

2016 U3A Course based on

Dancing With the Unknown

A Book about FEELINGS and the Everyday Experience of MIND and SOUL

Session 7 – May 30, 2016

At the beginning of this Course I posed the question: is there a proper way of using our mind that is best for our wellbeing? In answering that question I have talked about the basic function of our mind – how it enables us to feel like a worthy individual as it connects us with other people and with everything around us. It enables us to be and to belong. We need autonomy and we need connectedness. That's a very simple way of putting it, which I emphasise because I think we all try to complicate things and this works against us and creates problems. I know I did this when I was mentally unwell as a younger man and I still do it to some extent today.

I mentioned at the end of Term 1 that the two main complications that are not very useful ways of using our minds are our *unnecessary judgments* and *inappropriate attempts to control*. We have to make some judgments, of course, and exercise some control, but we tend to overdo it. We make far more detailed and more frequent judgments about other people and what is right and wrong than are actually necessary and this occupies quite a lot of the space in our mind without achieving very much. We also overdo our attempts to control and manipulate our circumstances and other people when the fact is we can't change what they do or what happens very much. We dislike uncertainty and instead of having faith we spend a lot of time worrying.

I have also suggested that the direction to look for the best ways of using our minds on an everyday basis is towards our relationships. We often try to shore up our autonomy, but it is actually more feasible to enhance our connectedness; fortunately, when we improve our connectedness we will improve our self-worth as well. When it comes to coping with the stress of life what we need most is our loving connections. An attitude of *kindness* is a great asset in this respect and the idea of *dignity* alongside kindness implies a successful way of using one's mind.

I went on to suggest that there are three different levels of relationships – one with other people, another with ourselves and a third with the unknown – which I'll say more about today. And the idea that encapsulates what we are trying to achieve is the idea of *love*, which is a certain kind of relationship that thrives because the parties involved in it are also enhanced as individuals. When there are problems in our relationships with others they often stem from the kind of relationship we have with ourselves and, for me at least, the kind of relationship I have with myself stems from the quality of the relationship I have with the unknown.

In the last session we looked at a few parts of the brain and I have spoken about our Autonomic Nervous System (ANS) because it is connecting up our brain and our feelings with our heart and our gut, our facial expression, voice and hearing, so it's role is very important for our mind. The reason I'm not going into much detail about the parts of the brain is that I want to emphasise that it's the connectivity across the whole thing that is most important. For example, if you don't have good connectivity between the frontal cortex that is leading your thinking and the limbic system where strong emotions like fear and anger are generated your mind cannot work at its best.

One way of improving that connectivity and promoting the most stable and useful integration across the brain is to practice mindfulness meditation. Speaking of that, I forgot to show you this very new book by a neurosurgeon called Jim Doty called *Into the Magic Shop*. The way he used

mindfulness in his relationships with himself and with others comes through in his life story. I found it a gripping story – I couldn't put it down.

We finished up last time on the subject of recognising the unknown. We can't develop a relationship with something unless we acknowledge and respect it. I was saying that we can't have music without the silence in between each of the notes and we can't obtain meaning just by knowing the mechanism of cause and effect – we must have the context, the bigger picture in which we and everything exists and that bigger picture includes a huge amount that is unknown. It seems that the more we find out how things work, the less meaning we see in them.

The mind is our connecting process and to extend its connectedness to what is unknown is an act of trust or faith, which is my understanding of the work of my soul. As I said, I regard my soul as the part of my mind that is closest to the unknown and can best accommodate mystery and wonder, which includes the beauty of art and music. I think of it as the only part of my mind that knows, without fail, that I am loved and therefore capable of loving. That's why it seems important to me.

