

## Session 3 – Senses and Mind

January 26<sup>th</sup>, 2014

Jai Swaminarayan! Sahajanand Swami Maharajni jai, Bapashreeni jai, Sadguruoshreeni jai, Swaminarayan Bhagwanani jai, tatha anant anadi muktoni jai!

A humble prayer in their lotus-feet and our Guru AMPP Mama-Masi's lotus-feet to augment this assembly with their divinity and grace, and to enhance our knowledge and guide us towards them.

Last week we talked about Caste system, and then continued talking about types of bodies and different states of mind and their origination. Last week I made two sleep-of-tongue mistakes – there are 4 inner organs not 5 and Turyavastha is effect of not MulMaya. I wanted to apologize to the sabha beforehand as I am not keeping well. Nothing major. But because of illness, I may be a little disoriented during the session.

This week we will continue talking about senses, quintessence and inner organs. So let's get right into it because there is a lot we can talk about. It is quite evident what the 10 senses do. Shreeji Maharaj has explained in Gadhada Pratham 12<sup>th</sup> Vachanamrutam that it is the nature of the senses to indulge in their pleasures and activities. There is a lot of literature available around senses and how to control them. Shreeji Maharaj has also mentioned that mind and senses can become bullies for the soul if they are not controlled. Here is where I would like to spend some time today – Why control the senses? And What does control mean? How, to control senses as I said a lot of information is already available and it could be a topic in itself. So let's first start with "Why control the senses?"

Senses are resources given to us to achieve what we wish and desire. If we do not use them appropriately and use them for other purposes or do not completely utilize them, we would be wasting the resources given to us.

Let's continue with our laptop example. For the laptop to function properly all its components have to be connected to each other, and they should perform the tasks they are supposed to perform. What if the keyboard chose to type A whenever we pressed B? Or display did the same thing? Or what if each component of the laptop did its own thing? Will we be able to achieve anything through that laptop? We will have the laptop, but if we cannot achieve anything with it, what's the use?

Let's take another very different example. History is another topic of interest for me and I am sure everyone has heard about John D. Rockefeller. In 1800s there was no electricity and no petrol or gasoline. Homes used kerosene lamps. Rockefeller had his supremacy on the market. Kerosene came from crude oil. During the production of kerosene from the crude oil, there were more waste from the crude oil, than kerosene itself. This waste was extremely volatile and was thrown away in the river. It was so volatile that the river once caught fire. Then came electricity and though in its infancy, it started threatening Rockefeller's empire. Rockefeller had to find innovative ways to harness more and more power from each barrel of crude oil. He learnt how to tame that volatile waste – the by-product,

and put it to good use – we use that product even today – The gasoline! For years he threw it away in the river as a waste material, and did not harness the complete power of crude oil. But eventually he did. Had the power of crude oil not completely harnessed to extract gasoline, it would have been such a big waste of world's one the most expensive and valuable resources! Now this is something external to our body.

Now let's take this example and bring it to ourselves, and our own valuable resources. The same thing happens with the resources given to us if we do not harness their power completely and for the right purpose. Or if we do not make them work as they are supposed to. And therefore the need to harness the real power of all the senses rather than wasting them away. So the simple answer to why we should control the senses, is to harness their power and to put them to good use.

So now, coming to what does control of senses mean. We have understood that we need to control them, but what does control mean? Control is a word that is widely misinterpreted in spiritualism. Some believe in letting the senses completely loose to pursue their interests, thinking someday the senses will run out of steam, and it will be possible to control them – which is an extreme Rajasik or Tamasik path – the way gasoline was being wasted away in the river by Rockefeller initially – they just let it flow away with the river. Some believe in extremely arduous penance and suffering for the body and senses. That is a Tamasic path. This is equivalent to making extraction of anything – kerosene, gasoline, etc. too difficult for it to bring out any worth. So, control does not mean holding the senses back with reigns but it means diverting them towards the right purpose. Making good use of them. Shreeji Maharaj has explained in Gadhada Chhelu prakaran, 32<sup>nd</sup> Vachanamrutam that harnessing the senses is a gradual process and cannot be done by immediate unthoughtful measures.

