Experience with the Antirabic Vaccination in the
two World Wars.

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Rabies was always widely spread in Russia, particularly feared being
that of wolves.

In 1886 Pasteur sent a live rabbit inoculated with fixed virus to the
Prince of Oldenburg in Petersburg, where the Latvian bacteriologist Hel-
man, then in the Russian military service, started an independent Pasteur
station. The bitten persons of the large country of the tsars were obliged
to travel to Petersburg for inoculations.

The vaccination against rabies in Russia was strictly centralized. The
war of 1914 changed the situation. The travels to the Russian capital
were rendered difficult for civilians, the roads were blocked by military
transports. It was decided to create an independent Pasteur station in
Riga. In 1914 the fixed virus in its 1313th rabbit's passage was brought
by prof. ADELHEIM from Petersburg to Riga. The first years of existence
were difficult for the station: the front line approached to the distance
of 15 miles to the city, streams of refugees from the German occupied
part of the country poured into the city, and with them came flocks of
abandoned dogs, heavy epidemics of bacillary dysentery and typhoid
fever. All preventive and hygienic measures were in the rigid hands of
the Russian 12th army which was defending the city. The population of
the city was in constant movement because of the evacuation of in-
dustrial machines and workers and refugees to the remote parts of Russia.
Under these conditions only a fraction of the bitten persons showed up
for Pasteur's 21 inoculations, most of them did not return any more after
3—5 inoculations. To augment the protective value of these 3—5 inocu-
lations, prof. ADELHEIM decided to strengthen them: the inoculations
were started with only one day dried spinal cord. This intensification of
Pasteur's original method was soon obsolete.

In 1917 the Russian front collapsed as the result of the revolution,
and a new flow of refugees and a mass of Russian soldiers overcrowded
the city in the face of the advancing German army.

The demand for vaccine was high but rabbits scarce. The drying of
the rabbit spinal cord had been abandoned, and already the first ino-
culation was made with the fully virulent virus. At that time this was
regarded as a risky intensification of the vaccination method, and it
brought Kraus to state in the monograph of his: "The most radical modification of the vaccination is that of prof. Adelheim in Riga."

Under the German occupation of the country and in the following years this method of vaccination, created under war conditions, was retained as a routine method. In the first 20 years of the station's existence in Riga (1914—1934) 6920 persons were vaccinated, with the total mortality of 0.17 per cent.

In independent Latvia which had good communication and medical care the antirabic vaccination was decentralized, and carbolized virus was distributed from the State Serotherapeutic Institute in Riga. The heavily wounded persons were invited to come to Riga for the intensified treatment.

In peacetime the rabies in the Baltic States concentrated on the Russian borders. These borders are plains with some lakes and small rivers, easily to be overpowered by rabid dogs. Because of this the occidental parts of Latvia, border-lands with Russia, were infested with rabies. A great stream of Daugava (Duna) separates the western parts of Latvia from the eastern ones. The western part of the country was practically free from rabies, the big river, with only a few railroad bridges over it, was an unsurmountable barrier for rabid dogs. The small number of rabid dogs in western Latvia was rapidly liquidated.

A completely new situation arose in 1940. The second world war had begun, the Baltic States were occupied by the Russians. One year after their rule the German army took over the Baltic States. The armies in their retreats and advances destroyed the administrative power of the country, ruined the communication facilities and the medical centers.

Rabid dogs, overcoming the stream of Daugava, established their strongholds on the western bank of the river and from there invaded all western Latvia. The Institute of Riga tried to create stocks of phenolized vaccine in the biggest centers of the country, where some medical care was still possible.

But soon at the back of the German army in its drive to Moscow there appeared on the borders of the Baltic States a vast space of many thousand square miles. It extended from Narva and the Finnish Gulf to Minsk in White Russia and to Leningrad (Petersburg). Its medical institutions were completely destroyed, its homeless population on constant move. Rabies appeared in great number among the gangs of abandoned dogs and also among the wolves. (The death of one of the persons vaccinated with concentrated vaccine was due to the wounds inflicted by a rabid wolf.) The population, deprived of fire arms, was helpless against the rabid animals. Rabies also appeared among the pet dogs of German soldiers, so that the German authorities issued an order for their destruction.