Introduction to Marty Wuttke and Neurofeedback

My guest today is Marty Wuttke. He's a pioneer in the field of neurofeedback and is used neurofeedback as a treatment for drug addiction, anxiety, depression, and PTSD.

He's been doing this for over 40 years and has also helped develop the field with research and study, and also bringing in the whole concept of ancient knowledge, like the Vedas.

And he quotes those extensively in his writing. His website I'm a spell this for you. So got your pen handy. This is a test. your first test of medi. in the next hour of the show, the the way you spell his website is w t t k e latka w u t k e ip.com.

And his book is called The Brain Sutras. Keys to the Revealed consciousness. The brain. Citrus. Keys to the revealed Consciousness. Marty, it's a pleasure to have you on the show.

The pleasure to be here. Thank you. Dawson, I appreciate your invitation. Yeah. And I had a blast. I actually took the book with me on a retreat and was sitting by the ocean after meditating for a whole morning, giving myself the luxury of a morning.

You can't do that. And usual busy work day. But when you get away for a you that these long periods of meditation. And I then read your book and it had so many nuggets of truth in it for me.

So we'll get to the book. We'll get to those, concepts from the world's great wisdom traditions. But let's start out with where you came from, which is neurofeedback, because you were doing that a long, long, long, long time and realizing its power for, for, for transformative change.

And you mentioned that, which I didn't know, that Hans Berger, who invented the EEG in the late 1920s, actually was a follower of Spinoza. So I'd love to know your entry points into neurofeedback and that whole part of your background.

Before we get into the, other parts of what you talk about in the book. Okay. Awesome. Thank you. My entry point was, actually a little bit like Hans Berger.

He was really interested in consciousness more than anything. And many people in this field actually have that entry point. But mine, goes all the way back to my teenage years, when I, lived in New York and, went through a heavy duty drug addiction and through that whole nightmare experience of, treatment programs and so on, overdoses.

And finally, what happened was in a in when I was 21 years old, in 1978, I had a spiritual awakening, a spiritual awakening and experience, and, you know, it only lasted maybe two minutes, as far as I can tell.

Spiritual Awakening and the Origins of His Work

And, but it it turned everything totally around because I was at a point where, you know, I was either going to end up getting shot or end up, you know, overdosing or whatever.

And so I surrendered. And that spiritual experience came in, you know, it was a moment of, profound love, compassion, forgiveness, all those, you know, this isn't unique to me.

Obviously, this happens to a lot of people who are, you know, suffering at certain stages of their lives. So that, that made me realize that, that, you know, not just me, but we're all here for a reason and a purpose, and I needed to

find what that was.

And, you know, it was pretty obvious to me. Well, I went through this horrible addiction. I need to try to help other people, move away from this, this nightmare experience. So, I was, a good in need intelligence.

So I went back to, college, and I decided that chiropractic, was a good, way to to find, you know, channel this healing energy that I had. So I moved from New York to Georgia to attend chiropractic university.

And after about a year, honestly, my spiritual quest was so enormous, that I found, my spiritual teacher in Atlanta. He was doing a lecture, and it just so happened that he had a yoga retreat center, an ashram just two hours north of Atlanta, up in the North Georgia mountains.

And, it was a yoga retreat center, yoga philosophy, yoga, meditation. So I moved there, and I spent a couple of years there working, doing sort of a semi monastic life, meditating many, many hours a day.

And one day I was in the local, town, Clayton, Georgia, and there was a psychiatric hospital there. So I decided to go for two. I went for a tour and I met the medical director and he said, who are you?

What are you doing here? And it was a treatment center, so it was drug and alcohol. post-traumatic stress disorder. And he he asked me, would I be willing to come in and teach meditation to the patients?

So I did that. After about two weeks, the patients reported to him that they were having profound experiences. So subsequently, he asked me to come on staff and asked me to design a program for them.

So my, you know, I was what my intention was, was to help other people, you know, not have a spiritual awakening, but at least discover their own spirituality.

You can't make anybody ever spiritually, but you can sort of, you know, prepare the soil and nurture it, so to speak, cultivated. So he said, yes, absolutely.

design a program. I realized, though, as I began to research meditation, that, the key was the brain, that it's the brain that really changes in meditation.