To understand this concept of diverting, let's take example of another engineering feat – late 1800s and early 1900s was the era of engineering achievements in the United States, and one such engineering feat was the building of the Hoover Dam – or for that matter any other Dam is built in a similar way – its just that Hoover Dam was a huge undertaking. It is built on Colorado river whose tremendous force has carved the spectacular Grand Canyon. It was built over 5 years, but actual Dam construction lasted for only 2 years. The first three years were spent in creating a divergent path for the river to make room to create a Dam. These 4 channels in themselves was a humongous undertaking and they are being used even today to protect the Dam from overflowing. It took 3 years to complete those channels and once they were ready, they were opened up to divert the water of Colorado till the Dam was built. Once a Dam was functional, those channels were closed, and the Dam started putting the water in Colorado to a great use for millions of people. Earlier the water was just being wasted. Any dam is built in a similar way. Even the road repair work in the US is done in similar way – build a detour first and then repair the road. When we have understood this simple truth in engineering – that we need to divert the tremendous flow, before it can be harnessed and used for the right cause, why don't we apply the same principle for the within, for the inside, for our own self? We need to divert the flow of the senses from their respective pleasures, before we can put it to use for a greater cause. The key is to slowly associate all the senses with the Lord, i.e. give them a diversion, and then gradually meditate and build internal resilience, i.e. build the Dam. That is what the control of the senses means. It does not mean for us to take all those Rajasik and Tamasik paths.

Once the senses are controlled, the senses and mind can be used as allies in spiritual progress. Shreeji Maharaj has mentioned in Gadhada Chhellun Prakaran 6<sup>th</sup> Vachanamrutam that Mind is an ally if it is used appropriately. In business, when we are building alliances, we want to arrive at a win-win solution. The solution that provides both the parties involved, a winning position. So what is the win-win in harnessing the power of the senses? The win for the spiritually inclined is that the soul is able take itself on the spiritual journey. The win for the worldly pleasures inclined people, mind and senses is that they get a calming and gratifying effect, are able to work in harmony, and achieve more with less effort. This can lead to greater worldly returns. So even if one does not want to walk on the path of spiritual progress, harnessing the power of the senses and building internal resilience if helpful in worldly progress.

Having talked about why control the senses and what does control mean, we will not spend a lot of time on how to control senses, since it is a topic in itself, and we can take it offline and if there is enough interest, we can take separate interaction on it sometime. Let's dive a little bit into some interesting scientific researches on how senses work. There are nerves connecting the physical senses to their centers in the brain – so in our cortex, there are centers for hand movement, leg movement, vision, taste, language, etc. When we see something, the organ that is the eye, is used to convert the visual and light signals into electromagnetic signals which in turn are sent to the seat of vision in the brain through optical nerve. So though the eye is doing its job, if the center of vision is not paying attention to the signals received, we may not actually see what is right in front of us! In Vachanamrutam (I could not locate the number, but I remember), Shreeji Maharaj has mentioned that the senses have their niche place and that's where the actual pleasure is experienced. He has called it "Indriyona Golak." So maybe He was referring to these brain centers.

When I was in my late teens and learning these things, I always wondered why is there a distinction of 5 senses of action and 5 senses of perception? Why not just call them 10 senses? Yes, the logical description is that 5 senses of action are related to actually doing something physically and five senses of perception are about perceiving something. But I always wondered if there was something more to this distinction or the differentiation? As it turns out, senses of action cannot morph/transform into doing the task of other sense of action – at least not as we know it today. So the tongue cannot do the job of a hand. Whereas senses of perception can help each other. There are experiments going on for blind people to see through sound. That is ear helping out vision. There are experiments to implant chips for a deaf person to hear or a blind person to see through electromagnetic signals. I have worked with one such person had lost his ability to hear & speak, but could hear with a chip implant in his brain. But unfortunately, his disability with speech could not be cured in a similar way. So if the brain center of a sense of perception is functional and it is only the physical organ – like eye or ear that is dysfunctional, science is finding out ways to fix it. This can be done with senses of perception but not with senses of action. So in Hinduism, there is already a distinction of the senses of action and perception! As I mentioned the scriptures tend to cater to general audience and do not go into the details, but it is interesting that this distinction was already made in Hinduism.

