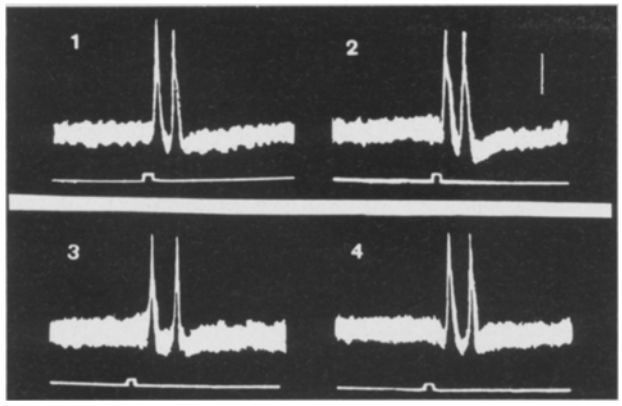

Fig. 3. The spikes of Pacinian corpuscles. 1 and 2. Kitten No. 11 in 6 months after operation; 3 and 4. cat No. 27 in 8 months after operation. 2 and 4, newly formed receptors; 1 and 3, normally formed receptors. The duration of mechanical stimulation (the mark beneath photoes) is 1 msec; calibration is 25 μV.

nerve fibres developed Pacinian corpuscles. Therefore, it is necessary to produce the determinative nerve-tissue situation to make it possible to develope these receptors.

Zusammenfassung. Nach Implantation des proximalen Stumpfes eines afferenten, somatosensiblen Nerven in das Mesenterium einer Katze bilden sich um die auswachsenden Nervenfasern nach 3–5 Monaten neue, aber dem Ort entsprechende Rezeptoren aus, im Fall des Katzenmesenteriums also Pacinische Körperchen, Rezeptoren, die normalerweise nicht im Gebiet des implantierten Nerven vorkommen.

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Asymmetrical Growth of Superior Temporal Gyri in Man

Records of sensory experience seem to be stored in the superior temporal gyri: stimulation of this region in conscious patients has sometimes caused them to report the re-experiencing of auditory and visual experiences from their past lives[1,2]. Specialization of one hemisphere, usually the left, for verbal function may be reflected in anatomical asymmetries[3,4]. The present study was designed to detect possible macroscopic differences between the right and left superior temporal gyri in human infants and adults.

Materials and methods. Brains used in this study had been declared normal at autopsy. They appeared free from distortion after fixation, and were intact except for our removal of the meninges. Handedness data were not available.

Measurements were made directly on the brains of 27 young infants who died before the age of 4 months. Widths were measured at 5 mm intervals along the horizontal parts of the superior temporal gyri. To eliminate any bias, another series of 54 brains was measured using photographs, 50% of which were reversed in a random sequence. In each of 42 adult brains, 10–14 pairs of widths were measured. Fewer measurements were obtained from the photographs of 12 smaller brains of 2–18-month-old infants.

Results. In the 27 infant brains measured directly, right gyri were not significantly wider: t (unpaired) = 0.956, $P < 0.34$. The Mann-Whitney test gave a Z-value of 1.192, $P < 0.22$. For the 12 infant brains in the second series $t = 1.4577$, $P < 0.10$. In the 42 adult brains measured with the blind technique the right gyrus appears wider (Table): t (paired) = 2.911, $P < 0.005$.

Means and standard deviations of gyral widths

	Widths (mm)	Right	Left
12 infants	125 pairs	11.895 ± 4.287	11.310 ± 3.373
42 adults	502 pairs	13.148 ± 3.977	12.538 ± 4.098

In 8 adults, the two-tailed Wilcoxon signed ranks test showed the right gyrus as being wider. In one adult the left gyrus was wider, at the same level of significance ($P < 0.05$). In 42 brains, random variation of gyral widths should account for a wider right gyrus in 1.05 brains, and a wider left gyrus in another 1.05 ($P < 0.05$). Comparing the observed number of 8 having larger right gyri, 33 symmetrical, and 1 having a larger left gyrus with the expected values of 1.05, 39.90, and 1.05, the χ squared goodness of fit test gave a value of 47.1, for which $P < 0.001$ with 2 degrees of freedom. No such difference appeared in either group of infants.

Discussion. Penfield and Perot[2] reported points in the superior temporal gyri from which 'experiential' responses were obtained. Excluding points in the right gyri corresponding with those in the speech arrest area of the left, 60 were found on the right and 30 on the left. Confidence limits (5%) for the percentage of points found on the right are 60–79. Few cerebral functions are delineated by anatomical landmarks. Greater widths of the right superior temporal gyri in adults may, however, reflect the bias toward the right temporal lobe seen in the phenomenon of 'experiential' response. This anatomical bias toward the right, seen in 42 adults, did not appear in 35 infants.

Zusammenfassung. Nachweis, dass in Erwachsenen der Gyrus superior temporalis auf der rechten Hirnseite breiter ist als auf der linken, während in Kleinkindern beide Gyri gleich breit sind.

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