And, there was some research out there, and this was in the early 1980s. And everything you said in your introduction goes back to this. What do you, you know, how do we change these pathways in the brain?

We change it by monitoring our input, and then also putting good stuff in the brain. So meditation seemed to me to be the key, but I had to, lend some scientific credibility to the meditation process.

Again, this was the early 80s. Nobody was really using, you know, now meditation meditations everywhere. But back then, especially in the North Georgia mountains, it was it was unknown.

So, I went to the Menninger Institute, studied there, went to the Himalayan Institute, studied there. And I decided that brainwave biofeedback was this new emerging field, also called neurofeedback, and that we could literally teach the brain how to change through this technology.

So we added it to our treatment program, and we had, so the the patients who were there in the hospital not not only went through their traditional treatment program, but they went through neurofeedback.

And the results were profound very, very quickly. So I did that for 17 years. And the experience was, you know, invaluable for me. It was such a powerful learning experience.

I could treat patients and then literally see them change. And I had an entire staff, nurses, doctors, counselors, psychologists, psychologists, and I got instant feedback about how it was working.

And so I developed protocols for many disorders that were not yet being treated with neurofeedback, depression disorders, anxiety disorders. And, after those 17 years, it it the science and the technology kept, developing.

And like now it's it's light years beyond it was 40 years ago. But that that was my entry point. Then after I left the hospital around mid 1990s to late 1990s, I went to Europe, started teaching in Europe, trained many, many practitioners in different parts of Europe, came back to Georgia and then ended up here in Central Coast, California.

Santa Barbara had a big institute here and three people from all over the world. And my goal and objective has always been the same. It's been this sort of helping people to, realize their their own innate divine potential and then to draw on that for their healing.

I work with the criminal justice system recently, we had a big project, 360 parolees, in the California Department of Rehabilitation asked me, can we reduce the recidivism rate?

These guys are, you know, ending up back in prison within a year. The numbers the percentages are very high. So we started a project. Unfortunately, Covid put that on pause, but we're seeing if we can reactivate that.

And we were getting very good results with that to so you know, my my goal has always been this, you know, because meditation is a neurological process.

These people thousands of years ago who gave us mantras and meditation techniques and pranayama and all that, they knew what they were doing.

Meditation, Brain Change, and Ancient Wisdom

They knew the brain had to change in order for the individual to experience what is really behind the brain and what is running the brain. Yeah, I. Continue on that path. Yeah.

Yeah, we get into that more and I just want to go to a slight tangent over here, which I think will be interesting to many of our listeners, which is this, freak and coexistence of co-occurrence of addiction and spiritual awakening.

And I'm sure, you know, the literature and psychiatry that psychiatry up till very recently, in fact, the bulk of psychiatry still regards spiritual awakening experiences as psychosis and lumped into the same category.

You know, you're hearing voices, you're seeing things, you're having experiences, out-of-body experiences. Well, let's let's lock you up, medicate you.

it's. Unfortunate, that that's tends to be the attitude. But, you know, young, communicated closely with Bill Williams, the founder of Alcoholics Anonymous.

And they both came to an agreement that addiction was just a perverted search for enlightenment. and, you know, this notion about psychosis, that's, you know, that's I think that's psychotic, frankly.

I think that's so off the mark of what actually happens. so, you know, the the you cannot argue with the profound changes that occur in people's lives when they have these spiritual experiences, spiritual awakening experiences, across the board.

And, you know, the, 11th step of Alcoholics Anonymous is about spiritual awakening. So, I just keep going back to that. I don't argue with anybody who thinks, you know, we're all being psychotic if we meditate.

Yeah, yeah. and I just wonder how many of those people who are in those addictions treatment centers. it began maybe it began as a spiritual awakening, a very difficult one.

I watched a documentary movie recently called, awakening proud. And, it was about people that had waiting

experiences, and it was so interesting to watch the movie.

And they they began to have these, all of these were spontaneous awakenings, usually like the one you had when you were 21 years old. And, usually they had a great deal of difficulty integrating them.

many of them were diagnosed, many of them were medicated. And, some of them actually did turn to addiction. So I just wonder how what percentage of the of the the population that winds up in addiction treatment began, as you say, with that perverted quest for enlightenment.