But I don't want to impose my idea of soul on you or anyone else because I believe it is an intensely personal experience – your experience may be quite different from mine. Or perhaps you have no need of an experience you call soul. If so I respect that. I want to share my ideas, but I don't want to preach. I recently read a talk given by the famous physicist, Frank Wilczek, to the students as they were leaving the university. He said: '*I want to talk to you today about the soul. Not the soul as the immortal unit of religious mythology . . . not the soul as a pop-culture commodity . . . the soul as the core of our personhood . . .*' He told them their role as teachers was to '*steer people away from the meaningless and towards the meaningful . . . to lift people up, not lower them down.*'

Wilczek has written a book called *A Beautiful Question* that I haven't seen yet, which is about the beauty he sees in physics and in Nature and he was interviewed by Krista Tippett on her radio program called *On Being* – if any of you listen to podcasts of that kind. Later in this Course I want to say more about our appreciation of beauty because I think it is the most important nourishment for one's soul. I doubt that one could ever get to experience the soul without that part of one's imagination that experiences the feeling of beauty. I think the growth of this part of our mind is stunted if we lose touch with the natural world around us – the plants and animals, the wind and the sky. Andreas Weber talks about this in his book that I mentioned earlier – *The Biology of Wonder*.

Mindfulness meditation and prayer are ways of connecting with the unknown and I think they work best when they involve a letting go of what is known and a lessening of judgments and attempts to control. Before I knew I had a soul my relationship with myself was not a healthy one. The feeling of hating yourself that I had is the very opposite of knowing that you are loved. When I was talking about that earlier I said that my imagination had shrunk and I had lost the natural sense of wonder and awe that I think are meant to take centre stage in the theatre of our minds.

The imagination is an incredibly important and very large part of what our mind is doing. It's like a simulator running different scenarios so we can practise our living. There's a virtual reality in our mind that is running parallel to our actual reality and they influence one another. What we notice as our reality is shaped by, and helps to shape, what we understand about ourselves. When I felt a lot of shame my imagination was dominated by unhelpful fantasies, but as I recovered, I was better able to imagine happy relationships with my children and friends and there was a bigger range of possibilities appearing in my mind. This is also what happens as we slowly recover from the grief of losing a loved one – possibilities begin to open up again.

A part of the brain that has been studied closely in the last few years is the middle part of the prefrontal cortex (with connections, of course, to other parts) called the *default* region. Amazingly, it was only 10 years ago that researchers asked the question: what is happening in the brain when it is supposedly doing nothing, that is, not focussed on any particular task? In other words why is

there so much 'background noise' in the scanner when you are trying to measure specific effects? The answer is that some parts of the brain become more active, not less active, during its 'resting' phase in between deliberate tasks. This is now called the *default mode* of brain function.

The business of the default mode is primarily self-reflection. It is where we are imagining our lives in terms of what other people think of us, how well or badly we are doing, whether we fit in properly or not. It is also the activity we call 'mind-wandering,' but it is always being drawn back to one's self. And it's interesting that psychologists have observed a pronounced negative bias in this reflection. I suppose this is where the negative feelings about myself were being generated in my brain during those dark times.

The mind is amazingly ambivalent in its normal process. In order to feel satisfied we have to feel frustrated at times and what we experience as love can easily become hatred. Our attempts to shore up our autonomy and sense of self seem to involve a lot of self-criticism. Kafka wrote, rather gloomily: *'There's only one thing certain. That is one's inadequacy.'* And we do need, or feel that we need, a sense of self. This is evident in studies of patients with Alzheimer's Disease who lose their feeling of identity when these parts of the brain are not functioning properly. People locked up in solitary confinement for long periods also say they lose their sense of knowing who they are, which shows how important social engagement is for the mind. Acting out imaginary conversations with other people apparently helps in this regard.

Normally the brain switches from default mode into purposeful activity very quickly, but people suffering from depression have a deficiency in this regard. They get stuck in the default, which feels like their mind is in quicksand and it can't get going in the normal way. In anxiety disorders, too, there is a lot of time spent and extra activity in the default mode and its connections with the amygdala. People who had meditated, even for only a few weeks, showed an improvement in this aspect of brain connectivity.

Researchers have concluded that the biggest difference between a healthy default mode and an unhealthy one was the amount of judgment and desire to control that was going on in that person's mind. The self-reflection in the healthy default one was a non-judgmental kind of imagination that comes from letting go of what we think we know and handing over to the unknown. Trusting in the unknown is a huge part of the operation of a healthy mind and this is showing up in brain studies nowadays as well.

Chapter 7 in my book is called ***Hidden Mind***. Much of the mind is hidden, of course, but psychologists have figured out some interesting things about it that are worth taking into account. Our conscious mind can't possibly know everything its subconscious partner is doing – and there's a good reason for this. We would only interfere with vital body functions in the same way you spoil your ability to ride a bike or even walk down the street if you think about it too much.

