Unlike the convulsive states which have been studied comprehensively, catatonic phenomena in animals have not attracted so much attention. By the word “catatonic” we mean such forms of behaviour as catalepsy, “freezing”, stereotyped hyperkineses or, most commonly, a mixture between them. It is true that at the end of the last and at the beginning of this century, a considerable number of investigations of so-called “animal hypnosis” was carried out. However, they dealt mainly with catalepsy produced in amphibians and birds by means of rather drastic experimental procedures. A review of these works can be found in KARMANOVA’S (1964) book. Later on, there appeared a series of studies on experimental catalepsy (mainly induced with bulbocapnine), the most important of them being those of DE JONG and BARUK (DE JONG & BARUK, 1930; DE JONG, 1932, 1945) who were the first to introduce the term of “experimental catatonia”. After that, interest for experimental catatonia seems to have gradually decreased. True, in some works there are casual descriptions of catatonic states in animals, but they are given only in the context of some pharmacological, toxicological or other drastic treatment (RICHTER, 1953; KRUSHINSKY, 1960; GOLDENBERG, 1961; GLAZOV, 1965; STILLE, 1971; McGRAW & KLEMM, 1973). As for the spontaneous catatonic phenomena occurring as a part of animal behaviour under usual conditions, these are mentioned only sporadically as by-observations (BoICE, 1972).

The decrease of the interest for catatonic phenomena in animals seems to be accounted for by the following reasons. First, while convulsions are considered as experimental models of epilepsy, catatonia in animals is not believed to be a model of schizophrenia; this is due to the fact that the catatonic syndroms in animals cannot reproduce the whole clinical picture of schizophrenia in all its complexity. Second, unlike a convulsive fit, catatonic behaviour, unless it reaches the full degree of catalepsy, has no clear-cut
criteria, and is often so inconspicuous that will be noticed only by those who look specially for it.

However, it is noteworthy that catatonic disorders are always present in "nuclear" forms of schizophrenia. The incidence of schizophrenic syndromes in exogenic psychoses points to the possibility of schizophrenia being a mode of reaction. Finally, the existence of three major modes of reaction (affective, catatonic and epileptiform) in animals, and of three circles of major psychoses (affective, schizophrenic and epileptic) in man is rather suggestive of the evolutionary origin of schizophrenia from the catatonic reaction. The fact that the latter does not have the whole complexity of the former is hardly surprising in view of the difference in the degree of development between the human and animal mental activity. A more detailed argumentation of the hypothesis that schizophrenia is an expression of pathologically low hereditary threshold of catatonic defense reaction has been published elsewhere (Kolpakov & Korolenko, 1975; Korolenko & Kolpakov, 1976). For this reason, we want to call attention again to catatonic phenomena in animals: we believe that their thorough observation and detailed description may contribute to finding more distinct criteria of catatonia, and should be a necessary stage in the comprehensive study of catatonic forms of behaviour in animals, which will help to understand better the nature of schizophrenia.

This paper reports some spontaneously occurring catatonic forms of behaviour in laboratory and wild Norway rat. By "spontaneously" we mean that certain behavioural phenomena occur without any special treatment, although in most cases they seem to be caused by some degree of stressful emotional stimulation.

MATERIALS AND METHODS

The studies were carried out on rats of Wistar (WAG), August (AUG), and Sprague-Dawley (SD) strains, on F1 hybrids from WAG/SD, SD/WAG, WAG/AUG, AUG/WAG, SD/AUG and AUG/SD crosses, on F2 AUG/WAG hybrids, and on wild Norway rats. In all designations of hybrids, the name of strain to which the female belonged comes first. All the strains were obtained from the Stolbovaya breeding station (Moscow); the wild rats were caught in the field. The inbred strains had 40, 46 and 33 generations of inbreeding, respectively; the wild rats had been bred in captivity for 5 or 6 generations. Experiments were made in form of general observation in cages, open field test, and testing with the sound of a bell of 100 dB in a chamber with a transparent front wall. In the open field (1.5 by 1.5 m²) the animals were observed for 3 minutes, after which they were immediately transferred to the bell-test chamber where they were tested with sound for 2 minutes. Under the influence of the sound, susceptible animals developed an audiogenic fit which consists of 2 stages: pre-convulsive excitement in form of wild stereotyped running, and convulsive seizures (Krushinsky, 1960). In the open field we recorded the presence or absence of a stereotyped hyperkinesis in form of "pendulum motions" (PM), retropulsion (backward movement), and the number of faecal boli; in the