And then somehow it just got, diverted into the those channels. So it's kind of a just a side inquiry. I don't think there's ever been a study to analyze that, but, I suspect that that's actually quite a high percentage of people who who began in those elevated states.

I mean, we know that some of the early, early really great teachers, I mean, the floatation tank guy, John Lilly, he was taking ketamine and being this flotation tank and experiencing altered states and, well, there's no doubt that, in, in the preliminary stages of the awakening process, a lot of integration has to happen.

you know, a qualified individual needs to help that person through the process and let them know that they're not going crazy. But, you know, it also requires somebody who has been through the process, somebody who is already awake, that that I mean, a guru.

That is the ideal guide. If you can find one. So, I don't know what the percentages are. That's an interesting question, Dawson. I would have to look into that a little bit.

So, picking up then with realizing that that neurofeedback is powerful, that, brain changes in meditation. I think now we're starting to understand how much now fast the brain changes in meditation.

In one randomized controlled trial I did, I compared people doing a really physiological form of meditation with a control group doing mindful breathing for 30 days.

And, and, after 30 days, we saw dramatic functional connectivity changes with our mid prefrontal cortex to basically shutting down. And our insula, which is a seat of compassion, gratitude, pro-social emotions was totally lit up.

And this that's up to 30 days. I mean, when I showed those scans, those composite scans of the experimental group to neuroscientists, they were like, oh, well, we know what these are.

These are Tibetan monks with with 10,000 hours of practice. And it's like, no, these are just Joe blow off the street that, that have done this, this effective meditation for 30 days.

And it's really changing their brains. It's just remarkable how quickly our brains can change. Yeah, yeah, yeah, there's no doubt. you know, meditation is, self-directed neuroplasticity.

And just like, you know, anything, anything that we do with our brains habitually is going to, do several things. It's going to the brain is going to devote more real estate to that particular emotion or thought or behavior.

And, and those areas of the brain do get bigger and more robust. It might be I'd like to pick up again on something you mentioned earlier, which is that these ancient meditative techniques are actually able to change the brain and that these ancient, sages who developed them, they didn't have MRI as they had no EEGs.

They couldn't measure gene expression or salary cortisol, but they knew what they were doing. Now is do you suppose that all happened all those millennia ago?

well, from what I understand, you know, this a lot of this came from the riches, at least in the Vedic tradition. The Ricci's, Ricci means seer. So they their laboratory was their own mind and consciousness, their own bodies.

And they, basically were realizing internally what was working. And I always like to cite, the eight limbs of yoga. And many people out there probably heard of that and that, that if you look at the structure of the eight limbs and the the hierarchy and how they successively go from one level to another, you see that it's it's a neurological process.

So, you know, the eight limbs begin with, the arms or the restraints or like the moral codes, the Ten Commandments, or most. And essentially what that begins to do and what we measure begins to quiet down the limbic system, the primitive area of the brain.

Why is that important? Well, because if that part of the brain doesn't quiet down when we begin to activate higher states of consciousness in higher areas of the brain, that part of the brain will get in the way.

It can sabotage the whole process, actually. So the yamas were very important. And, and these, these Rishis knew that that had to begin to straighten out people's, moral character and behavior before they could go to higher and more advanced techniques.

Then came the need hormones or the, the, observances or restraint, you know, purity and so on. So it was about purifying the body and then moving on from the next thing is what most people think yoga is, and that's the postures.

The yogic postures. Awesome is. And that is basically to to get the body to become more flexible, number one. But the more flexible and resilient the body becomes, the more we can move to deeper levels of the mind and brain and consciousness.

Bessel van der Kolk has a wonderful book called The Body Keeps the Score, and that's quite literal. Our body keeps the score of everything that has ever happened to us, and it could be a bad score, it could be a good score.

So it's extremely important to pay attention to the body and how it has accumulated trauma, memory, stress and so on. So the next step in the eight limbs is pranayama or breathing techniques, the control of the energetic.

And that is again that helps to integrate the sub, the previous steps. then prior to your horror or sense withdrawal, learning how to to to pull the senses within instead of then constantly going out and being involved with the outside world.

And then we're ready for focus, concentration, the next step in the eight limbs. then it then and only then are we more or less ready for the meditation process.