There is one hidden feature of the mind that probably leads us astray more than any other – it's the fact that our perception is so proactive. Perception is not a passive process directed by what is out there – it is a highly proactive and selective process of connection. We usually see (and hear, smell, *etc.*) whatever we are 'looking for' because there is an *organising idea* in our mind directing our attention and even manipulating our sense organs. This is where the history of our subconscious emotional mind and our story has its effect. The mind is a connecting process, not a camera or a tape recorder, and there is always more than we could take in at that time so it has to be selective. In the words of a leading brain researcher, Iain McGilchrist, *'we can only know the world as we have inevitably shaped it by the nature of our attention.'*

This proactive perception explains experiences such as visual illusions. I've covered it in detail in previous Courses so if you are here for the first time you might like to access the earlier notes about it that are called *A Mind of Its Own* on the U3A page of this website. The handout today is a portion of those notes. You could check that there is no triangle drawn in the bottom diagram –

only the suggestion of one from an ‘illusory contour.’ The giraffe picture is a good example of how the *organising idea* that we have in the back of our mind from previous experience shapes what we see. There is a book by Eliezer Steinberg called *NeuroLogic – The Brain’s Hidden Rationale Behind our Irrational Behaviour* that covers these kinds of subconscious processes that happen in our mind without us knowing why.

We generally assume there is more to the world than what we perceive, yet we fall into the dangerous habit of thinking that we see it exactly as it is, forgetting that we have created a particular version of it in our own mind. Much misunderstanding occurs in our personal interaction because of this hidden aspect of our mind. The craving for certainty and the desire to control lead us into the most futile arguments when two people have simply perceived things differently and there are two different versions of what happened.

In creating our stories we are lulled into thinking they are much more accurate and objective than they are. Firstly we simply don’t remember the details as well as we think we do. In several famous experiments where people wrote down where they were at a certain time (*e.g.* when the space shuttle blew up) and were shown these notes a few years later, many of the subjects vehemently denied what they had written because they now remembered it quite differently; a very small percentage remembered it exactly as they had written it. Secondly we have to fill in the many gaps in our stories from our imagination and these bits may not be true. Our story does not need to be entirely accurate or complete as long as it is internally consistent and fits reasonably well with our historical thread of meaning.

A Nobel prizewinning psychologist, Daniel Kahneman, wrote a best-selling book called *Thinking Fast and Slow*, which I only have as an e-book so I can’t show it to you. In it he describes our ‘*experiencing self*’ and our ‘*remembering self*’ as two different parts of our mind. The latter is subject to various distortions including ‘peak-end bias’ whereby we tend to give more weight to the last thing that happened even though earlier events may have been more significant and ‘duration neglect’ whereby we forget how long things lasted though we remember other details. His research founded the field of behavioural economics, which is about the decision-making behaviour of consumers. He worked out the ‘*judgment heuristics*’ that we use subconsciously when making decisions, particularly about what to buy, and these are quite startling when they are pointed out.

He distinguishes two different kinds of thinking, the first (that he called System 1) being automatic, rapid and intuitive, which is like the initial emotional response I am describing, and the second (that he called System 2) being controlled, effortful and slow, which is like the stories we create. He concluded that although System 1 leads to many of our mistakes it is also the origin of most of the things we get right and he said that advances in cognitive science have shown us ‘*the marvels as well as the flaws in intuitive thinking.*’

Another psychologist, Timothy Wilson, in a very useful book called *Strangers to Ourselves – Discovering the Adaptive Unconscious*, documents the important differences between what he calls our ‘*constructed self*’ and our ‘*adaptive unconscious.*’ The subconscious self is a pattern-detector rather than a fact-checker and it is faster and often automatic so it is more here-and-now than the conscious self will be. The constructed self is slower and more considered, but also more flexible and more sensitive to the positive whereas the unconscious is quite rigid and more sensitive to the negative. Thus our hidden mind is introducing mental patterns without necessarily accommodating all the details, predisposing to a fixed position rather than flexibility and introducing a negative bias. Our conscious mind will counteract each of these and the combination of the two will constitute our next experience.

