING, we noticed that Corelli had used a theme that was exactly like a particular birdcall in our repertoire of nature sounds. In this case, we then improvised a section on the violin to mimic the birdcall, mixed this with the actual birdcall, and then led directly into the piece where it is used as the main theme.

Another element that often comes into play is deciding when we want to engage the mind in some sort of exercise. We know from the research of Dr. Tomatis and the experience of Robert

Doman and Dr. Ron Minson that it is helpful to stimulate the listener's attention by putting surprises into the recordings and to stimulate the spatial awareness of the listener by moving sounds around in the stereo mix. Again, because of our unique recording techniques we are able to suddenly move the sound of an instrument from one side of the stage to another, or have it sound as though a bird flew across the room.

Intention and Mood Created for Performance

One of the main problems with recordings today is the pressure the musicians are under in a recording session. This is particularly true of classical recordings where there is not a huge market place to make up for the heavy costs involved in creating the recording. This means that everyone involved is trying to be as perfect as they can, rather than as artistic as they can, much of the time. The resultant recordings, which are technically correct, often reflect this intention.

The techniques chosen to record The Arcangelos Chamber Ensemble vary greatly depending upon the needs of the particular recording. But there are a number of criteria that stay fairly constant. Arcangelos musicians, chosen for both their technical skills and their interest in music and health, are encouraged just to have a good time playing and enjoy themselves. We want their happy, positive energy to be reflected in their performance. To prove it, we even have out-takes of their laughter! If there are some imperfections, they are taken care of in the post-production process or if they would not be noticed by the general public, sometimes they are left in. In a sense, it is often the slight imperfections that give something its character and richness.

Whenever possible we chose a beautiful, live acoustic setting to record, such as a monastery or chapel. This relaxes the players and provides a beautiful tonal quality to the recordings. These places often have a wonderful tranquil, spiritual atmosphere, which also has its effect on the players. To give you an example, two of our recordings - LEARNING and CONCENTRATION - were done in the gorgeous Mont La Salle Chapel high in the hills above Napa in the heart of California's wine country. The Christian Brothers have prayed in this chapel very early every morning for many, many years. One evening we were doing our last take of the night when one of the Brothers from the monastery came in to close up. He agreed to wait as we played one more piece. As this beautiful man who obviously adored music sat there one of the players said, "Let's make this one just for Brother Columban." The music flowed like magic and was done in one take. This is what we mean about focusing our intention.

Performers Chosen in Recordings

The ability of the musicians to get into an appropriate mood is something that is developed through experience and interest. I am a violinist as well as the Director of Arcangelos and I play on many of the recordings. Another key player is Larry David, pianist. Like myself, Larry has been involved in the field of intentional music for most of his career. Here are a couple of experiences we have had, out of many, that will give you an idea of why we bring a different perspective to the Arcangelos Ensemble.

On one occasion, Larry and I improvised a piece for a video soundtrack we were working on. It came out so beautifully we later decided to perform this piece at a concert. We were both amazed at how different it was to play the piece when written out rather than when it was originally improvised. Experiencing this difference helped us to be able to catch the "first-time" feeling even when performing a written piece. In other words, a musician wants to play as if this were the very first time, the same way an actor needs to say their lines as if they were coming into their mind at that very moment. What is really happening here is that the musician's brainwave state is very different when improvising. The ability to enter this state when playing written music, allows this quality to be imbued into a performance of written music. It is interesting that in the past, improvisation was a widely used element of classical music. Composers such as Vivaldi and Beethoven were extremely well known for their improvisations.

On another occasion, Larry and I played a house concert where someone spoke of a dear friend undergoing chemotherapy. We decided to do an improvisation for this lady and asked the audience to join in and direct their healing thoughts towards her. This was a very powerful community experience for the group listening to the improvisation. A later visit to the hospital revealed that the lady experienced something at that very same time. She asked, "Was the music played at about 9 PM?"

Some other members of Arcangelos are former students of mine who have gone on to reach top positions in their field. They remembered the fun they had in my student orchestra and they have relished getting back together to make music with a therapeutic intention.

Production Standards and Techniques

In general, we are constantly looking to improve our quality of recording, which includes the choice of equipment and engineers as well as the medium of recording. On our latest recordings, we used a 24-bit Pro Tools system to provide greater flexibility. We also do a lot of work with recording levels, often leveling the volume in order to allow the music to remain as a steady background influence, if that is the use we have in mind. For our LEARNING CD, we created two complete 30-minute soundtracks. This removed the distraction of hearing the ending and beginning of a variety of pieces. We accomplished this by the use of interludes and nature sounds as segues.

We also used interludes, which were especially composed for these albums, as separate pieces. We used them in three different ways to provide continuity: as a lead-in to a piece, as a prelude to a piece that would come later, or as a remembrance of a piece which came before. Sometimes we record a piece in a normal fashion and later put the musicians in separate rooms and record it again. This allows us to create some very unusual effects in moving the instruments around in the stereo field. Experience has shown that this can be an effective way to stimulate the brain.

Examples of These Unique Elements in Sound Health

Concentration

Here we chose special acoustics, rich in harmonics. The delay of the sound in the Mont La Salle Chapel was over 4 seconds, as compared to a delay of 1.5 to 2.5 in a normal concert hall. The beauty and prayerful use of this Chapel high in the Napa hills gave a unique energy in the room, very conducive to the feeling we wanted from this Baroque music. The music was written to be performed in exactly this type of space so we were honoring the intention of the composers. Tempos mostly range from 50-60 beats per minute (b.p.m.) These tempos stimulate a body relaxed, mind alert state through entrainment. The result is enhanced clarity and mental alertness.

