

## **RIGHT AND LEFT BRAIN FUNCTIONING**

I speculate that in our workshops we have actually been mapping the functions of the right hemisphere of the brain.

We know that the brain is divided into two large hemispheres, connected across the centre by relatively few interconnective neurons.

Contrary to our intuitive subjective sense and even desires, these two lobes are responsible for us living simultaneously in two separate complex mental worlds. These worlds live, literally, side by side, but perceive, process, and express information in very different ways. Further, these separate mental worlds may know little about each other.

For instance, because the right brain processes events and survival contexts twice as fast as the left brain, people may become aware belatedly in their left brains of actions which are felt to have been done automatically under right brain direction. Similarly, the left brain may be amazed at dreams, intuitions, and symptoms generated in the right brain.

# Left and Right Hemispheric Functions

## Left Hemisphere Functions:

- ⌘ Responsible for verbal expression and language
- ⌘ Recognizes words and numbers
- ⌘ Sense of linear time (past, present, future)
- ⌘ Deals with inputs one at a time
- ⌘ Does logical and analytical thinking
- ⌘ Crucial side for engineers
- ⌘ The seat of reason

⌘ [Based on Sousa ( 1995, p. 88 )]

## Right Hemisphere Functions

- ⌘ Responsible for non -verbal, facial and body language
- ⌘ Recognizes faces, places, music
- ⌘ No sense of time line present (past, present, future are one)
- ⌘ Integrates many inputs at once
- ⌘ Does intuitive and holistic thinking
- ⌘ Crucial side for artists musicians
- ⌘ The seat of passion

We may consider that the body contains a similar split to the mental one. Analogous to the left brain the conscious voluntary nervous system directs muscles which propel us in the environment. Analogous to the right brain the unconscious involuntary nervous system directs internal muscles and organs. Just as we are unconcerned about our internal organs except when they are stressed or injured, we may pay little attention to our right brains as long as all goes well.

Why should we have two brains? I speculate that the reason is similar to having two eyes. By seeing the same objects from different angles, we have a three dimensional, in this case simultaneously cognitive and emotional perspective. By making one half dominant, it allows the ever more complex thinking part freedom to develop away from the automatic visceral part.

From the age of 3 when a child first starts to have words and be able to think, the left brain speech area begins ever more complex categorization of information. Linguistic codes, narrative units, sequential logic and consciousness begin to give the left brain the appearance of dominance by the age of seven. This may be deceptive.

Imagine an ambivalent mother like the one on the stairs in Workshop 1, saying to her young child “I love you.” The child’s left brain hears the words while the right brain discerns hate which it compounds with prior hateful experiences from mother. The adult, hearing “I love you” may cringe and have distressing physiological responses without knowing why. Such inter-hemispheric conflicts are not uncommon in relationships.

The right brain is unambiguously dominant in two situations.

## Right Brain Dominance

- ⚡ 1. In Early Life
- ⚡ 2. When Trauma Dissociated

It may be that in our recent evolution, we borrowed the unselfconscious right brain to use as a hiding place for our unwanted traumatic monsters. In other words, by dissociating traumatic material into the unconscious right brain, called the unconscious, we allow our left brain to not be overwhelmed in its everyday functioning.

Roger Sperry, Nobel laureate said - “What is experienced in the right hemisphere seems to lie entirely outside the realm of awareness of the left hemisphere, especially in traumas, especially in early traumas...The information is lost to the opposite half of the cerebrum. Nevertheless, although lost, these memories and attached feelings can continue to influence whole-brain functioning, in subtle as well as profound ways.

...Certain situations act on those memories, much to the surprise, perplexity, or chagrin of the other half of the brain [which] cannot...gain access to memories stored in the other half of the brain....”

The cost of such dissociation is being subject to blanks, feeling and doing things without knowing why, suffering psychic conflict, having psychosomatic symptoms and being subject to left brain rationalizations in myths and delusions.

