BINAURAL BEATS

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What is a Binaural Beat

There has been a lot of research into Binaural Beats and surprisingly there is still a lot of confusion about Binaural Beats and what they are!

Binaural Beats are auditory sounds which are perceived by the brain in different ways to regular sounds. They can be so low in volume that you do not perceive them with your normal hearing.

Depending on the Beats that you are listening too, they can cause different states of relaxation or alertness. In the last few years there has been more and more discovered regarding Binaural Beats and their beneficial effects on the mind and body.
The History of Binaural Beats

In 1839, German experimenter Heinrich Wilhelm Dove discovered that illusory "beats" are perceived when pure tones of slightly different frequency are separately and simultaneously presented to each ear. Dove's insight was to realize that since there is no acoustic mixing of the tones, the perceived beats must exist solely within the auditory system, specifically that part which processes binaural (e.g., "stereo") sound.

While research in to binaural beats continued after that, the subject was largely viewed as nothing more than curiosity. It was in the 1970's that the Binaural Beats really started to come into their own. An article was published in a popular magazine that described how Binaural Beats are used in neurological and cognitive research.
Gerald Oster, who wrote this article, described it as “The Cocktail Party Effect” by which he meant the ability of all animals (obviously humans included), to pinpoint a particular sound within a sea of noise.

So if you imagine you are at a Cocktail Party, full of noise and chatter, not only would you would be able to pinpoint a particular voice you would also be able to determine which direction it originated from.

In particular, Oster viewed binaural beats as a tool with cognitive and medical possibilities. Cognitively, he felt it could be used to explore neural pathways, and also to answer higher-level questions, such as how we spatially locate sounds in our environment, and our auditory system's ability for selective attention (e.g., the "cocktail party effect").
Medically, Oster saw potential for binaural beats as a diagnostic tool, both for auditory impairments, and for a broad range of non-auditory subjects. Most notable was the evidence found by Oster, that a decreased ability to perceive binaural beats appeared to be a pre-onset indicator of Parkinson's disease. He also presented corroborating data correlating subtle cyclical fluctuations of estrogen in women and their ability to perceive binaural beats.

Another very important conclusion from Oster's thesis (that binaural beats are processed in ways fundamentally different from normal hearing) was the fact that binaural beats are perceived even when one of the two frequencies is below the human frequency threshold, and also when both frequencies are below the human volume threshold. This, combined with the brain data available at that time, suggested to Oster that the processing of binaural beats followed different neural pathways in the brain from other auditory processing.

The publication of "Auditory Beats in the Brain" launched a wave of new research in to binaural beats.
How Do Binaural Beats Work

Binaural tones, also known as binaural beats, are brainwave altering sounds.

A binaural tone can be created by the mind when two different tones with a small difference in frequency are being heard in each ear separately. If done correctly you will hear a beating tone (binaural tone). This tone is the difference between the two tones entering your brain via the headphones and is created by your brain.

So if you would listen to a 220 Hz in your right ear and a 210 Hz in your left, your brain will create a 10 Hz binaural tone. This is in the alpha range which is primarily associated with relaxation (see the Brain Frequency Chart).

As you can see these sounds are not mystical or special in any way. There is actually a very simple explanation for the creation of Binaural Beats.
Brain Frequency Chart

Many studies have been carried out with regard to Binaural Beats to find out exactly which frequencies trigger which response. Below you will see I have listed the 4 main frequency ranges, there are many sub-classifications to each range, which in turn effect the conscious and subconscious mind in different ways. Also the different frequencies can be used together to produce entirely different effects.

<table>
<thead>
<tr>
<th>Frequency range</th>
<th>Name</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 to 40 Hz</td>
<td>Beta waves</td>
<td>Active, busy or anxious thinking and active concentration</td>
</tr>
<tr>
<td>7 to 13 Hz</td>
<td>Alpha waves</td>
<td>Relaxation (while awake)</td>
</tr>
<tr>
<td>4 to 7 Hz</td>
<td>Theta waves</td>
<td>Dreams, deep meditation, hypnosis</td>
</tr>
<tr>
<td>&lt; 4 Hz</td>
<td>Delta waves</td>
<td>Deep dreamless sleep</td>
</tr>
</tbody>
</table>
What is Brain Entrainment

Very simply put the process of changing your brain waves through the use of some external stimuli is called "brain wave entrainment".
Benefits of Binaural Beats

Binaural beats have been used for centuries to achieve altered states of consciousness. With the modern technology and binaural frequency harmonics, these beats have been are now used in audio format to produce profound changes in consciousness and to seemingly enable the average person to meditate like a master in a very short period of time. These beats are being used by people from every walk of life from stay at home moms, practitioners of meditation to top government officials.