Thinking

This album starts with the amazing slow movement of the "Emperor Concerto" by Beethoven. Here it is rearranged to intensify the mood, generally simplifying some of the orchestral parts to calm the mood even more than Beethoven intended. The same was done with the magical Schubert "Piano Trio." Here sections were edited out that normally break the relaxed mood. Also, the instrumentation is changed to Viola and English Horn from Violin and Cello. This keeps the range lower and more serene. At times, some of the duet lines are eliminated to keep from over-taxing the listener. In the Brahms "Piano Concerto", we left off sections that didn't fit the mood and at times simplified the Piano part by removing excess ornamentation (elements we considered too busy for our purposes). We again changed instrumentation to better fit our intention. This album also features some improvised sections as on the famous "Reverie" by Debussy. Tempos mostly range from 50-60 b.p.m. These tempos stimulate a body relaxed, mind alert state. The result is enhanced clarity and mental alertness.

Learning

Here we changed the tempo of the Bach "E major Violin Concerto" quite dramatically. We slowed it down and thinned orchestration to simplify the effect. We also have extensive use of nature sounds. These sounds can fulfill a number of purposes. First, they are often very rich in high harmonics, which stimulate the brain. Second, we can move them around in the stereo field so you hear the sounds in different locations, which encourages more active listening. Third, they can introduce their own very distinct moods such as the relaxing effect of a gentle stream. Program two features the Corelli piece combined with bird song as mentioned earlier. The story told above about Brother Columban listening as we ended our session in the Mont La Salle Chapel was captured on the wonderful Vivaldi "G minor Concerto" on cut one. Tempos mostly range from 50-60 b.p.m. These tempos stimulate a body relaxed, mind alert state. The result is enhanced clarity and mental alertness.

Productivity

Here the main criteria was to choose music that fit the goal of increasing productivity. The selected music generally has a more upbeat tempo. There is a beautiful improvised interlude that leads into the Bach "Air" which is used here as a respite from the rest of the album. The Tartini piece also features an interlude that leads into the main theme. One of the main elements that makes this album work is the order of the pieces. The order is designed to take the listener through a variety of moods to prevent habituation. In other words, the music is always bringing the listener back to the state conducive to concentration, alertness, getting the job done. The high frequency orchestration also enhances this effect. Tempos mostly range from 70-130 b.p.m. These tempos are weighted towards the faster range to enhance vitality and task completion, while the variety prevents overtaxing our nervous system.

Relax

This album was created using an unusual technique. First, the main themes were performed and then improvised on by Larry David, Piano and myself on Violin or Viola. Next, I wrote out some of our improvisations and added a third or fourth line to the score. This allowed us to achieve a very relaxed, spontaneous feel but also to include a variety of instrumentation (some of the Violin/Viola lines were later recorded on Flute and Cello) and a variety of textures in the thickness of the sound by using at times one then two or three instruments. Generally, the pieces conclude by a return to the original theme. The Bach "Air" and Vivaldi "Largo" are great examples of this use of improvisation. Tempos mostly range from 40-60 b.p.m. These slower tempos are perfect for calming the mind and relaxing the body.

De-Stress

This album features improvisation more than any other in our series, which provides more soothing, flowing musical expression. Another major element is the use of the Mahler "Adagio" which has been edited to keep only the most relaxing sections. All of the improvisations were inspired by the Mahler theme. This gives a wonderful consistency to the music on the album. One of the production techniques used was to simulate the sound of an orchestra playing in a cathedral. I was very struck by this effect when I played Mahler's "Fourth Symphony" with one of the BBC Orchestras in Wells Cathedral in England. In the middle of the album, some quite different elements are introduced to intensify the effect. These include ocean sounds and a low Bass to simulate a foghorn. Later a gentle English Horn is used to play fragments of the Mahler theme. All of this was designed to keep the listener in a lower frequency range to enhance relaxation. Tempos mostly range from 30-60 b.p.m. Our slowest tempos are designed to relax tension, decrease anxiety, and at times even induce sleep.

Inspiration

We changed the instrumentation for Mozart's "Piano Concerto #21." The solo line is usually of course, played on a Piano. We used a Harp, which gives a much lighter feel. The sound of the Harp has been associated with inspirational and spiritual feelings down through history. In Beethoven's "Ode to Joy" we include an interlude with Trumpet and Harp early on to give the listener a taste of this wonderful theme which is then performed in a longer, more orchestral version at the end of the album. Tempos mostly range from 60-90 b.p.m. These tempos take one from a body relaxed, mind alert state at 60 b.p.m. up to 90 b.p.m. in order to stimulate the imagination and creative expression.

Motivation

For the Mozart "Divertimenti," at times the orchestration was simplified by leaving out certain instruments. Some of this music was recorded in two different ways: once in a normal concert formation and then again with all the players in separate rooms. This allows us after the fact to move instruments around. This effect stimulates the brain and can grab our attention and pull us into a deeper mode of listening. You feel as though you are sitting in the middle of the ensemble and hearing the sounds around you. Later the well known piece used for PBS's Masterpiece Theater is played slowly by Harp, Flute, and Viola as a gentler introduction to the later, more traditional version of this energetic piece with Trumpet. Tempos mostly range from 120-140 b.p.m. Our fastest tempos are designed for optimum vitality and peak performance.

As you can see, creativity and endless care went into designing and recording Sound Health. Although the creation was based upon psychoacoustic principles and extensive research, our overriding goal has also been to create music that everyone will enjoy. We wish you sound health and good listening!

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