What is brain therapy?

Brain therapy is an effort to integrate many of the strands of theory and research, from developmental psychology to attachment, temperament, memory, neuroscience, and to evidence-based practice. Brain-based therapy factors in the brain’s capacities of neuroplasticity and neurogenesis, with psychotherapy, mindfulness, nutritional neuroscience and social intelligence.

You could define brain-based therapy as the integrated approach, the bio-psychosocial approach. It is not reductionist. I am someone that has been immersed in all sorts of things, from cross-cultural theory to hypnosis. I am not saying that everything should be reduced to brain function and forget about the rest of it. I would say that brain therapy is bi-directional.

Dr JOHN ARDEN is a US psychologist and author. His study of neuropsychology has inspired him to integrate neuroscience and psychotherapy, synthesising the biological and psychological into a new vision for psychotherapy called Brain-Based Therapy. Author of 12 books, including the popular Rewire your Brain: Think Your Way to a Better Life, Dr Arden is the director of training at the Kaiser Permanente Medical Centre in northern California. He presented a seminar for STARTTS and spoke to OLGA YOLDI.

Rewiring the Brain: Brain–Based Therapy
It wasn’t until the 1980s that I started getting into running programs for severely mentally ill people. At that time hypnosis and cross-cultural perspective. Hypnotic techniques and in the way people experience the mid-seventies until 1990, I was running psycho working.

whereby they thought of them somehow developing an identity

in the way that person conceptualises reality, relationships and everything else. You cannot understand an individual without the cultural background because it serves to set the stage for how that person conceptualises reality, relationships and everything else. You are the product of that web of interctions. You cannot put your finger on one area and say that is the most important part. It is this multidirectional interaction which defines who we are.

In your presentation you often talk about attachment. Could you expand on that? Yes, attachment to the principal caregiver. We normally adapt to the world, not only within cultural systems, but also within family systems. Our families set the tone for how we respond to other human beings. In relation to the social brain, it has been demonstrated that specific networks and neurons are hungry for attachment.

We are like dry sponges soaking it up. We adapt to the world within those family systems.

You could call it attachment because we do become attached. We learn to have relationships by learning from those early relationships. That doesn’t mean you can’t learn differently later on. That is what therapy is - helping people with not so good attachment patterns to “earn security” and have a better capacity for inti macy later on.

Lack of secure attachment affects the brain negatively. If a person has little control over their affect they will probably have an overactive amygdala and less of an ability to have balanced activation of the two hemispheres. They might be a bit skewed to the right pre-frontal cortex, versus the left. The right pre-frontal cortex processes negative emotion and the person tends to experience more anxiety. In the last few years much has been published on the advances in neuroscience, neuroplasticity, mirror cells, neurogenesis and the social brain. There seems to be a new vocabulary.

Would you say it is a holistic approach to treatment? I have difficulty with the word holistic in the sense that we used it a lot in the 1970s, but did not explain the interaction of all the aspects to human experience that I have just mentioned, which occur in a dynamic way. For this reason I explained during my presentation today the contribution of complexity theory.

Complexity theory is about the multiple levels of different variables all working together at the same time. In the case of people who come to Australia which is a wonderful place compared to war-torn countries like Afghanistan, for instance, where there are suicide bombers and continu ous trouble. Now, as refugees, if they have been traumatised, they arrive here in need of help to rewire their brains, as they are still hyper-vigilant and anxious all the time. So rewiring of the brain can now occur in a positive direction. The therapeutic process incorporates all the elements that we talked about initially. Establishing a good alliance in a relationship gives people a sense of safety, a “safe emergency” by encouraging a person to expand their comfort zones.

The therapist also has to pay attention to the memory capac ity and whether or not memory is disregulated, as it is in the case with Posttraumatic Stress Disorder; she has to assess if systems have become dislocated from one another if the person has a whole continuum of trauma; so the initial assessment is critical, as is the understanding of the neuroscience.

Refugees are uprooted from their country and from their culture in a violent way. When they come to Australia they find themselves in no man’s land and have to adapt to another culture. That poses different but additional problems. They have to recover from the past and face the present all at the same time.

