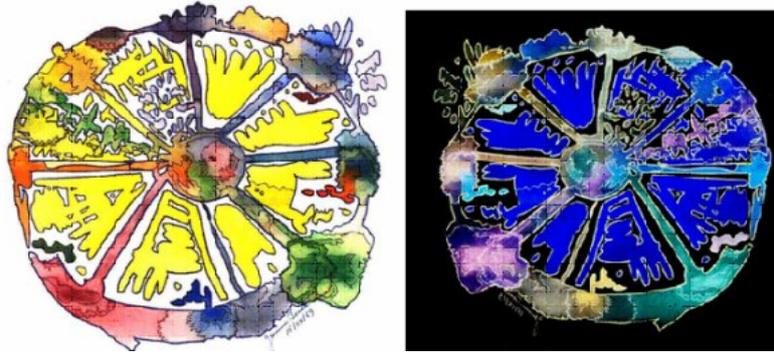


## TAD (Thoughts About Dementia) Newsletter



#57: 30th September, 2013

**Different types of logic may become apparent in people with dementia who have damaged rational logic abilities**

### **Related ideas for observations and research:**

Did you ever think about the futility of trying to *argue 'logically'* with someone who has difficulty *thinking logically* - *at that very moment, or who is unable to follow rational reasoning anymore?*

(Have you ever had difficulty trying to argue logically with someone who *is* able to think logically?)

Were you ever taught that there are other types of logical abilities in addition to 'rational logic' – e.g. such as emotional logic and sensory logic?

Have you ever encountered a communication or situation (like the ones described below with people with dementia), which started out so illogically and confusingly that you started responding by disputing the *incorrect facts* - even before you got information about *the story* the person was telling and *their perspective*?

Were you taught that people with dementia can have damage to logical thinking abilities - and that this can occur already early in the illness? If you had been, would you have been less likely to try to dispute 'the incorrect facts' with them?

Did you realize that trying to persuade people to accept *your way of seeing things* is a form of logical argument, even if such persuasion is attempted gradually, and in small steps, to try to help?

What were you taught to do if talking and 'reasoning logically' with a person with dementia didn't work, or made matters worse because the person was becoming more frustrated, defensive or angry?

Dear Reader

This TAD is about understanding behavioural changes in people with dementia. Specifically, it is about trying to understand how people adapt. When it is difficult (or impossible) to use one type of logical thinking ability, people will use other types of logic.

When is the last time you thought, “*that’s not logical*”, about something that someone did or said? Likely, you couldn’t understand how the other person connected a particular set of occurrences or facts – likely you would have connected them differently. When is the last time someone told you they didn’t think you were thinking logically? Do you remember what it was about?

The phrase “*it’s not logical*” also comes up in dementia care, as does the question “*why did they do that*”? Replies vary and include blaming it generically on ‘the dementia’ and/or to changes in someone’s personality. What is often not so well explained is that:

- . there are a variety of types of *cognitive* or ‘*thinking abilities*’ (it is not known yet how many distinct types humans have. i.e. ordering and sequencing ability and accurate time perception are only more recently being discussed)
- . there are different types of memory and attention, and also different types of *logical thinking abilities*
- . since in most dementing illness, several types of abilities are affected simultaneously, it is important to use more than just/only ‘memory aids’ to assist people. (Perhaps in the future, we’ll speak of using attentional and logical thinking aids too.)
- . if someone has difficulty using one type of reasoning or logical thinking ability, they will use whatever type of logic is still possible for them.

If Freud’s oft-quoted line that “*all behaviour has meaning*” is also assumed to be true for people with dementia, then it can be helpful to consider likely meaning/s and motivations behind behaviour, especially when the behaviour seems to change. (Some behaviour changes, such as changed reasoning or logical thinking ability have mistakenly been interpreted as personality changes, rather than as seeing the person with dementia having adapted and used their remaining abilities as best as they were able to. Some misunderstandings caused needless emotional pain - and sometimes also emotional distancing on the part of family carers - because they thought their family member had become a strange entity and ‘*wasn’t themselves anymore*’.)