Fear of going mad stems from loss of control of right brain traumatic information, which intrudes into the left brain. Mental illness is a combination of right brain traumatic information, defences which buffer left brain awareness, and left brain explanations of the intrusions.

The right brain is not as unsophisticated as we thought. During its development the right brain silently elaborates ever more complex unselfconscious meanings, gestalts, self-image, morals and beliefs. It develops the philosophies and meanings of life which we often do not think about, but according to which we act. This brain accounts for our deepest motivations, *humanness, our soul*. Traumas deposited in the right brain influence the whole tree of right brain development.

## **Understanding right brain function helps to unravel some ‘mysteries’**

### **Traumatic Memories**

The absence of verbal and visual memories for early childhood and traumatic events relates to their right brain nonverbal retention and storage. The memories are unconscious, emotional, somatic behavioural and timeless. Their so called recovery stems from their new availability in left brain consciousness.

### **Reading the unconscious right brain.**

This is similar to recognition of traumatic material (Workshop 4). principles in recognising and diagnosing trauma

# 1. RECOGNITION

- ⌘ **Open mind**
- ⌘ **Open questioning** “Of all the things that worry you, what worries you the most?”
- ⌘ **Direct questioning** “Have you suffered a disaster, death, accident, war, violence, sexual abuse?”
- ⌘ **Recognise positive absence**
  - ⌘ Note denial, dissociation and other defences.
  - ⌘ Note nonverbal, slips, dreams, transference, countertransference

## **Understanding Defences**

The right brain is responsible for defences which regulate the retention or leakage of right brain traumatic material to the left brain. It does so according to its assessment of survival and fulfilment needs.

The following are primary defences.

## Categorization of Primary Defences

|               |  |
|---------------|--|
| Dissociation  | <i>Unaware except for Table 2 Signs &amp; Symptoms</i>     |
| Fragmentation | <i>Separation of Biological, Psychological, and Social</i> |
| Splitting     | <i>Separation of Adaptive and Maladaptive</i>              |
| Repression    | <i>Block off a whole survival strategy</i>                 |

### Primary Defences

Dissociation- Sending traumatic material into unawareness.

Biological, psychological and social fragments may be allowed awareness.

**Of emotion** – *psychic numbing*

**Of emotion, with cognition intact** – *isolation of affect, detachment*

**Of cognition**- *disavowal*;

**Of cognition, relating to one's person** – *depersonalization*

**Of cognition, relating to one's world** – *derealization*

**Of emotion and cognition and social** – *somatization*

Splitting- split thought potentially aware - good ( adaptive responses) and bad (stress and trauma responses)

### Secondary Defences

*Projection, introjection and displacement* do not fragment core mental functions but may transfer them. For instance, anger may be projected across

individuals, families, groups, nationalities, and across time and place. *Undoing* is replacement of a split off or repressed maladaptive survival strategy by another is. For instance, compulsive helping may attempt to undo guilt of having caused death. Changing survival strategies at higher function levels may see *substitution* of values, ideologies, religions or nationalities. *Precociousness* and *regression* may be ways of dealing with stresses by sliding up and down developmental phases. *Sublimation* may be seen as a defensive shift up the depth axis. For instance alienation may be obfuscated by political allegiances or quasi-religious and sacred groups. *Projection*, *projective identification*, ways of telling a trauma episode, with its survival strategies, judgements and basic meanings.

### **Political silence of the right brain**

The reason why what we have been talking about today has been outside the mainstream of psychology and traumatology, is because the right brain has been outside the mainstream till the 1990s. PTSD was born in the 1980s, when the unconscious was unpopular, and psychologists shunned emotions because they could not be measured. The situation was like looking at half the brain, or half the mind and denying existence of the other half.

The next session will be a film which will indicate a way of incorporating what we have learned in practice.

See also Valent, P. (2000). Have the universe and trauma a right brain language? World conference International Society for Traumatic Stress Studies.