In the school of thought that is known as *embodied cognition* we are acknowledging the fact that the hidden influences that stem from our subconscious emotions are distributed throughout our whole body. This is why we find ourselves doing or saying something that surprises us because we had not been consciously thinking about it beforehand. In coining the phrase, the ‘*intellective space,*’

philosopher Laurent Dubreuil notes that ‘*we say more than we think and we think more than we say.*’ He is writing about this intellectual space in a purely philosophical sense to point out that there is more to cognition than simply thinking, whereas I am giving it a physiological connotation when I suggest that it is our feelings that occupy this space in between our thoughts and our emotions and they are a crucial component of the embodied mind.

Sometimes our conscious mind is trying too hard and this deprives us of the ‘marvels’ of our intuition. Conversely, a brilliant footballer weaving his way across the field or a sculptor like Michelangelo revealing the beauty that he had already seen within the marble block are employing what the Chinese call *wu-wei*. They are ‘in the zone’ and tapping into subconscious knowing without thinking about it at all. Edward Slingerland gives us some insight into this mysterious process. He said the two key elements of it are a complete lack of self-consciousness and an awareness of working within something larger-than-self. This is a valuable aspect of our hidden mind that is also thematic for my story. Slingerland’s book is called *Trying Not To Try – The Ancient Art of Effortlessness and the Surprising Power of Spontaneity*.

An unfortunate consequence of underestimating the hidden mind is that we think we know ourselves better than we really do. Wilson cites an amusing example from George Bernard Shaw’s play *Pygmalion*. Henry Higgins sees himself as a gracious, fair-minded, cultured gentleman whereas he is actually prideful, misogynous, controlling and often quite crude. When his housekeeper Mrs Pierce chastises him for swearing and using his nightgown as a napkin he tells his friend Pickering that he cannot understand how she could so misrepresent him. When Mrs Pierce said he uttered swear words to ‘*his boots, the butter and the brown bread*’ he replied ‘*. . . mere alliteration, Mrs Pierce, natural to a poet.*’

It can be amusing to notice someone else’s blind spots, but what about one’s own? There is more to be said about our relationship with ourselves, but we will leave this subject now for a while and focus on our relationships with other people after the break.

BREAK

Chapter 9 in my book is called *The Magic of Social Engagement*. When we were considering the subject of stress I mentioned some aspects of human physiology that are very different from other animals. There is a book by Thomas Suddendorf called *The Gap – The Science of What Separates Us from Other Animals* in which he explains our most unique abilities. There are many obvious differences between us and other animals such as the language we use and the way we use it, but in his careful analysis, the salient differences boil down to just two: (1) our apparently limitless imagination and (2) an ‘*insatiable drive to link our minds together.*’ Most researchers agree that our much larger brain came about as we formed bigger social groups and refined our interpersonal behaviours into the kind of loving intimacy that we have today.

For a start, our faces and our hands are unique and special. The human species is noted for its neoteny, which means that we stay younger for much longer than other animals do. We don’t grow thick hair or hide as we mature; we retain the soft sensitive skin and the facial flexibility of children, along with the ability to play, throughout our lives. Our evolving need for intimate connectedness carried with it the vulnerability and sensitivity that makes us human.

The most obvious advanced feature of our hands is that they can manipulate things more precisely and in that sense they parallel our mind. Our hands have always been central to our feelings of competence because we use them to make things, which children still love doing from a young age, but adults get to do less often nowadays in a more artificial world. We use them for connecting, in a handshake for example; a mother might hold and admire her baby’s little hand and a visiting

relative might take one baby finger and move it about as if to say: you're one of us. But the greatest thing about our hands was pointed out by Maturana and his colleague Gerda Verden Zöller. They are the ultimate organ of caress because they are soft and we can shape them to any part of the human body; this ability was significant for developing our humanness.

Facial expression, of course, is our principal means of connecting with one another. The human face has 43 sets of muscles and Paul Ekman and his colleagues documented 64 different expressions in their Facial Action Coding System. You only have to look at the diversity and the usage of emoticons today to appreciate our fascination with a face of any kind. The significance of facial expression is partly because many of these tiny muscles are not under voluntary control, especially those around the eyes and the corner of the lips, so your face may often tell more about how you are feeling than you realise. These involuntary muscles are controlled by the ANS (Autonomic Nervous System) so they are involved in every stress response and every subtle connection that we make with one another, which is where the strategic management of stress by means of social engagement comes into play.