### **Why can this be difficult for carers and caregivers to learn?**

There are at least three reasons why it is difficult to teach and learn this material.

1. When one’s own brain is working well, one’s ability to *think rationally logically*

seems so effortless and natural, that it is almost impossible to imagine what it is like to have difficulty in doing so - i.e. taking in, interpreting, and remembering 'linked facts' accurately. We tend to assume that everyone can think logically, effortlessly.

2. We are not aware in ourselves that when we think we are using different abilities that are accurately synchronized; it just feels as if thinking is one automatic ability. Unless we've seen examples of people who struggle to use particular abilities, we assume that almost everyone can 'think and reason', and does so in the same way.

3. It usually takes sound knowledge, empathy and some practise to appreciate that a person may be *doing their very best given their limitations* – versus being unhelpful, deliberately contrary, or stupid.

### **Only three types of logic will be referred to in this TAD**

Discussing logic can be complex. Various academics have defined and described different types of logic and meanings of logic that are largely beyond the scope of this TAD. Barnet Pearce <sup>1</sup> explains that “logics are patterns”, and that we use many types of logic patterns when we think. “Some involve rigorous reasoning, others, intuitive leaps.” (p. 14)

For ease of learning and direct application to caregiving, I'll refer here to three types of logic and make them correspond to the different types of memory I refer to in the TADs, courses and articles <sup>2-6</sup>.

**Box 1**, below, gives a longer explanation for these three types of logic.

**1. Rational (factual) logical reasoning** – the ability to take in and accurately link a set of facts correctly with respect to *cause and effect*, and remember them. This includes the ability to make any required calculations, order and sequence information, and absorb relevant contextual information accurately. (Cause and effect refers to patterns of connection, or likely estimations, that have an “*if [this] - then [that]*” , or “*this [is] - because [that]*” connection between the facts. )

**2. Emotional logical reasoning ability** has to do with applying memories of the emotional flavour of events and people to current situations. Some current emotional perceptions of people or things may feel so similar to and be reminiscent of people or events from the past, that this evokes the same emotional responses and behaviour related to the original memory. Some moods, emotions and social atmospheres that are reminiscent of certain people or events from the past, may cause a person with dementia to (temporarily or permanently) assume them to be present or nearby.

**3. Sensory logical reasoning ability** has to do with applying memories of one or more of the senses, to current situations. Particular physical attributes or qualities (sensory perceptions) of a person or thing may be/feel so familiar or similar to the *remembered* people or objects, that are (temporarily or permanently) assumed to be present or nearby. In terms of physical attributes, people or things may feel like or

be perceived as similar to something/someone else.

### **About the examples below**

The examples below are listed in an approximate order of progression or severity of an Alzheimer-type dementing illness. Damage to rational logic is often first evident in that people's *excuses or cover-ups for mistakes* are becoming untrue, improbable, downright illogical, and even impossible; they often do not appear to be aware of this. In the examples, notice that the people with dementia are:

- . not taking in, or forgetting relevant contextual information (facts)
- . are increasingly unable to notice that the 'if - then' connections to their thinking are not fitting together
- . often corrected by family members or caregiving staff, and are upset by this

### **Example 1 George thinks that his wife has left him**

A friend's husband, I'll call him George, frightened his whole family very suddenly one evening. My friend fell and re-injured a fracture-site from a year earlier. Serendipitously - her son was visiting and was able to take her to the hospital to be checked. George had been suspected of having early signs of dementia, but was not yet diagnosed; he had stopped driving a few months earlier. Since several hours of sitting around and waiting at the hospital were anticipated, they decided together that it would be best if George stayed at home. The hospital visit took five hours. The son phoned hourly to update his father about details - the wait, examination, x-rays, more x-rays, and expected time of return home. No problem was anticipated.

