In actual use, the combined parts of the template are put on top of a thin-layer plate. The base line of the diagram on part B is aligned with the starting line of the chromatogram, and part B is then moved to either side so as to have the Rf-line corresponding to a value of 1.0 to intercept the solvent front exactly perpendicular to a particular spot or series of spots whose Rf-values are to be measured. This alignment is facilitated by the vertical lines which are drawn onto part A, 2 cm apart from each other. The actual Rf-values can now be read off directly, without need of further calculation, by taking the Rf-equivalent of the line crossing the centre of a spot. Intermediate values could be estimated with ease and accuracy; according to available facilities, however, additional thin lines for the second decimals may be interposed. The Rf-lines on the template cover travel distances of solvents of up to 18 cm; this range will suffice for all practical purposes.

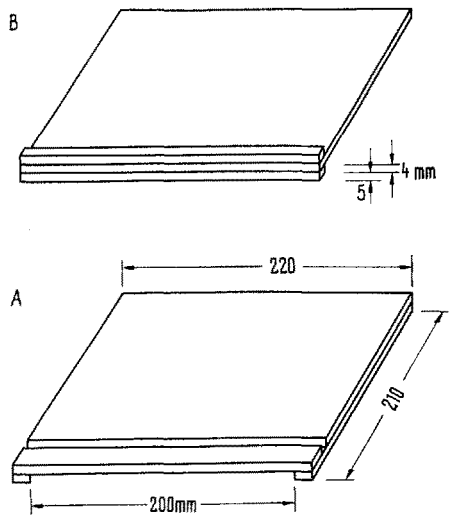

Fig. 1. Parts A and B of the Rf-measuring template.

The principle of this template is similar to that of other devices recommended for use in paper chromatography[1,2]. The overall design of the template is adapted to the particular requirements of thin-layer plates, as the coating is well protected by the base plate and adjustments to variations of origins of the spots and solvent fronts on individual plates can be made very easily and rapidly. Among a number of possible ways of documenting thin-layer data, the measurement of Rf-values is an economical and most commonly used method. However, an appreciable time factor may be involved when a large number of chromatograms is to be dealt with. The template described proved to be a valuable and time-saving aid in this respect.

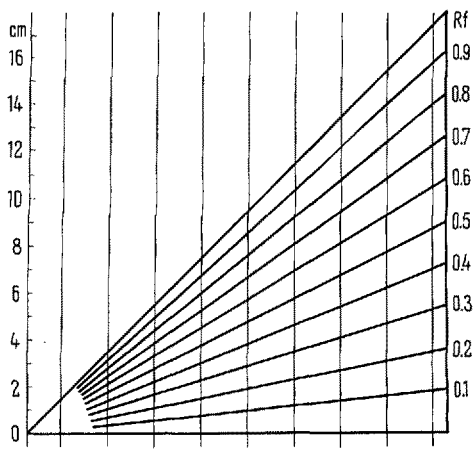

Fig. 2.

Zusammenfassung. Eine Schablone zur direkten Messung von Rf-Werten auf Dünnschichtplatten wird beschrieben, deren Ausführung den Besonderheiten der Dünnschichtchromatographie angepasst ist. Mit Hilfe dieser Schablone konnte die Auswertung von Chromatogrammen vereinfacht und wesentlich beschleunigt werden.

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Neurochemische Abteilung, Neurologische Klinik der Universität, Göttingen (Germany),
October 25, 1966.

[1] D. M. P. PHILLIPS, Nature *162*, 29 (1948).
[2] L. B. ROCKLAND and M. S. DUNN, Science *111*, 332 (1950).

Stereotaxic Localization of Amygdaloid Nuclei in Rats from Weaning to Adulthood[1]

The function of the limbic system is of considerable interest to neurophysiologists, and one approach to the study of this system is through electrolytic destruction of selected areas. Although the excellent atlas of DE GROOT[2] provides the coordinates for the localization of forebrain structures in adult rats (200–300 g body weight), there is no consideration of the coordinates for localizing such structures in younger and lighter animals. The present study was performed to determine workable coordinates for the localization of amygdaloid nuclei in rats from 54–236 g body weight and 24–80 days of age, respectively.

Female Holtzman rats were received at the age of 22 days and accommodated in single cages; Lab Chow and tap water were available ad libitum. At the ages of 24, 34, 45 and 80 days, respectively, 5 rats each were anesthetized with ether and placed in a stereotaxic instrument

[1] This investigation was supported by U.S.P.H.S. Grant No. HE 06975 of the National Heart Institute.
[2] J. DE GROOT, Verh. K. ned. Akad. Wet. *52*, 4 (1959).