The other distinction between senses of perception and action is that senses of perception are tied to 5 quintessence. 5 quintessence are part of the 24 elements of body. Ear is tied to Sound, Skin to Touch,

Eyes to Vision, Tongue to Taste, and Nose to Olfactory. These quintessence are the subtle form and cause of the 5 senses of perception. The quintessence are also known as the five pleasures. That is what we eventually experience. We experience the quintessence as a pleasure through the five senses of perception. Someone had once forwarded me a YouTube link that showed that the Sanskrit hymns, whether they are spoken as hymns or as western rock music, have a soothing effect on the brain. There is even research done to show that even if a person is deaf, the vibration of Sanskrit hymns soothes the brain waves of that person. Now, that, is an evidence of presence of the Sound quintessence! Because even if you cannot hear it, since the quintessence exists, it has an effect on the brain. And this is just one quintessence, but I am sure science would gradually uncover similar things about other quintessence. Sanskrit language therefore could have possibly harnessed the power of Sound quintessence. It is said to be the language of the Dev's and is said to have originated from VairajPurush. The four languages/speeches from Vairaj Purush are described in Sarangpur 12<sup>th</sup> Vachanamrutam and the 5 quintessence in Sarangur 14<sup>th</sup> and Gadhada Pratham 12<sup>th</sup> Vachanamrutam. AMPP NarayanMama has mentioned in one of his speeches that science will progress so much that it will be able to capture sound from the past and generations of the future will be able to hear Shreeji Maharaj's voice. The sound energy therefore does not get destroyed and has a life greater than we think.

However, quietessence, like senses has limitation. There are spiritual strata beyond those limitations. There is an incident from AMPP NarayanMama and LeelaMasi's life that are worth remembering. Once an educated lady Satsangi asked AMPP NarayanMama that Mukta are beyond the 24 elements, hence they must be beyond languages. The barrier of language should not apply to them. Therefore, if I ask you a question in French, you should be able to answer in French. AMPP Mama responded, "Indeed." So she asked PP NarayanMama a question in French and he responded in French! He had never learnt or spoken a single word in French before. So Mukta can speak any language, but they respect each language and speak in only one language at a time. Today we tend to speak multiple languages together. Especially multi-lingual people like us, tend to mix all the languages we know during our conversation. So there is another example I thought was relevant. Once a Satsangi lady was talking with AMPP Leelamasi about color of vagma for Bhagwan. AMPP Leelamasi always spoke in unpolluted Gujarati language. This satsangi lady kept referring to Masi's "gulabi" color as "pink". So after sometime, AMPP Leelamasi said, "Gulabine shun, pink kahevaaye?" "Ha Masi." "Ane vadadine blue?" "Ha Masi" "Kesarine orange?" "Ha masi" and Masi translated all possible colors for her and then said, "I studied in English medium, but when speaking Gujarati, once should speak Gujarati."

So along these lines, let's introspect our language and find out how much we respect each language and try to communicate in just one language, in its pure form, at one time. It just occurred to me that if the kids and youth who join the telesatsang, can may be have small religious write-ups in purely one language, and share their thoughts in the tele-satsang on 16<sup>th</sup> February, if we are having one that day. It is AMPP NarayanMama's birthday and what better gift can we give him? This series belongs to the kids and the youth and it will be great to have them participate in it as well! The write-up can be about anything or anyone, but should be of religious theme. Again, this is just a thought that occurred to me few minutes ago, and is simply a suggestion. It is up to the Satsang sabha if we want to pursue it, and we can decide in another week or so if we want to do it.