When they arrived home at 11 pm, George was distraught. He was angry at his wife's "outrageous behaviour". There were several phone calls from family members even at this late hour. After some detective work, my friend discovered that George had not remembered any of the phone calls from their son. When it had become dark and he could not find his wife, he became anxious, called out and continued looking for her, to no avail. He noticed the car was gone. She normally did not go anywhere without him. So, when he could not find her, he panicked, fitted 'the current facts' together as best he could, and concluded that she'd "left him". He had phoned each of his children and other relatives, telling them the shocking news that (fitted the only pieces of evidence that he was able to remember and put together) his wife had gone off and left him.

She asked me – **why did George think this; how could he have made such preposterous phone calls? It simply wasn't logical.** The facts:

- . she had been with him through thick and thin; they have several grown children and a score of grandchildren who they are close to
- . they had never been separated in 55 years
- . they did most everything together, including taking daily walks still.

**If** she had ever left him before, or been disloyal, or threatened their relationship in any way, **than** she could have understood his conclusion - that she'd left - but she hadn't!

### **Short answer to my friend**

The *facts* that were obvious to you were not the same facts that George was considering. He was having some short-term memory difficulties and had panicked when it got dark. (Sometimes, even people who don't have dementia can become frightened, have raised adrenalin levels, and may be thinking more emotionally than 'rationally'.) He had looked everywhere for her, become increasingly worried, and when he couldn't find her or the car, he did his best to fit the facts that he could perceive together – namely that he was alone, at night, she had been gone for many hours, had taken the car and left him without any explanation or goodbye.

### **Example 2 A wife asks why her husband hasn't put out a plate for her mother**

A gentleman who is the sole carer for his wife, who has dementia, related the following happening at a course.

*“My wife has been diagnosed with Alzheimer's dementia for three years now. She's been mixed up about all kinds of things but this is the first time she has been talking about the dead as if they are living. It really scared me.*

*I had made dinner and called her to the table. She didn't want to sit down. I asked her what was the matter. She asked me why I hadn't set a place at the table for her mother. I said that her mother had been dead for years! Obviously, **if** her mother was dead **then** she couldn't be here and eat. Furthermore, we had never set a place for her mother at our table because she never visited our place! Her mother couldn't travel, so we always went to her home.*

*My wife was upset and we had a terrible row. I didn't understand how this could have happened. **Why should my wife say such a thing – it's not logical?** She's never done this before.”*

### **Short version of the answer to the carer**

It sounds like your wife's dementia is progressing, and that she is now approaching or in, Behavioural Stage 2. This means there is damage to both her *factual memory* (but not emotional and sensory memory), and to her *rational logical thinking ability*. This means she cannot:

- . remain *oriented in time*
- . *update time-related memories*
- . *store new memories according to their time of occurrence.*

When *factual memory ability* is damaged the *other types of memory, namely*

*emotional and sensory memory* are used. However, since the information these other types of memory provide is not related to time, and, they have their own 'logic'. Using this combination of abilities means that it is likely that - when your wife sees/smells dinner being prepared, and sees/hears the table being set - she recalls the 'emotional flavour' of memories of family meals and thinks of family and being together. She could do this (make such emotional and sensory associations) without knowing exactly what the present time, date and place are (neither her age, or the ages of anyone she is thinking of). She may express her awareness, (as she did) - as an expectation or wish for the whole family to be together... without an accurate awareness of or reference to time or timing.

If it happens again, instead of correcting the mistaken 'facts', try to find out what she is thinking, recalling or feeling. You might ask,

"Were you thinking about eating all together?"

"Do you remember when we last ate together with you mother?"

"Were you just thinking of her"? "Were you missing her?"

"Remember how she loved to cook... or eat ... [such and such]?"

"Would you like to have people over for dinner again so the table feels fuller, like it used to?"