I have said that we engage with one another most powerfully through our vulnerability and there is no stronger connecting influence than the uniquely human experience of crying and the anguished facial expression that crying entails. No other animal sheds tears in this way though some show the anguish in their behaviour. We probably need to cry as Michael Trimble pointed out in his book, *Why Humans Like to Cry*, and it does seem to alleviate our stress somewhat unless it is especially despairing and prolonged. It is associated with the release of calming hormones such as endorphins.

Just as powerful, but more aligned with positive feelings, are the extraordinary human behaviours of smiling and laughing. The comedian, Milton Berle, called laughter an 'instant vacation' and Maturana called it a 'momentary respite' because of the way it interrupts whatever your mind is doing and releases tension. Breathing out or sighing generally slows your heartbeat slightly and a hearty laugh is a strong and spontaneous release of breath. We usually need the company of other people to be able to laugh in this way. Again there are relaxing hormones involved and apparent benefits for our immune system and our health.

The smile is the most incredible connecting device of all. It can be seen from 50 metres away (further than any other expression), which is about the distance you could throw a spear if you weren't wanting to smile at that time. Seeing your baby's first 'smile' is an unforgettable experience. Even though it is an innate instinct at that stage (and even occurs in the womb), it is a powerful connection that soon becomes meaningful in subtle ways; adult smiles vary in their meaning too. In the 19th century a French neuroanatomist called Duchenne reported that there were two different kinds of smile: one in which the involuntary muscle under and around the eye (the orbicularis oculi) was involved and another in which it was not. These came to be known as D-smiles and non-D-smiles.

What is extraordinary is that we are all sensitive enough to tell the difference between a genuine smile and one that is manufactured and to recognise, at least subconsciously, whether expressions are authentically related to a feeling or not. Even though the physical changes are very small and the tiny muscles involved are not consciously controlled we specialise in being able to read one another's feelings by watching faces. For recognising smiles, especially, we do this by unconsciously mimicking the other person's expression for a moment. Experiments showed that simply holding a pencil between your lips so as to prevent your face smiling interfered with this process. People who received Botox to paralyse facial muscles were found to have lost some of their ability to recognise the emotions of others although they also suffered less from depression, apparently because their less worried facial expression now triggered fewer negative feelings.

This is a telling example of the powerful linkage between the face and the mind and between two people in the course of social engagement. Both the facial expression and the reading of it involve

our ANS – the hub of our stress response – along with other parts of the nervous system. This system has both a *motor* function (e.g. a muscle contraction) and a *sensory* function that detects a change. The facial expression is a motor function and the reading of it is a sensory one.

When I first studied physiology it was thought that the ANS was mainly concerned with motor functions in the various organs (e.g. heartrate change, intestinal contraction), but we now know that it also monitors many of the subtle body changes that are responses to stress. This is why the opportunity to connect strongly with another person is so helpful in managing your flow of stress responses, especially if you are aware of what you are feeling and can communicate that in a loving relationship. The arousing ANS, driven by adrenalin, brings about the feelings associated with any kind of excitement, not just fight or flight. Feelings of fear produce a knot in your stomach and a pounding heart and may affect your breathing. Any strong ANS response produces feelings and sometimes these are powerful enough to shut down some of your normal actions.

It is the *new soothing ANS* that I described earlier that produces the warm glow in your chest when you relax and feel safe and of course this shows up in your face as well. It also affects your heartbeat. These more recently evolved vagus nerves are the main slowing mechanism for your heart, which is set at a higher rate by the arousing ANS through the ‘pacemaker’ node and then fine-tuned by the waxing and waning of what is called the ‘vagal brake.’ The more healthy and fit you are the better this works and there is a measure of it called Heart Rate Variability or HRV. This is not quite what you might think; it’s actually the desired slight difference in heartrate between the in-breath (when your heart speeds up) and the out-breath (when your heart slows down). It’s a small difference, only detectable by instruments like an ECG machine, but it’s worth measuring because it has been found that people with a high HRV cope better with stress and have better attention control while low HRV has been associated with some chronic illnesses, anxiety disorders and depression.