Some of the areas helped by listening to Binaural beats include: relief from pain, relief from stress, Curing Insomnia, easier relaxation and meditation.

Some of the interesting side-effects noted by listening to Binaural Beats are: an increase in focus and concentration, increased memory, increased feeling of euphoria, increased IQ, faster healing and a general feeling of increased energy levels.
Binaural beats are now used by many Healing professionals on a daily basis, due to their ability to help clients reach the desired state of relaxation. For example, Hypnosis. Some other areas that have been helped by using Binaural Beats are: Remote Viewing, Telephathy, ESP, Hypnotism, Astral Projection, Past Life Regression,

Because Binaural Beats allows you to achieve an altered state of consciousness in as little at 5-10 minutes many people prefer to either relax and listen first thing in the morning to start the day relaxed and focused. Others prefer using the audios last thing a night to allow them achieve a full night of peaceful relaxed sleep, therefore waking in the morning ready to go.

In many scientific research projects it has beats a few minutes a day can improve your memory and overall IQ. This in turn will bring increased success at work and in your life overall.
Are There Any Dangers?

For most individuals, binaural beats are perfectly safe to use. After all, binaural beats are not addictive or abusive. In fact, as time passes you would have trained your brain to reach certain levels and find yourself using the beats less often. Thousands of individuals safely use binaural beats to influence brainwaves every day.

However, there is a small percentage of the population who should avoid binaural beats. If you are unsure then always consult a medical practitioner before using Binaural Beats.

Before using binaural beats please see if any of the following relate to you:

Do You Suffer From Seizures?
The brain is full of electrical impulses; these impulses allow the brain and body to communicate. People with seizures experience abnormal impulses and seizures are the outcome. Seizures can be identified through the physical responses that occur. Symptoms can include twitching, full body jerking, and even unconsciousness. Binaural beats may trigger epileptic seizures or other types of seizures due to the repeated pulsing of sound and its effect on
Can Children Use Binaural Beats?

Children are at a higher risk of seizures than adults. Stimuli have been shown to trigger seizures in children who have never had a seizure before. Before using a binaural beats on a child, you should check with your medical practitioner. Although TV shows and video games make up the majority of these occasional seizures, it may also be possible that binaural beats could trigger such a seizure.

Can I Complete Other Activities Whilst Listening?

As with any type of meditation, stimulating brainwaves can cause feelings of relaxation and can put you to sleep. Binaural beats should never be listened to whilst driving, or engaged in other processes that require your complete attention.

Can I Use Binaural Beats To Cure My Health Problems?

Yes, binaural beats have been used to successfully treat many medical problems such as serious psychological ailments and other concerns, but only with the use of highly trained experts in their field. Other problems that Binaural Beats have helped cure include taking stimulants, tranquillizers, illegal drugs, and psychoactive drugs. Those with heart problems or who wear a pacemaker should also consult with a medical practitioner since
changes in brainwaves also cause changes in heart rhythms and have the possibility of producing a damaging effect.

If you don't fall into any of the above categories, then there is no reason why binaural beats can't be used safely and effectively to help you reach your full potential.
What Does It Feel Like

Most importantly you will experience something. People’s brains are different so you may experience all or just some of the following indicators.

1. Your body can feel very heavy and you feel as though you cannot move your body.
2. Your whole body feels so relaxed – from top to toe, literally
3. Separation of the conscious and subconscious mind. I have actually heard some people state that it feels like someone else is in control, which I suppose in a way it is, as your subconscious is finally getting a say in things.
4. You may experience very vivid visualizations. Very bright colors and patterns are common.
5. You feel all the stress, tension and anxiety leave your body.
6. Some people claim they cannot feel their body at all, much like being sedated.
As I have already explained, every bodies mind is different so it figures that peoples experiences will differ also. Some people are very open to suggestion whilst others are more difficult. But even the more stubborn minds, after a few sessions using Binaural Beats, begin to experience the effects. This is because the brain is being trained (Brain Entrainment). Your mind gets used to the Binaural Beats and as it gets more familiar it stops questioning and starts accepting.

Totem Pole picture courtesy of www.copyright-free-pictures.org.uk
How To Optimize Their Effectiveness

Here I have listed a few points that will explain how binaural beats should be used and their improve their effectiveness.