### **Example 3 A caregiver tries persuading a 90 year old that mother cannot be alive**

*Note: The caregiver, Holly, knows that Miss Donet has generic memory troubles. She is unaware that Miss Donet has difficulties with factual memory (but not emotional memory), and reasoning ability, which requires rationale logical thinking and sufficient memory to utilize a number of concurrent facts. Holly tries to reason with Miss Donet using a step-by-step, gentle approach, which she thinks Miss Donet can follow. She is unaware that Miss Donet can no longer do simple additions (about age), and especially so since she does not know how old she is right now!*

*At the close of this example, Holly, not Miss Donet, is having difficulties. Holly has lost her own reference points - she does not yet know that there are different types of logical ability and memory. All she knows is that Miss Donet is not being 'logical'.*

**Miss Alice Donet**, 90, widowed, moved into a care home three years ago. She has started referring to the care home as 'home' in recent months. She asked Holly where her mother was one afternoon; this hadn't happened before, so Holly was surprised. She hoped that, although Miss Donet was becoming increasingly disoriented in time, it would still be possible to get her to remember that her mother had died long ago, without having to tell her so directly using those words.

Holly tried to do this, in stages:

"Do you remember that you turned 90 a few weeks ago?"

No, Miss Donet didn't remember that she'd turned 90. She denied being this old.

Holly continued.

“Do you remember the big party we had here for you a few weeks ago?”

“No.” Miss Donet didn’t remember anything about a party.

“We sang for you and had flowers and a cake. We put all the candles we could fit on it, and you blew them all out, remember?”

Well, ... Something of that, Miss Donet did recall (probably through ‘emotional memory’ as opposed to ‘factual memory’). She nodded in agreement.

*[Miss Donet cannot calculate accurately, update the passing of time in her memory anymore, and does not know how old she is. However, she does seem able to recall - with a bit of prompting - some emotionally salient events of the recent party celebration].*

Holly took this as a good sign that Miss Donet remembered her age, and continued.

“You told me that your mother was 30 years old when she had you, isn’t that right?”

“Yes, that was right.” She remembered her mother often recounting that ‘30’ was considered to be old for having a child in those days – Alice’s arrival had been considered something special since her mother was the ‘oldest mother’ the village.

Holly continued, circumspectly. She thought she was making slow and steady progress in reasoning with Miss Donet in this way.

“Well, 90 is old - you’ve lived a long time. Have you ever met any 100-year-olds during your life?”

“No,” Miss Donet admitted, she’d never met anyone who was 100 years old.

Holly proceeded to the final logical link, assuming that there was only one, obvious, conclusion.

“Well, if you’ve never met anyone who is 100, and your mother had you when she was 30, and you’re now 90, that would make your mother 120 wouldn’t it? Now that’s not very likely is it?”

Miss Donet, sensing opposition, became upset.

“Shush”, she said to Holly, motioning her closer and whispering angrily to her.

“I know that and you know that! But, mother doesn’t know that!”

Holly is confused! This answer sounds so crazy, as if she’s admitting that she’s right, but she’s also wrong. Holly is unsure of what to say next. Should she tell Miss Donet that her mother is dead, ignore it, or do something else.

*Miss Donet’s reply illustrates ‘emotional logic’. In her perception of life, she is young, contented and living at home - so her mother must be somewhere nearby. She does not want her mother to be upset, or for her assumed presence to be questioned or disproven.*

#### **Example 4 A lady rubs the arm of a chair as if it is someone she loves**

Mrs. Bishop lives in a care home and is in Behavioural Stage 3 – repetitive motion. She cannot walk independently anymore although she can weight bear. Her speech is limited to a few repeated phrases, which she says frequently – to express herself and self-stimulate, (since people do not know how to converse with her, and don't encourage her to use even the little speech she has). Mrs. Bishop has been labelled as 'noisy'. Since other residents do not like sitting near to her, and constantly tell her to be quiet, staff have moved her as far out of earshot as possible from the main lounge area, to a small room where she is mostly alone.

