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Introduction to Cognitive Science
Assignment 2

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1. Phineas Gage

Altered Brain Functions:
- Loss of vision in his left eye
- Reduced social intelligence and awareness — was prone to swearing more often after the accident.
- Reduced social inhibitions
- Periods of delirium later in life.
- temporary impairment to decision making.

Unaltered Brain Functions
- Speaking ability
- Unimpaired intelligence (long term)
- Generally consistent memory
- Ability for physical labour. (He was engaged in stage driving again)
- Ability to walk and sit upright unassisted.

While H.J Bigelow seems to have understated Gage's behavioural changes and Harlow overstated the same, it seems that most of the behavioural changes were only temporary, improving over time — so while initially "unemployable" he soon found himself back at work.

What we can say on the neocortex: based on Gage's case, the alterations after a serious injury to the neocortex led to only a prominent impact on social intelligence functions like inhibition and awareness. Other brain functions, like motor or sensory, remained unharmed. The few side-effects might have even subsided over time.

2. A : Central Sulcus
B : Frontal Lobe
C : Lateral Fissure
D : Temporal Lobe
E : Transverse Fissure
F : Occipital Lobe
G : Parietal Lobe
H : Cerebellum

3. a) gyri, sulci
b) four, functional significance
c) Parietal Lobe
d) frontal
e) hearing. primary auditory cortex

g) frontal lobe.

p) cerebaro-spinal fluid, shock

h) neurons, axons

i) frontal

j) The corpus callosum is a wide nerve tract consisting of commissural fibers. It is beneath the cerebral cortex. It spans the longitudinal fissure and enables communication between the left and right hemispheres.

k) Mid-sagittal section
Coronal Section
Horizontal section, at the correct height.

l). The resting brain is still at work on involuntary actions - breathing, maintenance of metabolic rate, etc. So it is never truly "at rest"