The main thing to understand is that it is not necessary to “believe in” binaural beats. Just as you may not know how electricity is produced and delivered to your home, that does not stop you from plugging in your television and watching your favorite programs. The same applies to Binaural Beats, you do not need to know how it works, just that accept that it does.

Initially, pick a Binaural Beat that suits your needs. If you just want one to help you relax then pick one designed specifically for that use. For example, if you have never meditated or used Binaural Beats before, it may be too much if you picked one that aided Astral Projection, because you would have no idea of what to expect. Stick to what you know or are interested in.

Whilst technology is moving on, I still find that the best way to listen to Binaural Beats is through a good quality set of Stereo headphones. Ear Buds work, (like the one's that come with iPods) but are not quite as effective as the ones that fully cover your ears. speakers work with binaural beats, but for
now, you must have a separate feed line to your right and left ears. Headphones are best because they block out all other sound. But ear buds will also work.

Make sure that you are either sitting comfortably, or laying down and will not be disturbed for the duration of the chosen Binaural Beat. Some can be for 5 minutes and some for 1 hour. Whilst listening to Binaural Beats many people claim to feel totally detached from their surroundings. This is a very common effect of Binaural Beats. This is due to the level of relaxation that is achieved, in usually a very short period of time. This is why people are advised not to listen to Binaural Beats whilst driving, operating machinery or any other activity that requires your attention. During the recordings many people experience a feeling similar to detachment. They feel very relaxed and

1Fourth, do not operate heavy machinery or position yourself in a life-threatening environment when you need to devote 100% of your attention and hearing to the task at hand. For example, don’t operate heavy machinery while listening to the binaural beat audio's. Don’t drive a car, because you should not have both ears otherwise engaged when you might need to be listening for sirens or other signals of danger. And finally, most binaural beat recordings include some segments of relaxation, even though the overall purpose of the audio might be to stimulate. Because you do not know where that section is or how strongly it might affect you any given day, be safe.
You can also adjust your frequency of listening to your needs. If you simply want help relaxing on the occasional night that you can’t sleep, you don’t need to set aside an hour before bedtime every night for your beat audio. But if you are wanting to train yourself in meditation or in higher brain functioning, a more regular schedule could produce more significant changes. A quick pick-me-up or relaxing recording make great worthwhile short breaks during the normal workday.

Concentrating on the **beat** has been shown scientifically to increase the desired result. You don’t have to be able to hear it for the binaural beat technology to work. You may, on the other hand, hear a slight wavering tone or a whoosh like the air moved by a fan blade turning across the room. Focusing on trying to hear the beat, listening for differing sound helps.

Finally, try more than one audio. You may achieve better responses to one type of recording above another. Everyone is different and the same law applies to Binaural Beats. What beat works for one person does not necessary mean it will work for another.
Using Binaural Beats to Aid Meditation

Most people know that meditation can bring an expanded consciousness and make one feel more spiritual. While this is great in and of itself, it also has many practical uses regarding one's general health and well being. For instance, did you know that meditation reduces stress, blood pressure, heart disease, anxiety, increases mental abilities, focus, concentration, longevity, reverses aging, relieves emotional problems, and a host of other great benefits? It can even help one to overcome sickness and disease.

One of the major contributing factors to all physical disease, including cancer, begins with one's emotional and stress levels. While prescription drugs and surgery have saved the lives of many people, many doctors fail to take into consideration the root causes of the sickness. The drugs only treat the symptoms of the condition, not the whole cause of it. And without getting down to the root, it doesn't actually "cure" the illness, it merely treats it. There have been many case studies of people healing themselves by clearing away any emotional issues that are within. I'd still recommend going to your doctor for any illness, but also try a holostic approach to healing as well which includes meditation, yoga, acupuncture, natural herbs and supplements, etc.
The supplements in and of themselves have healed many people of extreme cases of cancer, even after their primary medical doctor told them there was nothing else they could do and that they only had months to live.

So with all these great benefits of meditating, why isn't everyone doing it? Well for one thing, people are very busy these days and don't have time (or don't make time) to sit there and meditate. Plus it can take years and years to be able to reap the great benefits that meditation offers. I have been graced to find this technology known as binaural beats which induce deep states of meditation in your brain with little effort on my part. I used to be very anxious and depressed, but this technology has helped me to overcome this and I am generally much calmer and things don't stress me out as easily. I also feel healthier and more creative. All I do is listen to the soundtracks for a half hour to an hour each night before going to sleep (you can even fall asleep while listening and it still has a positive effect) and I feel more relaxed and calm while listening. And even better, the more you expose yourself to this, the more at ease you eventually become and permanent changes take place within you. The best part is that it doesn't take years upon years to notice the positive effects in your everyday living as it does with traditional meditation.
Relieving Mental Fatigue & Stress

Mental Fatigue is caused by unbalanced levels of Sodium and potassium in the brain. Sodium and Potassium are used in osmosis, which helps transport chemicals into and out of the brain.