Then the final stage of the eight limbs is somebody, somebody, is a Sanskrit word means absorption, and it means absorption in that divine awareness, that infinite intelligence.

But all those preliminary steps are quite important. We just can't buy it. I mean, people try to bypass it all the time with LSD and other hallucinogenics usually doesn't work if you don't clean up your act things.

The Eight Limbs of Yoga and Samadhi

It's like, I had a teacher once put it this way, he said higher states of consciousness, like sunlight, intensely magnify him in sunlight will shine on everything.

It doesn't matter if it's a weed or if it's a flower. It's going to shine and everything and everything is going to get energy of growth. So in that sense, we have to make sure we've weeded out our garden and, straighten things out as best we can, straighten out our energy, and then we can approach these higher states of consciousness.

Otherwise it's it's like, you know, thousand watts going through a 40 watt light bulb. Think these, these, these rishis knew exactly what they're doing.

They knew the the stages of development needed to be, how they needed to progress so that people could be led to these higher states. Yeah. And all those preparatory steps are essential as you start to move into those states and again, without them.

And like this, a lot of emphasis now on, psychedelic assisted psychotherapy. And so people are able to get what the service called the glimpse, the glimpse of heaven, the glimpse of their transcendent state.

And then they aren't able to get there without it, without that substance. And so, that's the irony of those, substances. They opened. What? I think it was Aldous Huxley called the the lens of perception, the doors of perception.

And then it's like, well, okay, you up the doors, got a glimpse. What do you do now? How do you get one by yourself? Yeah, for sure. It's quite popular here in California.

I work with a few physicians who, you know, use it. And I think it's medicine of the future, when it's understood and used correctly. But, you know, you you pinpointed exactly what the problem is.

So do you have to, you know, do an ayahuasca ceremony every weekend in order to, you know, have this inner communion? Well, you know, we prefer not to is probably not a good thing for the nervous system.

So anyway, that it's out there, it's become quite popular here. But, I think, you know, those of us who are paying attention, those that know that there's other ways.

So let's look now at this whole experience of that final stage of samadhi. And perhaps a good entry point might be rather than to look at Patanjali or Ramakrishna or one of the other sages.

Let's ask you, Marty, what those states looked like and feel like to you, and perhaps after your first 21 first experience at the age of 21, how you began to and when you began to be able to move there in a reliable way?

well, at first it required, tremendous surrender on my part. I was at a point in my life where I was virtually homeless, physically falling apart and, so complete surrender, you know, a complete, giving up of of ego.

And that's, that's really what led me to the, the first experience of that process. And, afterwards, when I learned meditation, I learned, a type of yoga, which is becoming more and more popular now because of a couple of movies called Kriya Yoga.

And, that was brought over here to the US in the early 1900s by Paramahansa Yogananda, who wrote the classic, autobiography of a Yogi. So that appealed to me because Yogananda said, you know, back in the 1920s, that literally there's a recording of the brain and the spine is the pathway to God.

And I thought, how interesting, what a thing to say. And he said, Kriya Yoga is a scientific method to experience God realization. So that's when I found my teacher, who happened to be, the last living, one of the last living disciples of Paramahansa Yogananda had lived there.

That Self-Realization fellowship in, in, Mount Washington. So Kriya Yoga is a technique of, for withdrawing the nerve energy, bring it into the spine and up through the spine and to the, to the crown.

And if there's a physiologic basis for or physiologic point for accessing these higher states of consciousness, it's definitely up here in the higher centers in the brain.

So once I learned how to do that from my guru and then practice the the various, specific technique, I was able to, you know, consciously go into those states and what are they like?

You know, it's the most natural because it is it's your natural state and that and it's a, you know, some people get annoyed, because most gurus or teachers will says, you're in it already.

You just don't see it. There's a veil in the way, the end. And so it's it's the most natural state. And you mentioned, Ramana maharshi and some of these other saints.

He, he especially he said you're already there. Quit searching for it. Just give up the notion that you're separate from that. And now we know that when we go to sleep at night in those first 3 or 4 hours and we go into the deep delta sleep and Ramana maharshi was very famous for saying that you go into samadhi every night.

That's that's what happens. You lose your sense of self, your ego, even by self, that's what I mean. Ego. And you gain your universal self in that state.