Stereotaxic coordinates used to ablate certain limbic structures of rats 24–80 days of age. Abbreviations from De Groot[2]

Limbic structure ablated[a]					
Rats aged 24 days	55[b]	54	55	58	55
ACE		4.7–3.5–7.9[c]			
ANE					4.7–2.5–8.2
ICL		4.7–3.5–7.9			
ABL			4.7–4.5–7.9	4.7–2.5–8.0	
AL			4.7–4.5–7.9		
ACO	4.7–3.5–7.5				
STR	4.7–3.5–7.5				
ABM	4.7–3.5–7.5				
Rats aged 34 days	100	94	92	100	80
ACE		5.2–4.5–8.0			
ABL		5.2–4.5–8.0	5.2–4.5–7.5	5.2–5.5–8.2	
AL			5.2–4.5–7.5		
CLA					5.2–5.5–8.0
CE					5.2–5.5–8.0
STR	5.2–3.5–7.5				
TZ			5.2–4.5–7.5		
Rats aged 45 days	137	155	167	171	188
ICL	5.5–3.5–7.5				
ABL		5.5–4.5–7.5	5.5–4.5–8.5		6.0–4.0–8.0
AL		5.5–4.5–7.5			6.0–4.0–8.0
STR	5.5–3.5–7.5				
PIR	5.5–3.5–7.5			5.8–5.0–8.0	

To be continued on the following page.

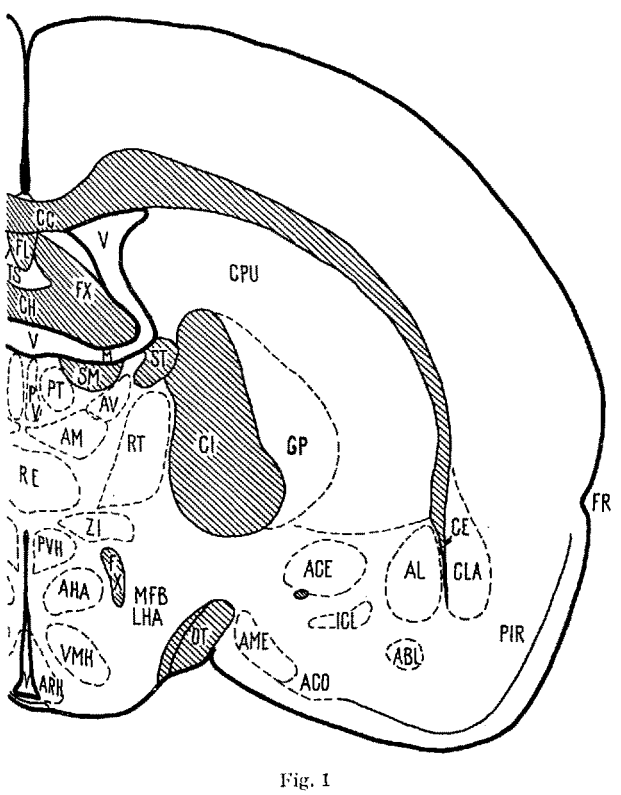

Fig. 1

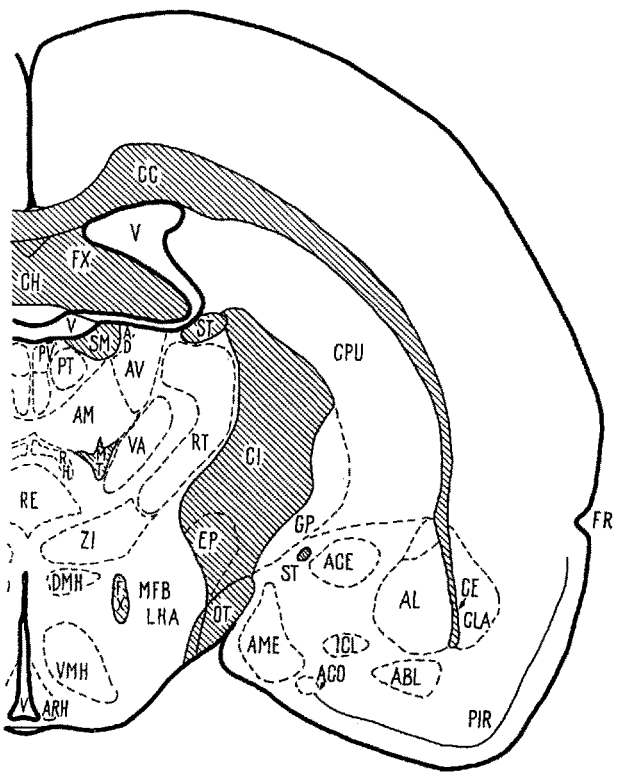

Fig. 2

Rats aged 80 days	234	236	229	221	233
AME	6.1–4.0–8.5				
ACO	6.1–4.0–8.5				
PIR		6.1–5.0–8.0	6.1–5.0–8.0	6.2–5.0–8.5	6.2–5.0–8.5

[a] ACE = Nucleus amygdaloideus centralis; AME = N.a. medialis; ICL = N.a. intercalatus; ABL = N.a. basalis pars lateralis; AL = N.a. lateralis; ACO = N.a. corticalis; ST = Stria terminalis; ABM = N.a. basalis pars medialis; CLA = Claustrum; CE = Capsula enterna; TZ = Zona transitionalis; PIR = Cortex piriformis. [b] Body weight at operation (g). [c] 4.7 mm anterior of earbars – 3.5 mm lateral of midsagittal sinus – 7.9 mm ventral of top of brain.