Coming back to our conversation on quintessence and senses, and the scientific discoveries around it. In software, when there is a functionality related bug, so the software is supposed to do one thing, but it is doing something else, it many-a-times gets sold a feature. So a common joke we use is “It’s a bug, that’s a feature” or “It’s not a bug, it’s a feature”. There is something similar that a scientific discovery has done for spiritual people like us. Some people are known to have a condition called synesthesia where their senses of perception are all mixed up – so they can taste what they see or hear. While it is a condition is a bug that needs to be cured for human body to work as designed – this bug actually points to feature for those who are into Hinduism. AMPP Narayanmama used to say that when we get the divine bliss, the pleasure of all the quintessence is experienced together all at once in its entirety by the soul. Some of us find this hard to understand and digest. But if we think about it, it is similar to the condition of synesthesia. So synesthesia actually tells us that yes if this can happen in this limited physical world, why can’t it happen in abundant divine world?

The other interesting thing about senses is that when senses get conflicting information, one sense overrules the other. For example, there is a famous experiment with beeps and at the same time the picture in the front flashes. The beeps and the flashes are not synchronized and one is asked to count the number of flashes. Invariably, people end up counting the number of beeps. So it is sense of sound – ear overruling the sense of vision or eye. That overruling happens in the brain, not in the organs. There are similar experiments done with blue strawberry juice, where the sense of vision overrules the sense of taste. So the senses of perception have a limitation that they cannot assimilate conflicting information and do not function well beyond a certain point. If we could assimilate conflicting information, then the need for one sense to overrule another would not arise. And this limitation is not just of the organs – like ears cannot hear outside of 20Hz to 20,000 Hz, or eyes cannot see microscopic things, but it is the limitation of the brain centers of these senses as well. So we had seen that senses of action have a limitation, but senses of perception also have a limitation. We can enhance them through harnessing and re-purposing the senses and through meditation, but in the end they are limited. To experience anything beyond the senses, we need a different paradigm. We will be talking about this paradigm beyond senses a lot more as we continue our journey. In Gujarati it is called Indriyaateet Anubhav or experience beyond the senses.

So we talked about why control the senses? What does control mean? Then we looked at some scientific discoveries and how they relate to the spiritual world. Before we wrap-up conversation on the senses, one big thing that we hear very commonly is the sixth sense. So what is the sixth sense? Science has discovered that close to the limbic system, in the cortex, there is a primal brain center that is associated with emotion recognition. There was an experiment done where one’s vision was blocked for one eye and visible for the other. There was a partition in between the two eyes. So one eye could not see what the other saw. Different pictures were placed in front of both the eyes, and the subject was asked to guess the emotion on the picture that was blocked from view. For example, if I am the subject, you put a partition right in front of my nose, so my left and right eye could not see what the other eye saw. My left was blocked. It could not see anything. Different pictures were placed in front of both my eyes. And I was asked to guess what was in front of my left eye. When the subjects went through this experiment, invariably, this particular part of the brain close to limbic system fired up not the optical

center, and subjects most of the time guessed the right emotion, even when it was not visible. So scientists now believe that sixth sense is real and is associated with recognizing the emotions of other people. So why is there no mention of this in spiritual scriptures? Hindu spiritual scriptures have not called it a sense but a power – a power to see beyond what is available to the senses. The “Indriyateet Anubhav.” It is not called a sense, since there is no specific organ associated with it.

So we talked about 5 elements, 10 senses, 5 quintessence – covered 20 of the 24 elements of the body. We also partly covered mind or Man. Let’s now move on the last 4 – but very important ones – 4 inner organs - Mind or Man, Intellect or Buddhi, Sub conscious mind or Chitta and Ego or Ahankar.

Since we have already started talking about mind, we will start with mind. Man is directly translated as Mind in most of the scriptures. Staying with that norm, we will also call the Man, Mind. But let’s make sure we all are on the same page with what we mean when we use the word Mind to refer to Man. Mind is not the complete Brain, as English language might translate it. Man refers to that part of the body that is the seat of origination of all thoughts and desires. If we were to map it to something physically tangible, based on our knowledge today, it would probably map to Amygdala. I am using the word probably because that’s what it seems like, based on what we know today.