Although she often calls out and sounds distressed, one thing that Mrs. Bishop seems to interact with positively, is the thick wooden arm of an old dining chair that is next to her chair. It is firm and smooth; she slowly rubs her hand along the length of it, over and over again - in the same direction - as if she is stroking the arm of someone she loves. Surprisingly, one afternoon Mrs. Bishop starts singing part of her father's favourite song "*In the shade of the old apple tree*". When a male caregiver comes over to help her to eat her meal, she calls him "father", although this is not part of her normal speech-repertoire. She also pulls him near, holds his hand and starts singing "In the shade of the old apple tree" to him. She appears happy.

**It seems that Mrs. Bishop is using both sensory and emotional logic**, in relating to the male caregiver, and to her environment, which, in that moment, feels like home.

Mrs. Bishop's example is similar to the You-tube video-clip of Naomi Feil with Gladys Wilson<sup>7</sup>. Naomi through her voice intonation and actions feels like Gladys Wilson's mother, and Gladys then starts to behave as if she is with her mother.

#### **Puzzling, rapid fluctuations in accurate factual content**

Likewise, in Dr. Bere Miesen's work<sup>8</sup>, there are many examples of interviews with people with dementia who say things that fluctuate factually and logically, even within a single conversation. Many of his examples involve people speaking as if their parents are alive - then suddenly, often briefly - being away that they have died. Some people eventually speak about them as if they are present again.

#### **Is mother dead or not?**

The briefest such conversation that I have had was with a lady in a nursing home and it went like this:

*The lady said to me:*

*"The nurse just came in here and told me that mother is dead. How could she do something like that? I told her that she didn't know what she was talking about. If mother is dead, I would know about it! I told her Mother is NOT dead and she should shut up and not upset people. But, you know, the day mother died was the saddest day in my life, and I miss her so much. I miss her everyday. And I think of*

*her and need her. That's why I keep her here with me, so she's always close by to me."*

Such conversations are confusing for carers and caregivers because they are not factually logical with regards to having fixed and stable reference points. The main question carers and caregivers ask is – **‘Does this lady know, or not know, that her mother is dead?’**

The answer seems to be both, intermittently, depending on how safe she is feeling. Since the lady's mother died long ago, long before this lady developed dementia, deep down somewhere she does know mother is dead – likely this information is in both factual memory and emotional memory stores. Because it's a painful thought, she doesn't like thinking about it – just like we don't like thinking about our unhappy memories.

Memories about her mother tend to come to mind when she's alone. When she is not alone - for example when she's doing activities - the subject of mother does not arise until the activity stops. Then she becomes worried about being alone again and asks about where her mother is. When she's with a caregiver who is talking with her about her mother, she does admit to missing her mother and thinking about her a lot, and sometimes says she knows she is dead.

*[I assumed that this lady was referring to her feeling about and memories of mother. Note: what makes this conversation less confusing for carers and caregivers to understand, is realizing that people who are permanently 'disoriented in time' have difficulty using complex tenses and word ending. They tend to use 'present tense' for everything they say.]*

*A reply to the lady could have included asking things like:*

- . You miss mother often?*
- . Does thinking and talking about your mother make you feel better?*
- . What do you remember most about her?*
- . Are you similar to your mother at all?*
- . What do you think makes a 'good' mother?*
- ... and other reminiscences about mother*

Since it runs counter-intuitive to normal adult communication not to correct facts and illogical conclusions, carers and caregivers need to be taught not to be so upset if 'the facts' don't necessarily all tally in what a person with dementia is relating. It is also possible to help and communicate with a person with dementia through understanding their emotional and sensory-perceptual functioning. This is best done by having some understanding the possible reasons for their 'factual logic mistakes', and by appreciating how they are still using other types of logic.

## **Conclusion:**

For the purpose of dementia care, describing different types of logic, which relate to the different types of memory stores, seems a useful aid both for understanding changed behaviour and for selecting helpful communication and care approaches.