This fatigue is usually caused by an extended period in the Beta state (active, busy or anxious thinking and active concentration). The quickest and easiest way to balance up the ratio between the Sodium and Potassium levels is to meditate in the Theta State for between 5 – 15 minutes. Theta state regulates the body's release of Sodium and Potassium thereby returning them to the correct levels.

If you are experienced in mediation and can reach this state easily then there is no problem. But most of us cannot enter Theta at will. This is another example of when Binaural Beats can be used. There are many downloadable Theta State Binaural Beats available, or of course you could create your own with some of the free software packages available.
Subliminal Messages And Binaural Beats

I have already explained Binaural Beats, so in this section I will just explain briefly what Subliminal recordings are and why they are sometimes used in conjunction with Binaural Beats.

Subliminal recordings try to train the brain by the use of harmonic sounds and voices. Subliminal recordings do not have any immediate effect and have to be repeated time and again for any effect to take place. Whereas, as I have already explained, with Binaural Beats the effect is immediate.

Some companies are now using Binaural Beats with subliminal recordings. The Binaural Beat gets your mind to the correct frequency for it to accept, without too much resistance, the subliminal message.
Both the conscious and the subconscious minds can work either with each other as an integrated team, or as is sometimes the case, against each other in conflict.

Try to imagine a soldier patrolling around the perimeter of your conscious mind, checking all information that tries to enter. If it has no record of that particular information it will not let it pass through.

Like a gate keeper of the mind.

Binaural beats regulate the brain waves to the desired frequency, which gives the soldier some much needed Rest and Relaxation. Therefore
stopping any conflict between the two.

This is the reason why Subliminal messages appear to be more effective when used with Binaural Beats.

For any suggestions to become effective they have to be accepted into the subconscious mind and Binaural Beats allow this to happen more readily.
Hemi-Sync® is a patented audio guidance technology that works quite simply by sending different sounds (tones) to each ear through stereo headphones. The two hemispheres of the brain then act in unison to “hear” a third signal – the difference between the two tones. This is not an actual sound, but an electrical signal that can only be perceived within the brain by both brain hemispheres working together – Binaural Beat.

Hemi-sync was invented in 1975 by Robert Monroe. He was issued with an original patent in the field of altering brain states through sound. His compelling research became the foundation for a non-invasive and ‘audio-guidance’ technology which we now know as Hemi-Sync, which can produce identifiable, beneficial effects, including enhancing alertness, inducing sleep, and evoking expanded states of consciousness.

The Monroe Institute offer Residential Programs and also Distance Learning programs. Both of these programs include exercises which use specially blended Hemi-Sync frequencies combined with spoken guidance and subtle sound effects to guide you into focused, whole-brain states of consciousness.
As long-time practitioners of Transcendental Meditation, Bill Harris and Wes Wait were familiar with research done in the 1970s establishing a relationship between specific brain wave patterns and a variety of states including those of meditation, super-learning, increased focus and concentration, and enhanced creativity.

After their four years of personal experimentation, during which those in the research group experienced what could only be described as profound mental, emotional and spiritual changes, Harris and Wait decided to create a structured method for using Holosync, and in 1989 they began marketing this program to the general public.

Their initial idea was to re-create, with modern high-tech methods, the meditation experience usually reserved to those dedicated few willing to meditate many hours each day for many years. This program’s main difference to the rest on the market is the use of subliminals.
Testimonials

“Being relatively new to meditation, I started off with the traditional method of relaxing and going inward either with or without soft music. This continued for several months, off and on, whenever I could bring myself to attempt it once more.

Through a forum I attend I learned about binaural beats and read about how they could supposedly influence your brainwaves in all manner of ways. Being curious as I am, I went and looked up as many samples of these binaural beats, picking up some variations like hemi sync, holo sync and subliminals on the way. I must say I find it very interesting and have increased meditating greatly due to wanting to try out all of the different recordings I found.

They have lead to some interesting results, mostly through vivid dreams. I am no scientist, so I have no real measure of what the binaural beats do to my brainwaves and functions, but I found that the use alone puts me in a mental state where I'm more receptive during and curious about my meditations. On some days I try specific beats which claim to have certain purposes and on other days I just enjoy experimenting with various combinations.”

Bianca, Holland