In Gadhada Pratham Prakaran 12<sup>th</sup> Vachanamrutam, Shreeji Maharaj has explained Mind to be in the form of thought and thought-streams (sankalpa-vikalpa), seat of origination of all desires and controller of all the senses. Again, control here means having the ability to utilize the power of the senses for the right purpose. And mind has the ability to do that, since it is the seat of all the desires. So if the desires are well-managed, so are the senses that pursue the desires. So just as it is important to control the senses, it is important to control the mind. Mind-control, just like control of senses, is a topic in itself. There many books written on mind control. We have one from our own Shree Swaminarayan Divine Mission – Manoyatra, which I believe is available in Gujarati and Hindi. It is yet to be translated in English. Those who are not fluent with Gujarati or Hindi can probably take help from those who know these languages to read the book. There is another great book that I have liked over the years is “Mind Control” by Swami Vivekanand. AMPP NarayanMama used to say about Swami Vivekanand that if he had gotten the complete knowledge of the spiritual world and Shreeji Maharaj, he would have achieved ultimate liberation and attained the bliss of Moorti in no time. He was so good. So while, Swami Vivekanand’s overall belief system is not complete, his works around mind and its control are noteworthy. I found that book very interesting and it is in English.

So in a nutshell, there is enough material available on mind control, and if there is enough interest, we can have a separate interaction on control of senses and mind. For now let’s look at some scientific discoveries around mind, just as we did for senses. Last week, we had talked about three states of mind – Awakened, Dreaming and Deep Sleep. Aligning completely with the Swaminarayan Philosophy and other Hindu scriptures, science has identified that waves associated with different states of mind are different. For those on Webex, I have slide with a table about different brain waves. As always, those not on Webex, do not worry, I will talk to the slide.

The lowest frequency waves are the Delta waves which is 0.1-4 Hz, and they have been associated with Deep Sleep state of mind. Then are the Theta waves which are 4-7 HZ and are associated with Dreaming/Sleeping state of mind. Then there are Alpha waves with 7.5 – 12.5 Hz and while science has not been able to associate them with any particular state of mind, what AMPP NarayanMama and PP Jitukaka have been saying is that it is from this state – when brain is emitting Alpha waves, that the path to Transcendent state of mind opens up. That's why when we meditate, we start feeling sleepy, but if we overcome that, then we can progress on the path of Samaadhi. Then there are Beta waves 13-30 Hz, associated with the Awakened state of mind. So these are the 4 primary waves identified until a few years ago and recently, there are a few more that are added, and science is finding out that there could possibly be even more. One that we have identified and understood the function a little are the Gamma waves from 30.5 – 100 Hz. Most of us emit these at 40 Hz, if at all. These are related to super-awakened state of mind. Gamma waves are the highest frequency waves.

I want to spend some time on Alpha waves. Science has discovered that in our sleep patterns, our sleep cycle is about 90 minutes on an average. It could vary from 60-120 minutes in individuals. When we go to sleep i.e. when we are transitioning from awakened state of mind to dreaming/sleeping state of mind, there is a period of 6 minutes where we emit Alpha waves. When we wake up, there is a similar transition period of 6 minutes when we emit Alpha waves. So every sleep cycle, there is a possibility for us to wake up and go to sleep again. Most of us end up having 4-6 such sleep cycles. Many-a-times we get up in the morning thinking, "I slept for 8 hours but I am still tired." The reason for that we woke up in the middle of a sleep cycle and did not finish the sleep cycle. Alpha waves is that 6 minutes period between awakened and dreaming/sleeping state of mind, which is the path to making spiritual progress.

The Gamma waves on the other hand are related to higher state of awareness, higher efficiency and extraordinary synchronization of the senses. Earlier today we talked that controlling the senses is a win-win solution for those who want to progress spiritually and those who want to progress in the worldly things. It would not be surprising if a few years down the road, science comes back and says that Gamma waves are generated through control of senses to improve memory, efficiency, capabilities, etc – the worldly progress, and that Alpha waves are also generated through control of senses to transcend into higher states of mind. Science may even find out more types of waves that are emitted from the brain, once someone transcends into meditative states. So this was just relating the states of mind we discovered last week and what science has discovered about brain waves in those states.

We are at the top of the hour. Still need 5-7 minutes. Is it ok if I continue?

