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TRANSACTIONS OF THE

ON TWO LITTLE-KNOWN CEREBRAL FISSURES,
WITH SUGGESTIONS AS TO FISSURAL AND GYRAL
NAMES.

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In all adult human brains examined with reference to them in the anatomical laboratory of Cornell University, there have been found, more or less distinctly marked, two fissures which are seldom figured or described, but which probably have considerable morphological significance.

The one indents the dorsimesal margin just cephalad of the precentral fissure and paracentral lobule. In the brain exhibited (from an adult mulatto) it is particularly distinct, and is shown in the outline figure in the *N. Y. Med. Jour.*, Feb. 23, 1885, fig. 42. It seems to have been described by Lussana and Lemoigne ("Fisiologia dei centri nervosi encefalici," Padova, 1871, fig. 177,) as *Solco inflesso*; paronymized, in Latin this becomes *fissura inflecta*, and in English the *inflected fissure*. At first glance it strongly suggests the cruciate fissure of the Carnivora, especially when the branches of the precentral border what resembles the sigmoid gyrus; but such a homology must not be admitted without further investigation. For some of the difficulties involved see the Transactions of this Association for 1883, p. 63.

The other fissure is likewise well developed upon the brain exhibited, which was hardened within the skull by arterial alinjection, and hence escaped the injury and distortion which are sometimes inflicted upon the base, during the ordinary processes of removal and preservation. The fissure appears upon the meso-ventral aspect of the temporal lobe, near its tip, extending caudad for 1-3 cm. from the horizontal portion of the Sylvian, between the ventro-cephalic ends of the

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hippocampal and collateral fissures. My attention was called to it this spring, and its constancy, and its relation to the Sylvian fissure and the insula led me to homologize it with the postsylvian portion of the fissure which, in the cat, for example, forms the dorso-lateral margin of the tract continued caudad from the olfactory lobe and crus. In man and other primates the great development of the insula and of the true cerebral portion of the hemisphere throws the fissure upon the ventro-mesal aspect, but, there is no essential change in its relations with the parts above named. Later I found that this homology had already been recognized by Owen and Broca in their naming of the fissures of the human brain. Owen's prior name is *basirhinal*; the name employed by me ("Anatomical Technology," p. 496, and elsewhere) is *postrhinal*. If it can be shown to have a constant relation with a constant ental part, the *amygdala*, a name derived therefrom, like *amygdaline*, may be found preferable.

As to the names of the fissures and gyres, on the assumption that, excepting the hippocampal, callosal, rhinal, and part of the Sylvian, all which have definite relations with ental structures, it may be long before the homologies between the primatial and carnivoral parts are satisfactorily determined, I make the following suggestions:

1. That all the indentations of the cerebrum be called *fissures* (abbrev. F.), and this word be restricted thereto.
2. That, excepting a few parts (*insula*, *cuneus*, *præcuneus*, *paracentral lobule*, *uncus*, *subiculum*, *operculum*, etc.) which have received special names, all the interfissural elevations be called *gyres*, Latin *gyri* (abbrev. G.), and that this word be restricted thereto.
3. That, so far as possible, mononymic names for the fissures and gyri be selected from among those which are in use, or formed therefrom by substituting prefixes for words indicating relative position.
4. That in a few cases ambiguous descriptive names be replaced by words indicative of position, relative to other parts having well-established names.
5. That *insula* be preferred to *lobus centralis*, and *central fissure* to *fissure of Rolando*.

6. That the name *Sylvian fissure* be applied only to that portion of the human fissure which is commonly present among other mammals (the "horizontal" or "posterior" branch).

7. That besides the true operculum (between the "posterior" and "anterior" branches of the "Sylvian"), three other opercula be recognized and designated by names indicative of relative position.

In accordance with the above suggestions I have selected or formed the following names for the principal human fissures and gyri. The words here employed are the English paronyms of the corresponding Latin names.

I.—Fissures, mainly or partly mesal.

Callosal, supercallosal, inflected, paracentral, precuneal, occipital, medioccipital, suboccipital, calcarine, postcalcarine, collateral, amygdaline.

II.—Gyres, mainly or partly mesal.

Callosal, paracentral lobule, precuneus, cuneus, postcalcarine, subcalcarine, subcollateral, hippocampal, uncus, subiculum.

III.—Fissures, mainly or partly lateral.

Sylvian, presylvian, subsylvian, basisylvian, olfactory, triradiate, central, precentral, superfrontal, medifrontal, subfrontal, postcentral, parietal, supertemporal, subtemporal, intermediate.

IV.—Gyres, mainly or partly lateral.

Operculum, preoperculum, suboperculum, postoperculum, insula, subfrontal, medifrontal, superfrontal, precentral, postcentral, parietal, marginal, angular, supertemporal, meditemporal, subtemporal, superoccipital, medioccipital, suboccipital.