So we go and we have to, you know, we have to go into those deep sleep states in order for the body to rejuvenate, because that's when we tap into that universal consciousness and get regenerated.

So, it is it is the most natural, natural thing in the world for us where we're, we're, you know, and it again, sounds annoying, but whether we know it or not, there's always a part of us that is in that it's the, it's it's that, you know, we hear it we described as the witness, the observer that part of our consciousness that is not our mind, not our body, not our emotions, but is working through that.

All of those things are just the vehicle for it. And it's one consciousness world. Just we are all that consciousness. We look different, we sound different, we act different.

But every every one of us, every animal, you see, everything that has life is that. And you know, as you progressively enter into those states, more and more, in Ramakrishna, this book, The Gospel of Ramakrishna, he has a very interesting experience.

When he was in the temple, the Kali temple, and suddenly he realized that everything was consciousness. The water bowl was consciousness, the window was consciousness, he was consciousness.

The, statue was conscious. It's all just consciousness, which, you know, guess what? Now the quantum physicists are telling us the. So, so I think, I think we need to demystify these states and realize that, we're always in them, or at least we always have the potential, to really, experience them.

It just requires surrender and and sort of a shift of perspective. Yeah. And then the ability to do that is, critical. Again, you mentioned there all those preparatory steps and then a lot of people find that it becomes easy with practice.

So you do it one time. You may have that one illuminated experience. So you know, there's there there. And then you practice. You are gradually improving your ability to get there.

I'm sure you see that on brain scans too, that people can enter that, that state. What do you what do you what do you give a name for that state like, Max Maxwell Cade called it the Awakened Mind.

Yeah. yeah. Yeah, he. He he described it as a, a relationship between the different brain frequencies. and, and we've we found that as well. and this goes back to what I said earlier.

The limbic system has to quiet down from us, in a certain sense, have to go get into the background because they're just creating a lot of static. But it would appear that it's the higher brain frequencies, what we call gamma, that, that seemed to be the key.

Now that doesn't mean you can just create more gamma in the brain. You're going to be enlightened. In fact, that usually backfires.

Breath, Heart Coherence, and Trauma-Sensitive Practice

You have to do it again. Maxwell. Katie. So that there was a relationship between all of these different frequencies,

there had to be a certain balance.

And then he correlated, these different ratios or relationships to different states of samadhi. There are obviously some ideas, just not purely absorption.

There's never been somebody, this subgroup of somebody. So there's different societies. and, and they do all correlate with with specific brainwave frequencies and brainwave regions.

So but you're right. The practice, you know, the practices are essential to get the brain into the right zone and over time, as I said earlier, meditation is self-directed neuroplasticity.

Every time we meditate, we're utilizing this profound principle of neuroplasticity and then guiding it to higher states. Yeah. And the beauty of it, too is just practice that it's, brain function.

And after you do that, enough, then the brain, literally the hardware pathways are different. And, one of my favorite book titles is a book by Richard Davidson called Altered Traits.

And he talks that book about how we begin by having these states elevated states of samadhi, and eventually they become traits. We've just had enough firing and built up enough wiring to where that is literally our default mode of being in our brain.

There's no law there. No longer going back into the the caveman brain, into the stress mode, into the limbic driver that we've had before. We're simply able to enter those states that becomes, are our default trait.

And that is a big change. And so that's why I think what I want you to take away from this, as you listen to Marty and I, is just consistency of practice.

Just do it. Keep on doing it. There are days we have great meditation these days where you think nothing's happening. Just keep on persisting. And every one of those times you're firing your wiring and eventually you're laying the neurological groundwork for that kind of shift into those states.

Marty, one question that people often ask is about meditation styles. There are so many meditation styles. The Max Planck Institute in Germany differentiates them at about four.

In my book list brain, I actually identify seven different styles of meditation. So schools of meditation. And the big question is that some of them we know produce really rapid change in the brain.

What what is going to get you there quickest in your experience? in my experience, techniques that have to do with breath awareness, you know, the breathing patterns and, you know, how rapidly we breathe, how we breathe, and so on is intimately connected to what are mind is doing and what our brain is doing.