(Baltimore Instrument Co., Model S, Head Holder 63 11 01). The skull was trepanned with a dental burr through a midline incision. Lesions were placed at the main anteroposterior plane of the ventromedial nucleus (Bernardis and Skelton[3]), using a spar varnish-coated stainless steel electrode of 0.25 mm diameter from the bared tip of which an anodal current of 1.5 mA was allowed to flow for 10 sec. Immediately thereafter, the animals were sacrificed by decapitation and the brains excised and fixed in 10% buffered formalin. After 2 weeks they were processed in the usual manner (Bernardis et al.[4]) and the lesions were localized with reference to the atlas of De Groot[2].

The anterior coordinates were referred to the anteroposterior zero line which runs through the ear bars (intraaural line); the lateral coordinates were referred to the midsagittal sinus; the dorsoventral coordinates were expressed as distance from the top of the brain. The incisor bar was located 7 mm ventral to the intraaural line. A binocular viewer (Magni Focuser, Model 107, Edroy Company Inc., New York, N.Y.) with a magnification of × 2.5 was used to precisely locate the reference points and the points of electrode insertion.

The Table shows the anterior, lateral and dorsoventral coordinates used to ablate the limbic structures tabulated in the left-hand column. The data indicate that a considerable shift of the coordinates for a specific structure occurs from weaning to adulthood. A similar shift with age was noted in a previous study of the hypothalamus of the rat (Bernardis and Skelton[3,5]).

Zusammenfassung. Stereotaxische Koordinaten werden für die Setzung von Läsionen in den Amygdalen von Ratten (54–236 g Körpergewicht) ermittelt. Die Daten ermöglichen auch die Extrapolation von Strukturen, die in dieser Mitteilung nicht erwähnt wurden.

L. L. Bernardis[6]
with the technical assistance of
M. Bahorsky and Luise Bohacek

Department of Pathology, State University of New York at Buffalo (N.Y., USA), August 15, 1966.

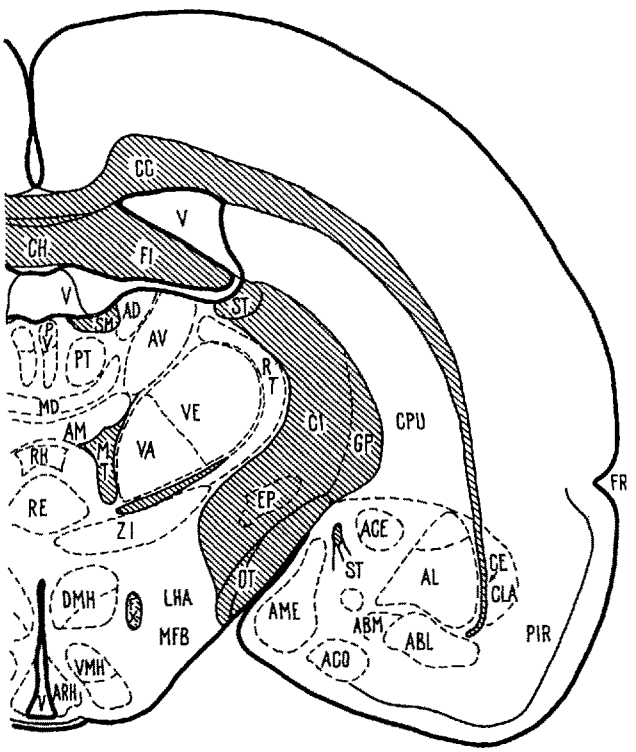

Fig. 3

Figs. 1–3. Coronal sections through the 3 anteroposterior planes in which the lesions have been placed (from De Groot[2]). Figure 1 depicts the most anterior and Figure 3 the most posterior locations at which the ablations could be visualized.

[3] L. L. Bernardis and F. R. Skelton, Am. J. Anat. *116*, 69 (1965).
[4] L. L. Bernardis, B. M. Box, and J. A. F. Stevenson, Endocrinology *72*, 684 (1963).
[5] L. L. Bernardis and F. R. Skelton, Growth *27*, 77 (1963).
[6] The author is grateful to Dr. F. R. Skelton for his advice and support in this investigation.

CORRIGENDUM

E. Gwinner: *Periodicity of a Circadian Rhythm in Birds by Species-Specific Song Cycles (Aves, Fringillidae: Carduelis spinus, Serinus serinus)*, Experientia 22, fasc. 11, p. 765 (1966). The title reads correctly as follows; **Entrainment** of a Circadian Rhythm in Birds by Species-Specific Song Cycles (Aves, Fringillidae: *Carduelis spinus, Serinus serinus*).