Science has also discovered that Beta and Alpha waves may be mixed (emitted at the same time) or Alpha & Theta waves could be mixed (emitted at the same time). And Shreeji Maharaj has already mentioned that in Vachanamrutam by way of saying that there is dreaming and deep sleep state of mind within awakened state of mind, and there is awakened and deep sleep state of mind in dreaming state of mind and there is awakened and dreaming state of mind and deep sleep. Science also now endorsing this.

One important thing related to mind is addiction. This is something that is there a lot in younger generation. There is a lot of peer pressure its not just in younger generation. Peer pressure is there in work environment as well – we get laughed upon because we don't take drinks or have no other vices. I wanted to spend a few minutes talking about addiction. There is a research going on in UCLA. What this experiment does is that they capture the brain waves of an award-winning archer using a magic cap with electrodes. The archer is asked to wear the cap shoot some arrows. His brain waves pattern is recorded over all the shootings and then the Alpha and Theta wave pattern at the time of shooting is arrived at, since Alpha and Theta patterns are also related to deep learning. Then normal people like us are asked to wear a cap with electrodes and electric pulses are sent to our brains till the brain starts emitting the same brain wave pattern as an expert archer. Then the subject is asked to shoot an arrow. This was done for a couple of days. As it turned out, with the help of the cap, a normal person was able to shoot as well as an expert archer with years of practice, in just 2 days! So these waves carry a lot of meaning and value, and also tell us that Alpha and Theta waves are associated with focus and expert level deep learning. Science wants to take this further and create chip implants for better memory, better learning skills and what not.

We must however remember one fundamental thing about all these is that these are all external stimulations and but only make us more dependent on them. So in some ways these are addictions. External electrical brain stimulation is an addiction. Talking about addictions, what do addictions do? The things that we get addicted to, when partaken, release a hormone called Endorphin from pituitary gland and hypothalamus, which in turn make us feel good and happy. However, since these result in unnatural releases of Endorphin, it leads to extreme fatigue and depression once the effect wears off. The subject wants to feel good again, partakes addictive stuff again, and there starts the addiction.

We probably think that only things like drugs, alcohol and caffeine could be addictive. But the reality is that the first addiction that the human mind had was that of Salt! Roman soldiers were paid for their services in Salt, and thats how the term "Salary" was derived. It is also researched that Spicy food has the same effect – release of Endorphins like other strong addictions. Only the levels released are not extremely high and therefore we do not realize how we slowly become addicted to spicy food. This in turn explains why we should control the sense of taste! Besides the point, addictions lead to unnatural release of hormones, which makes us feel good when nothing around us has actually changed. We have not done anything to change the situation. It is just an illusion that is created by the release of a hormone and that also is unnatural and leads to misuse and abuse of the body that is given to us. So that is the scientific thinking around addiction and why we should keep away from them. It is unnatural. It is not real. It does not help us.

One might say, that why not entertain the senses with sensual pleasures and feel good about life? The problem is that these pleasures are transitory. Remember how the feeling of having achieved something by pushing ourselves above and beyond and without any cheating is unparalleled? When the exams are coming up, we give playing games, watching TV, chatting with friend and focus on studying. And when we pass the exam in flying colors, and we are appreciated for it, we get a wonderful, calm and peaceful feeling of bliss with contentment. That is lasting and takes us through the entire year, to do the same thing again next year. And that pleasure is greater than all the other artificially derived pleasures. So

there are higher degrees of pleasures that can be achieved, but one should stop indulging in the lower ones and give what it takes to achieve the higher one.

So we are over an hour. Today we talked about 5 senses of action, 5 senses of perception, why they should be controlled and what does control mean. We also talked that the senses are limited and cannot take us beyond a certain level of experience. We then talked started talking about 4 inner organs and looked into Mind or Man in great detail. Next week, we will talk about the remaining three inner organs, the Endocrine system, and What is Liberation and why Liberation. We may need more than an hour for this. Let me know if it is ok to take some more time next week, if required, to complete these topics. Please also give some thought to the suggestion for February 16<sup>th</sup>. With that, Vishalbai, I will hand it over to you. Jai Swaminarayan to everyone.

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