And most meditation techniques incorporate some kind of breath awareness or breathing technique. So I think that that that's the key. Now, you know, you can tie different things into breathing patterns.

Like, most people are familiar with mantra. TM uses mantra, you know, Sanskrit syllable with innovation and with exhalation. But we know that, that it doesn't have to be Sanskrit.

It doesn't have to be mystical. It can be any, attractive word or phrase that the meditator chooses. The key, though, is this practice of, you know, every time the mind is distracted, it runs off to tangential thinking is to keep bringing it back to the breath, back to the mantra, that in my experience, has been the the most effective, meditation process that I've learned.

And I've taught I taught that in the psychiatric hospital for 17 years, not only to the, the patients that were in the hospital, but the whole staff used to come to morning meditations just before lunch, and it was very effective.

This was a, people from all walks of life, all types of addictions and so on, and everybody could do it by the time, their inpatient stay was over. then their, you know, their more advanced breathing techniques.

And I would, you know, I caution some people about some of them that are out there now because they can be very activating, you know, literally activating the sympathetic nervous system, which you really don't want to do.

But there is a book called The Mystical Mind, which does, in fact show this paradox that certain higher states do have a sympathetic, activating component and a parasympathetic, a deeply relaxing component, which is paradoxical, but it seems to be a key.

But in the beginning you really want to focus more towards this parasympathetic what Herbert Benson coined, the relaxation response. That is the key in the beginning of meditation. So, it is, you know, to bring it all together.

It's it's a natural process. The, you know, the sages tell us that there's a part of us that knows exactly how to meditate if we just follow, these essential keys.

So breath awareness mantra if we need. And then I always, recommend to people if they have the characteristics and personality for it to have some kind of devotional, component to their meditations, whether they have a picture of a flower or a candle, whatever.

you know, not to get into, into strange things, but the heart has to be involved in the meditation process. the heart is opening is essential in the heart.

And the brain have a two way communication channel. you know, I'm a big believer in heart mass and heart rate variability. I think it's a it's another very important tool for the meditation process. So, so again, just coming back to, I think, breath awareness, certain breathing techniques, alternate nostril breathing is an excellent preliminary to meditate on, and it helps to clean out the channels and balance the hemispheres in the brain.

So that's another very good one. Yeah. All of those things together are good. the heart math. director Roland McGrady, the science director, once told me that they find that when people are in heart coherence, they induce heart coherence, and then they meditate.

They drop out of heart coherence. I've always been curious about that phenomenon, that meditators drop out of high experience. I've ultimate people up, but I've found the same thing is true.

I didn't believe Roland at first, so I looked people up myself and did did the test. And it's absolutely true that people drop out when they're meditating.

So I think that, the breath actually the right kind of breath actually is more likely to keep you in coherence when you're meditating. Yeah. Yeah. I don't know what the implications of that would be, but, I will occasionally recommend, heart rate variability or a heart mask to some people, but, you know, and then then again, there are people and there's even been studies that report negative experiences with meditation and who those people generally are or, people who have a lot of trauma in their history.

For instance, we worked with, as I mentioned earlier, the criminal, correctional, department. And, you know, you're, you're risking, some real reactions when you ask somebody with a lot of unresolved conflict, and behavior and shame and guilt and so on to close their eyes and quiet their thoughts.

What's the first thing that happened? All kinds of memory and reactions tend to emerge. So for those people, we do walking meditation. We do working in the garden, meditation.

We, you know, they're even now, which is remarkable at some prisons, they're using, therapy dogs, they're having the inmates train therapy dogs so they get this big, big boost of, oxytocin and start empathizing and having compassion and so on.

And that's a that's a real important key for those guys. And eventually they can learn how to actually close their eyes and experience the meditation process.

So, so. do it, you know, movement, qigong, tai chi, all those are good moving forms of meditation. Yeah. So that's the one qualifier is that if you're if you have trauma, then you want to make sure you use it for meditation.

That's appropriate to that. Why do you I'm so grateful for your work. Thank you so much for sharing your insights. Thank you for everything you do. Thank you for everything you are and your generosity of spirit and information.

Your your love for people and for this work shines through. I'm grateful you're doing it. Thanks again. Thank you Dustin, pleasure to be on your show.

Till next time, be healthy, be happy. Love yourself. I'll see you then.