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Brodmann's Areas of the Cortex

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Definition

Brodmann's areas of the cortex refer to 52 regions of the cerebral cortex that were identified in 1909 by German Neurologist, Korbinian Brodmann, based on cytoarchitectonic (cell size, spacing or packing density, and lamination) differences. Brodmann's areas are typically shown on a map of the brain surface, but each region is continued through the depth of cerebral cortex. These regions were originally identified based on Nissl-stained sections of human brain; however, Brodmann believed that they applied to all mammals.

Current Knowledge

In some cases, the boundary identified by Brodmann is also a functional boundary. For instance, primary visual cortex is contained in Brodmann's area 17. Brodmann's area 18 is considered to be higher-order visual cortex.

Somatosensory functions are associated with Brodmann's areas 3, 1, and 2, with part of area 3 being recognized as primary somatosensory cortex. Brodmann's areas 41 and 42 are associated with audition (hearing). Primary motor cortex (the output for motor commands) is associated with Brodmann's area 4, while premotor cortex (where the decision to move likely arises) is found in Brodmann's area 6.

A different interpretation of cytoarchitectonic regions (107 areas) was published by Constantin von Economo and Georg N. Koskinas in 1925.

Cross-References

- ▶ [Auditory Cortex](#)
- ▶ [Cerebral Cortex](#)
- ▶ [Neocortex](#)
- ▶ [Somatosensory Cortex](#)
- ▶ [Visual Cortex](#)

References and Readings

- Brodmann, K. (2005). *Brodmann's: Localisation in the cerebral cortex* (trans: Carey L. J.). Berlin: Springer.
- Falk, D., & Gibson, K. R. (Eds.). (2008). *Evolutionary anatomy of the primate cerebral cortex*. Cambridge: Cambridge University Press.