Understanding about different types of logic can help family carers and professional caregivers to:

- . anticipate how people with dementia may respond in certain situations, so that carers and caregivers can be prepared, or think of options for assisting them
- . refrain from trying to correct a person inappropriately and thus spare everyone involved needless uncomfortable emotions
- . use this knowledge to try to help make people with dementia feel as safe and comfortable in unfamiliar environments as possible (including on outings, and care settings such as Respite Care, Day Care and residential/nursing home care settings)
- . identify that **there is a time to stop correcting the [mistaken, partial, poorly connected] facts, when a person has permanent damage to rational logical thinking ability**

This understanding about different types, and changes to, logical thinking abilities will be referred to in upcoming TADs about my communication model for dementia care, and the variety of categories of responses possible.

Best Regards,  
Gemma

## **References**

- 1 Pearce B (1994) Interpersonal Communication. Harper Collins College Pubs. Pp 377.
- 2 Jones, GMM, 2009, Course notes book syllabus for: 'Communication and Care-giving in dementia: a positive vision'. The Wide Spectrum Publications, Sunninghill, Berks., UK. SL5 7BH, (pp 229)
- 3 Jones GMM 2012, The TAD newsletters (thoughts about dementia). Vol. 1, the first fifty. The Wide Spectrum Pubs, Sunninghill, Berks., UK, SL5 7BH. (pp 250)
- 4 Jones GMM (2004) Metaphors for teaching about changing memory and cognition in Alzheimer's disease: Bookcases in a library. In: Vol 3 Care-giving in Dementia (GMM Jones & BML Miesen/ Eds). Brunner-Routledge, Hove. Pp 37-66.
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- 6 Jones GMM, Burns A, (1992) Reminiscing disorientation theory. in: Care-giving in Dementia (Jones and Miesen; Eds.) pp.57-76.
- 7 Naomi Feil and Gladys Wilson, You-tube clip.  
<http://www.youtube.com/watch?v=CrZXz10FcVM>
- 8 Miesen BML (1999) Dementia in Close-up. Routledge Pubs., London. Pp 167 –

**Other TAD (thoughts about dementia) newsletters related to this topic**

These TADs were sent out as a newsletter from The Wide Spectrum Publications., Sunninghill, Berkshire, SL5 7BH, UK, from the website of thewidespectrum.co.uk and were also published in the book as in reference 3, above.

Jones GMM, **TAD\_25**: 6 January 2011 Changes in time perception. Sent out as a newsletter from The Wide Spectrum Pubs., Sunninghill, Berkshire, SL5 7BH, UK, from the website of thewidespectrum.co.uk

- . Jones GMM, **TAD 31**: 29 April 2011, Wedding celebrations and learning in dementia
- . Jones GMM, **TAD 38**: 10 Aug. 2011, Fluctuating abilities, facades and fear.
- . Jones GMM, **TAD 39**: 15 Sept. 2011, Mistaken identities – the phenomena of Stage 2 Buddies.
- . Jones GMM, **TAD 40**: 26 Sept. 2011, The positive use of humour as a communication option in dementia care.
- . Jones GMM, **TAD 41**: 14 Nov. 2011, The purposes of staging models for dementia.
- . Jones GMM, **TAD 50**: 23 Aug. 2012, Different types of hoarding and collecting behaviour in dementia.
- . Jones GMM, **TAD 51**: 15 Oct. 2012, Dementia Care: assumptions and key considerations.

**Box 1 Three different types of logic for the purpose of this TAD**

**Definitions**

**Logic** is about patterns of *thought connections* that follow an “if.... then” template.

Logic is about how things (events, conversations, sensations, perceptions, facts, predictions, expectations) *are experienced as relating* to each other, subjectively, regardless of what is experienced or observed as objectively true by others. This definition means that, when people have brain damage, or experience specific and/or altered states of consciousness, it is important to know about what they [remember about] their (sensory/perceptual) experience, and their (cognitive) understanding of what happened, because these can affect their behaviour.

Each type of logic (of the various and as yet unknown number of types of logic) can be thought of as a chain of associated *thought connections that can*

*potentially influence behaviour.* Behaviours occur in response to whatever information a person is able to perceive, store, and retrieve or utilize [facts, thoughts, emotions, imagination, sensations and perceptions], depending on their overall health and state of being.

