

Localisation of Function

Psychology

The evidence for localised functions, and the case for distributed networks.

Localisation evidence

- Broca's area — speech production
- Wernicke's area — comprehension
- Motor and somatosensory homunculus
- Phineas Gage — frontal damage, personality change
- Focal lesions cause specific deficits

Distributed evidence

- Lashley: equipotentiality in learning
- Complex tasks activate many regions
- Plasticity allows functional takeover
- Networks, not single areas
- fMRI shows widespread co-activation

THE DIFFERENCE THAT MATTERS

Modern view: functions are localised but organised as networks.
Damage to a node disrupts the network, not just one function.

Broca's aphasia impairs production with comprehension relatively intact; Wernicke's produces fluent but meaningless speech.