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**One Clinician's Observation**

# **SLEEP ARCHITECTURE CHANGES WITH A TRAUMA BRAIN**

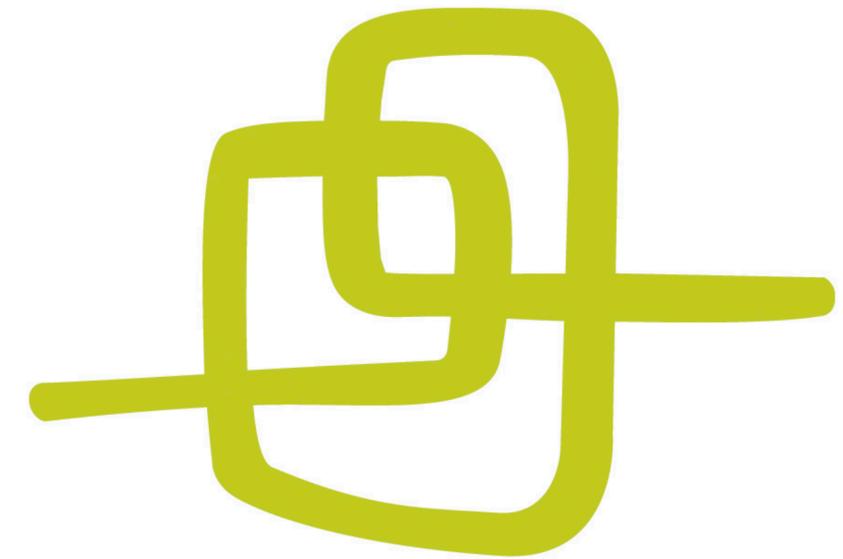
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# **CARMEL? WHO IS SHE?**

**This work was begun in the mid 90s  
with Military Veterans.**

**She found herself working alongside the marvellous  
Stephen Parks [Originally a Canadian] - neuroscientist  
turned Clinician.**

**He understood sleep (maybe started with rats).**



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# **SLEEP - THE UBIQUITOUS ISSUE**

- **most attendees at this DVA Counselling Service centre were Vietnam Veterans, some Korea War Vets and some WW2 blokes still hanging in there.**
  - **The primary issue for each was PTSD (of course)**
  - **BUT the most alarming thing was that SLEEP was mentioned overwhelmingly often**
  - **Of all the losses that a PTSD diagnosis explains, Sleep was a most prevalent LOSS**
  - **References: Hauri et al (1982) results showed that Biofeedback training (with SMR and Theta) were helpful for insomnia. Woodward (1995) - Neurobiology of PTSD Sleep**
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# PILOT STUDY

- **Using a computer, the subjects were given 30min x 13Hz photic stimulation training 3 times per week over 6 weeks.**
  - **This was affectionately called “blinky lights”...**
  - **Each filled in a Sleep Diary and the sleep events were recorded.**
  - **Sleep events included:**
  - **extended sleep latency, frequent waking, first waking after 2-3 hours, nightmares, night sweats, restlessness, non-restorative sleep.**
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# LIFESTYLE PROGRAMS

- In offering week-long residential programs for DVA, the topic of sleep was raised over and over
  - Although not recorded accurately, it became clear from listening to participants that the known list of sleep events was accompanied by a new notion of the “best quality sleep happens at sunrise, just when I ought to be getting up and on with the day”.
  - Also sleep that was restful happened often during afternoon relaxation, ie daylight hours.
  - LEADING to the next 20 years (or so) clients with trauma history saying “SAME,SAME”.
  - We began denying the usual adage “NO NAPS” if you want to reset your body clock.
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# RESEARCH?

- **Sadly, the research has not been done to date.**
  - **approaching Sleep Researchers - they say “interesting” but maybe too busy**
  - **approaching the Trauma Researchers - they say “interesting” but they haven’t got a fix for that (except Seroquel and other knock out meds).**
  - **So I am appealing to anyone who hears me to do the PhD or Dissertation**
  - **Firstly: establish the difference in Sleep architecture (ie absence of stage 3 & stage 4 SWS throughout the night)**
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# SELF MEDICATION

- **Sadly many Trauma sufferers use alcohol and cannabis to shut down their head hamster for the night.**
  - **Also sadly, that results in non-sleep, but more likely to be “unconsciousness”**
  - **When these patterns result in addiction, we have another issue to deal with then**
  - **If someone misses quality sleep over several years or even decades, we might expect them to be a little tetchy?!**
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# THE WHOLE POINT

- **growing up, did you ever hear someone berating you for lying around idle all day?**
  - **maybe consciously or unconsciously, we continue to berate ourselves for sleeping in the daytime.**
  - **STOP IT NOW!!**
  - **Tell yourself: “My unconscious mind is in control in the hours of darkness, and giving me the message that it is not safe. If something happens I need to be ready to deal with it, and if it is dark, I won’t be at my best for sorting out a threat.”**
  - **Tell yourself: “The best sleep quality I can obtain is during the hours of daylight, so if I go back to bed at sunrise, that is perfectly beneficial. Others are on watch now, and I can reach a deeper level of unconsciousness without risk.” “If I have a little kip after lunch, that is good too.”**
  - **Tell yourself: “If I am wide awake in the night, that is just my trauma brain watching out for threat.” “Maybe I can use the time effectively anyway.” “I will sleep when I can, just read my own body for a clue.”**
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# PILOT STUDY RESULTS

- **Our results showed that 80-something % of participants had improved sleep, ie reduced number of sleep events and more restful sleep.**
  - **the number of wakings during a night of sleep was not changed however. But those participants reported being able to return to sleep more readily after waking.**
  - **The nightmares and nightsweats were noticeably reduced.**
  - **So Entrainment (using 13Hz protocol) was found to be beneficial.**
  - **BTW - those who had their training in the morning, reported having a better day at work, while those who did their blinky light session in the afternoon reported having a more peaceful time at home with the family (IS THAT INTERESTING?)**
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# RECOMMENDATION

- **Even without a body of research to back up this claim, my years of proposing clients use entrainment on a regular basis has been met with a deal of support as a therapeutic benefit**
  - **Entrainment - now using Sound and Light Machines ([mindplace.com](http://mindplace.com) Limina and Kasina) or Binaural Beats programs offered as an App for Mac iOS and Android**
  - **What about Neurofeedback (NFB)? My understanding is that NFB is a permanent fix whereas Entrainment should be used regularly**
  - **Whichever method is used to assist the brain to override the natural tendency to be hyperaroused, overactive and “unable to shut down” at least give it a go. 85% of you will benefit in some way.**
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# TWO THINGS TO DO NOW

- **Firstly: Stop berating yourself for difficulty in sleeping during the hours of darkness, embrace the Sunrise-Snooze-Fest and the Afternoon Kip**
- **Secondly: Explore the benefits of Entrainment and or Neurofeedback AND**

**AND**

- **Then download handout “Altered Sleep Architecture in the Trauma Brain” and show it to anyone who needs to know this, ie GP Psychiatrist, sleep-mate, family, etc.**
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