It is interesting to note that, by contrast with previous investigations [2, 4], in which terrilytin had not
only lytic properties, but also certain toxic properties, manifested even within the range of effective therapeutic
doses, in the present study no side effects were found from the use of much larger doses of terrilytin. In the
writer's view, the reason for this is that the solvent used for the terrilytin was not physiological saline but a
solution of polyvinylpyrrolidone, which has a marked detoxicating action, has a beneficial effect on the systemic
and regional hemodynamics, and restores the disturbed acid-base balance [6, 7].

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SIMULATION OF DETERMINANT AND DEPENDENT
FOCI OF EPILEPTIC ACTIVITY IN THE RAT
CEREBRAL CORTEX

R. F. Makul'kin, A. A. Shandra,
and B.A. Lobasyuk

Foci of increased activity with independent firing patterns were created by means of weak solu-
tions of strychnine in acute experiments on rats. A hyperactive focus of excitation created by
means of concentrated strychnine solutions played the role of determinant structure. Its role
was to determine the character of activity of the other epileptogenic foci, to enhance their par-
oxysmal activity, to combine them into a single functional complex, and to determine the be-
behavior of the whole complex. This complex could be destroyed by suppressing the activity of the
determinant focus. Elimination of any of the dependent foci forming the complex did not
disturb the complex itself. These investigations confirm, on a new model, the general con-
cept of the role of determinant structure in the activity of the CNS.

KEY WORDS: determinant focus; strychnine; neocortex; epileptic complex.

It was shown previously [2, 3] that a focus of powerful excitation created with the aid of strychnine in the
cat cerebral cortex plays the role of determinant structure [1], which determines the character of activity of
other scattered foci of excitation, enhances excitation in them, unites them into a single functional complex,
and determines the behavior of the complex as a whole. Such a complex of foci can be destroyed by suppress-
ing the activity of the determinant focus. The next step was to discover whether the relations established be-
tween the foci are connected with species-specific properties of the morphological and functional organization
of the cat's brain.

Department of Pathological Physiology, N. I. Pirogov Odessa Medical Institute. (Presented by Academician
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The object of the present investigation was to study functional relationships between foci with different levels of paroxysmal activity created in the cerebral cortex of the rat, which differs in certain structural and functional respects from that of the cat.

**EXPERIMENTAL METHOD**

Acute experiments were carried out on albino rats weighing 190-230 g. Under pentobarbital anesthesia (40 mg/kg, intraperitoneally) the skin and subcutaneous areolar tissue were divided by a midline incision from the nasal bones to the occiput. A burrhole in the cranial bones over one hemisphere provided wide access to different parts of the neocortex. The dura in the middle part of the hemisphere was divided by a cruciate incision and its borders were retracted. Before application of strychnine, the area of neocortex was carefully dried with filter paper. Scattered foci of epileptic activity were created by application of filter paper (1-2 mm²) soaked in 0.1-0.5% solution of strychnine nitrate, in different parts of the somatosensory, visual, and auditory areas of the neocortex (areas 1, 2, 3, 4, 7, 17, and 18 after Krieg [4]). The distance between the foci was 5-10 mm. A focus of powerful epileptiform activity was created by application of filter paper (1-2 mm²) soaked in strychnine.