**1 Rational (factual) logic**, also referred to as factual reasoning ability, is thought of as an ability that allows us to work with information where items or facts are linked to, or follow on from something else, and accurately establish cause and effect within a chronological time framework. (*If* this happens - *then* this, *or* this will likely happen, or not happen. *This* happened *because that* happened.) For example, from a *first person perspective*, conversations and actions occur in a particular order or temporal context <sup>1</sup>. Someone does/says some thing, after another thing and before yet another thing.

Rational factual logical thinking ability becomes difficult/impossible for people with dementia when, 1) time perception abilities change as a result of brain damage to hippocampal and proximate structures, and 2) the various abilities required to accurately notice, store and retrieve factual details (e.g. about context, conversations, events) is reduced.

*E.g. if I am missing my handbag, and you are the only other person present in the room or building, then I may mistakenly conclude/think that you have stolen from me - and may do so again.*

**2 Emotional logic** - current emotional feelings or moods are linked to [memories of] a similar feeling and its context (person, place, time, event) and can be mistaken for it. (The terms *transference* and *countertransference* describe such mistaken interpretations in counselling settings <sup>3</sup>, which can usually be identified and corrected. However, in people with dementia who are disoriented in time and who cannot learn new facts, such mistaken symbolic associations, usually cannot be corrected. This means that carers and caregivers may function as ‘symbols of others’ rather than as individuals with their own identity.

. **If** it feels [emotionally] like this, **then** I know or assume that ... [these people are present, that this event occurred, or this is present or happening].

*E.g. if I don't know my age, and I feel safe and happy in this room, and we are reminiscing about my early years living at home, then I may assume that my parents are nearby, even if I don't see or hear them.*

**3 Sensory logic** - current physical attributes of a person or thing are perceived as and feel like those, which have previously been experienced, and evoke responses linked to them. Just as for the explanation of emotional logic above, people with dementia who are *disoriented in time* may assume the previously experienced person or thing to be actually present.

. **If** I sense this [sensory perception], **then** I know or assume that [something] is present or occurred.

E.g. **if** I don't realize I have poor hearing (and therefore also don't compensate for it), and the conversation of two people nearby to me sounds like whispering, **then** I may think that the conversation is about me. I may assume that I am being excluded from the conversation, as well as from other social activities, because it seems and feels just like what happened when I was marginalized in primary school.

### **Yet another approach to describing different types of logic**

Barnet Pearce writes, “fortunately logicians have developed **many useful logics**” [bold emphasis added by me]. He refers to Kaplan's (1964) '*logic-in-use*' and '*reconstructed logic*' to explain the difference between what people do, versus, how they explain why they did what they did, after-the-fact.

Pearce asserts that the formal patterns of alethic (true/false) logic and deontic (moral obligation) logic, show that it is possible to reconstruct the '*logic of meaning and actions*' for what conversants do, regardless of whether they are conscious of why they did what they did. He suggests that all “interpersonal communication can be described in a logical form – the basis of which involves our perceptions of how we *ought to act*...[i.e. intentionality]”<sup>2</sup>.

### **Appendix 1 Different types of memory means different ways of 'knowing'**

This is a brief overview of the different types of memory as discussed in a communication textbook<sup>2</sup>.

#### **Different types of memory help to understand about different types of logic**

On my courses, I refer to different types of memory, which are accessed by and stored in different parts of the brain. Each type of memory is described as stored in different *memory bookcase*; all present within a *library of memory bookcases*. A distinction is made between:

- 1) memory for facts (details about who, what, how, where, when, why)
- 2) memory for the emotional flavour or feeling of things (people, places, objects, events)
- 3) memory for perceptions of each sensory modality (visual, auditory, olfactory, gustatory, proprioceptive, including kinesthetic memory for balance, movements and rhythms).