Yes it is challenging. The culture shock can be great. In many cases refugees have lived in villages made up of family members, whole communities, extended families, tribes, and suddenly, they are uprooted from that sense of community. It takes a village to put together a sense of belonging and identity, and for this particular group, the sense of community is foreign. Suddenly they find themselves in a very dissimilar environment. It is a culture shock of the
What is neuroplasticity and neurogenesis?

Neuroplasticity can be thought of as the process of rewiring the brain. It involves the development of new synaptic relationships between neurons, strengthening those relationships, as well as the development of more glial cells.

Briefly speaking, we have 100 billion neurons in the brain, there are up to 10,000 connections within the neurons. Developing new synaptic relationships translates to learning. Therapy involves the process of rewiring to help clients to better regulate their emotions. When someone has experienced trauma be has a hard time controlling his affects. Our job as therapists is to help them to deal with the uneven flow of emotions as they come up.

Neurogenesis is about building new neurons in specific areas of the brain such as the hippocampus and the pre-frontal cortex. This benefit is especially critical because some people who suffer from PTSD have suffered from hippocampal atrophy. The best way to generate neurogenesis is exercise. It is a great antidepressant. You get multiple benefits and the side effects are fantastic.

What happens to our brain when we age?

People lose cells after age 55 on the right hemisphere before the left hemisphere. Novelty which the right hemisphere masters seems to get lost before routinised behaviour, meaning details, routines. Routine seems to be more important. We lose cells in the dorsolateral pre-frontal cortex which is the executive control centre and is involved in working memory.

As we age working memory can falter, those who are exercising their ability to remain focused in the present moment do better down the line. If this area of the brain is not exercised on a regular basis, one tends to forget things.

As we age, there is also a possibility of experiencing a more positive feeling because the right prefrontal cortex, which is the area of the brain where we lose cells, processes negative emotion and the left positive emotion. We know for example that people who are hyperactive on the right prefrontal cortex suffer from anxiety and have an under-active left prefrontal cortex.

What happens to the adolescent brain?

During adolescence the prefrontal cortex is busy going through this remodelling process. Up to 50 per cent of the synaptic connections are being reconstructed. The dorsal prefrontal cortex does not get totally myelinated until around age 25.

Adolescents know they are not you. They go to great pain to let their parents know they are not them. They tend to say “You know mum? You know nothing”. They are trying to individuate and identify themselves as independent thinkers. Sometimes they do a bit too much of that.

After enduring much of such behaviour I said to both my sons when they turned 16: “It looks like there is nothing I can say that you are really going to agree with” and both my sons said “get over it. It will be over in a year”.

How else can we enhance our wellbeing?

By orchestrating many health promoting factors all at once. There is not one thing that achieves that wellbeing, I often say that planting SEEDS will help achieve wellbeing and longevity. It is an acronym that stands for: social support, exercise, education, diet and sleep.

The SEEDS factors represent the foundation for a healthy life and a healthy brain. Social support is crucial, having good social relationships; I mean positive, reciprocal social relationships, not the ones that are lopsided.

“E” is for education.

If you are not learning something new, you are looking out your rear view mirror, rumination about the past and you are thinking you are not excited about anything. Learning, including late in life, can build cognitive reserve, and result in developing fewer dementia symptoms later in life.

“D” is for diet.

If you are only eating simple carbohydrates, fatty foods, trans-fat acids, you are making your brain less capable of learning, of feeling positive, and you will be creating anxiety and depression symptoms.

If you don’t have a well-functioning brain, if you are using drugs for example –marijuana, alcohol, or if you are consistently undernourished, then the brain is not going to be able to remember and control your emotions.

“S” is for sleep.

Healthy sleep practices are conducive to a healthy brain. Sleeping pills mess up the sleep architecture. We need to teach our clients how to get good sleep. Some tips include: a balanced diet and avoiding looking at the computer screen late at night, because you are looking at light and as a result your pineal gland will not secrete melatonin, you want it to secrete melatonin, the sleep hormone. So our job is to help people get better sleep practices, so yes, how do you get healthy living? Plant SEEDS.