Origins of Psychology

Wilhelm Wundt:
- First experimental lab in 1879
- Document and describe human consciousness
- Record conscious thoughts and break down into constituents (Introspection)

Scientific Approach:
- Watson (1913) - behaviourist approach and emergence of psychology as a science
  - Scientific language, rigour and methods
  - Scientific processes of learning
Social Learning Theory

Bandura—development of the behaviourist approach—important mental processes/mediational processes occur between stimulus and response

- Learning occurs through observation of role model and imitation of others in a social context
  - **Live model**—in their environment—e.g. teacher/parent (or Me!!)
  - **Symbolic**—in the media—e.g. TV character

**Mediational processes in learning**

- **Attention**—notice behaviour
- **Retention**—remember behaviour
- **Motor reproduction**—has to be physically possible—opportunity/skills
- **Motivation**—reason to copy—e.g. reinforcement
The Cognitive Approach

**Definitions**

- **Cognitive approach** – focus on how mental processes affect behaviour
- **Schema** – package of beliefs and expectations on a topic from prior experience to organise behaviour
- **Machine reductionism** – reduction of human behaviour to thinking like a computer
Humanistic approach

- Claims human beings are **self-determining** – with freewill
- Still influenced by external and internal influences but are considered active agents – ability to shape and determine development
- Innate tendency to achieve their full potential Not everyone will reach self-actualisation due to psychological barriers

- **Maslow (1954)**
- Must meet basic needs before self-actualisation

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![Maslow's Hierarchy of Needs](attachment:maslow金字塔.png)
Biopsychology: neurons

Types:
- **Sensory** – PNS → CNS – long dendrites, short axons
- **Relay** – sensory to motor and other relay neurons – short dendrites and axons
- **Motor** – connect CNS to effectors (muscles/glands) – short dendrites and long axons

Process:
- Stimulus detected → message along sensory neurons → reach CNS → connects to relay neuron → transfer to motor neuron → carried to an effector

Arrangement:
- **Dendrites** carry electrical impulses from other neurons → **axon** extends from neuron → covered by **myelin sheath** = increase conduction speed → action potentials travel down axon from **node of ranvier** to the next
## Localisation of Function – Evaluation

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
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<tbody>
<tr>
<td><strong>Brain scan evidence:</strong></td>
<td><strong>Plasticity</strong> – localisation may not be the right explanation as brain can reorganise itself in attempt to recover lost functions</td>
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<td>- Tulving et al – semantic and episodic memories reside in different areas of PFC</td>
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<td>- <strong>Peterson</strong> – brain scan showed Wernicke’s area active during listening task, Broca’s area active for reading</td>
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<tr>
<td>Case study – <strong>Phineas Gage</strong> – altered his personality and behaviour but was still physically capable of working</td>
<td>Higher cognitive functions are not localised – diffused across the brain areas – extent of damage not location determines recovery</td>
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**Neuropsychological evidence**  
- Dougherty et al – OCD patients underwent a cingulotomy, 1/3 met criteria of successful response – success of procedures = symptoms associated with that area (localised)  

**Neurosurgical evidence** – extreme treatment – destructive – controversial
## Circadian rhythms: Evaluation

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| Practical application – shift work – knowledge on adverse effects occurring when circadian rhythms are disrupted  
- Boivin (1996) – reduced concentration at 6 am – more likely to have accidents  
- Knutsson (2003) – 3x more likely to suffer heart disease, stress and ill health – lack sleep quality | Poor control – ppts had access to artificial light – assumed to have no effect = low internal validity  
- Czeisler (1999) – dim light can adjust a circadian rhythm from 22 to 28 hours. |
| Practical application – drug treatments and pharmacokinetics  
- Circadian rhythms coordinate bodily processes – timing of dosage could aid treatment for cancer, heart disease and epilepsy  
- Action of drug and how well they are absorbed/distributed at peak times/when most effective | Individual differences  
- Individual cycles vary from 13-65 hours (Czeisler), people have preferences – larks and owls (Duffy)  
- Age effects cycles – Siffre repeated his study at aged 60, finding a slower bio clock |
| | Small samples – limits generalisability |
Ultradian rhythms

- Less than 24 hours to complete cycle

**Stages of sleep**

- 5 stages identified – cycle lasts 90 minutes – occurs multiple times a night
  - 1 – between sleep and awake – hypnagogic hallucinations (twitching, falling)
  - 2 – theta waves, deeper sleep, sleep spindles and K-complex
  - 3 – delta waves – slow wave sleep, difficult to wake
  - 4 – delta waves (same as stage 3)
  - 5 – REM sleep – paradoxical – paralysed body but active brain – fast jerky movement of eyes
### Exogenous Zeitgebers: Evaluation:

**Strengths**

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<th>Evidence for light: received by skin receptors on body – powerful zeitgeber</th>
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<td>- <strong>Campbell and Murphy (1998)</strong> – 15 pts woken at various times and had light pad shone on back of knees – deviation in cycle of up to 3 hours</td>
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**Weaknesses**

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<th>Other complex processes – numerous circadian rhythms in organs/cells – peripheral oscillators found in adrenal gland, liver, lungs (Etc)</th>
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<td>Influence of exogenous zeitgebers may be overstated – occasions where they have little effect – one zeitgeber alone may not have an effect</td>
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<td>- <strong>Miles et al (1977)</strong> – blind man since birth, CR of 24.9 hours – exposed to social cues but could not adjust cycle – needed sedatives and stimulants to keep up with 24 hour world</td>
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