#### **What else?**

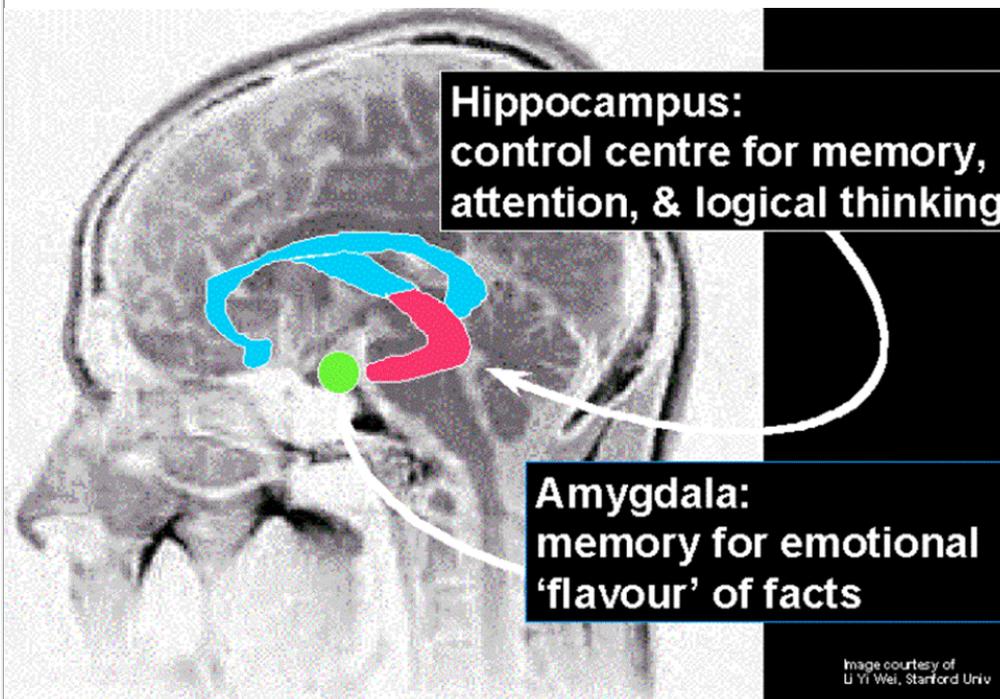
The part of the brain that is damaged first in most (not all) dementing illnesses are the 'hippocampi' (meaning seahorses) of the brain. See diagram below for

their location.

There is a hippocampus (singular) on either side of the wish-bone-like shaped structure (the limbic system). The hippocampi (plural) are the most studied structures in the brain and have many functions. For the purpose of my dementia courses, they are referred to as the *control centres* (as opposed to discrete locations) for three things –

- 1) **memory** for facts,
- 2) **attentional** ability
- 3) **logical thinking** (reasoning) ability

Note: the first letters of these words spell ‘**mal**’, which, by co-incidence is the prefix for Behavioural Stage 1, Mal-orientation. This ‘mal’ can be used as a mnemonic to help remember some of the important abilities that become fragile in the first stage of an Alzheimer-type dementia.



**Slide from GMM Jones, Dementia course teaching, and used on Chap. 3 Metaphors for teaching about changing memory and cognition in Alzheimer's disease: bookcases in a library. Pg 64, in: Vol. 3 Care-giving in Dementia, GMM Jones and BML Miesen /Eds.) Routledge, London, 2004.**

In Alzheimer's disease and in most (but not all) dementing illnesses, the hippocampi are damaged first. The structure labelled as the amygdala, is the control centre for emotional memory. It is most spared from damage - hence memory for the emotional flavour of events is possible. This spared ability helps us to understand how different types of memory can provide different types of information to a person, and that when one type of memory is

damaged another type can become the dominant type of memory. This explains how a person with dementia can still 'know' what's happening in their world, and despite their limitations, will try to 'problem-solve' the events that happen in it.

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Feedback: We are not yet set-up for feedback, but hope to be in the future.

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