When we say we feel the effects of social engagement in our heart more than our head we are not just speaking figuratively! This is most obvious when your heart skips a beat as you catch sight of your lover approaching. A loving relationship is stressful in the sense that your mind must work hard to keep adjusting the connectedness, but it is the healthiest kind of stimulation of all and also the one we can least do without. The everyday experience we call *love* that occurs mainly through social connections is not optional for human beings – it is essential for our survival.

Human babies are born with less brain development and fewer physical skills than the young of any other species and our brain will only develop properly if we receive love. There are documented cases of children who survived being raised by wild animals, but did not develop a human way of thinking, and also famous studies in orphanages where babies were deliberately deprived of social interaction to the great detriment of their mind in later life. The baby’s mind is not pre-formed at birth; it has to be shaped by its history of social interaction in which feelings will lead the way.

A world authority on child development, Peter Hobson, wrote that ‘*the tools of thought are constructed on the basis of the infant’s emotional involvement with other people.*’ Long before the meanings are put into words it is *an exchange of actions and feelings* and this continues to be the core of our social engagement, though as adults we may not be aware that this is what is happening. From the beginning the baby learns the difference between humans and things and the important differences between one human and another. A little later she learns to notice and be influenced by what her caregiver thinks and feels about something before she acts herself and then, after a while, that it could be preferable *not* to take notice of what her parent thinks when she wants to be herself! The tension between being and belonging fuels the operation of one’s mind throughout life. Our children learn from the way they see their parents engage with others and the world and they will copy these ways of engaging.

Social engagement is not possible unless we feel safe, especially when it involves hugging and close physical contact. We have an innate subconscious mechanism that checks for danger when other people are close by so we rely on some reassurance from faces and hands, voice and posture, to enable our physiology to establish an intimate relationship. This is the *'immobilisation without fear'* that Stephen Porges referred to as the foundation of our experience of love.

The hormone, oxytocin, is also involved. A leading oxytocin researcher is Sue Carter who is Stephen Porges long-standing wife as well as colleague. She showed that this hormone that is released to aid childbirth and milk letdown and also when having sex has the beneficial effect of calming fear, increasing confidence and promoting strong pair-bonding. So the feelings generated in couples as their social engagement becomes more intimate and more physical naturally lead those people towards long-term monogamous relationships. Oxytocin loosens brain networks that promote individuality and strengthens those that foster mutuality so it is a great boon for our mind's work of being and belonging.

Sexual intercourse is a powerful component of healthy social engagement, but if it is used to exploit another person it undoubtedly causes harm to the mind. We need meaningful connections to thrive as human beings so vicarious sexual activities could also compromise our mental health. Part of the romantic pleasure of love is seduction, which is a fine balance between the excitement that fear generates and the safe confident feelings of love – another of the balancing marvels of our mind performed for us by our ANS. The extreme trauma and stress resulting from rape, on the other hand, can activate the complete shutdown effects of the ANS with dire consequences for the victim. Once again it is the practical experience of love that can in time restore the mind and body with its healing power.

In everyday experience social engagement doesn't always work in a thoroughly pleasant way. The magic can disappear completely when your feelings become a dislike for another person and instead of attraction there could be extreme anger or revulsion, such is the natural power of this process. Self-consciousness takes over and the connecting part of the equation goes out the window for the time being. This can also happen in a more insidious way through our moods.

When feelings are sustained for longer than a few minutes they become moods and they affect our personal interactions at the primary level of experience through the meaning generated in our feelings. Moods are very important modulators of our social engagement, particularly when there is a negative or defensive aspect to them. In that case they cause the connection to lose authenticity and become uncomfortable and then our stories start to include more lies such as he doesn't like me because I'm not pretty or she doesn't think I'm doing the right thing.

I like the metaphor of a jazz band as a way of thinking about our connectedness through feelings and moods. A good musician is aware of the tempo and the notes he is playing, which become his feelings and his 'mood,' and he is also aware of the larger pattern of rhythm, harmony and chord progression that includes the other musicians. If he is not listening attentively to the connectedness of the band as a whole the music will fall apart. Moods can become selfish preoccupations, but if you remember the larger-than-self needs of the band and you want to make music, your moods can form creative combinations with the moods of others and start to flow in the direction that leads towards some kind of love song.