representatives of 2 distinct types of poliomyelitis virus. The Wallingford virus is indistinguishable from the Lansing virus by the vaccination-immunity test, and unrelated to the Brunhilde virus by the same test.

A relationship between the property of rodent infectivity and the immunological specificity of the Lansing group of poliomyelitis viruses is suggested, in view of evidence for the existence of three distinct immunological groups of poliomyelitis viruses, only one of which has thus far been shown to be infective in rodents.

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Transmission of the Hamster-Adapted Newcastle Virus to Swiss Albino Mice.

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Following the adaptation of Newcastle virus, California Strain No. 11914, to the Syrian hamster,[1] attempts to transmit the modified virus of the 8th hamster passage to Swiss albino mice were successful through the fourth serial subinoculation only.[2] Brandly, *et al.*[3] working with egg propagated Newcastle virus reported similar results.

Further attempts to establish the infection in Swiss albino mice through the injection of hamster-adapted Newcastle virus of later hamster passages were likewise unsuccessful beyond several subinoculations.

Concentrated virus of the 203rd hamster passage was prepared from 8 infected hamster brains. The brain tissue was ground with alundum and diluted to a 10% suspension with physiological saline solution. Eighteen cc of the suspension were centrifugated under aseptic conditions at 50,000 RPM for 2 hours in a Spinco ultra-centrifuge. The supernate was discarded and the sediment was resuspended in 3 cc of physiological saline solution. Approximately .05 cc of the concentrated virus suspension was injected intracerebrally into each of 12 Swiss albino mice CFW.*

The use of this concentrated virus of the 203rd passage for the initial mouse inoculation established an infection in which slightly more than 10% of the injected mice of the first 8 passages showed symptoms of central nervous system involvement. From the 9th through the 20th passages more than 60% of the injected mice showed the characteristic symptoms. Table I shows the results of these 20 serial passages.

In mice responding to the virus injection irritability and malaise appeared in 2 to 9 days. In most cases these symptoms were followed by paralysis, evidenced first in the forelegs and followed in some cases by complete prostration within several hours. In other cases complete paralysis did not appear for as long as 24 hours after the forelegs became affected. Rhythmical jerking of groups of muscles or the entire body of paralyzed mice was frequently noted, accompanied by labored respirations. Death occurred within a few hours after the animals became moribund.

Brain material for passage was chosen from mice sacrificed when nervous symptoms developed. The virus-bearing brain material was ground with alundum and diluted to 10% suspension with physiological saline solution.

[1] Reagan, R. L., Lillie, M. G., Poelma, L. J., and Brueckner, A. L., *Am. J. Vet. Res.*, 1947, **8**, 136.

[2] Reagan, R. L., Lillie, M. G., Poelma, L. J., and Brueckner, A. L., *Am. J. Vet. Res.*, 1947, **8**, 427.

[3] Brandly, C. A., Moses, H. E., Jungherr, E. L., and Jones, E. E., *Am. J. Vet. Res.*, 1946, **7**, 289.

* The Webster strain of Swiss albino mice from Carworth Farms, Rockland Co., N. Y., weighing between 10 and 12 g were used for all passages.

TABLE I.
Mouse Passage of a Strain of Hamster-Adapted Newcastle Virus.

Passage No.	No. animals inoculated*	Animals paralyzed moribund or dead		No. days after inoculation paralysis occurred
		No.	%	
1	12	2	17	4-5
2	10	1	10	6
3	12	2	17	5-6
4	16	1	6	6
5	18	2	11	3-5
6	10	3	30	3-4-5
7	17	2	12	2-3
8	18	2	11	4-6
9	14	2	14	4-5
10	18	4	22	2-3-4-7
11	20	4	20	2-3-6-7
12	12	4	33	4-6-7-9
13	10	7	70	2-3-4
14	25	16	64	2-3-4
15	22	13	59	2-3
16	10	10	100	1
17	8	8	100	1-2
18	18	16	88	1-2-3
19	28	24	86	2-3-4-5
20	20	17	85	2-3-4-5

* Intracerebrally.

TABLE II.
Neutralization Test Results.

	Virus dilutions		
	10^{-1}	10^{-2}	10^{-3}
Specific chicken antiserum	0/4	0/4	0/5
Normal chicken serum	4/4	4/4	1/4
Virus titration, 15th mouse passage	7/7	4/4	2/4

Numerator of fraction denotes the number of deaths.

Denominator of fraction denotes number of mice inoculated.

Amounts of .03 to .05 cc of this suspension were injected intracerebrally throughout the 20 passages.

A virus neutralization test was conducted using brain suspension of the 15th mouse passage with specific Newcastle virus immune and normal chicken sera and with mice as the test animals. Specific immune serum completely neutralized the mouse brain virus whereas normal chicken serum had no effect. The virus titrated 10^{-3} according to the Reed-Muench calculation.[4] Details are given in Table II.

Infected mouse brain suspension of the 8th passage prepared as previously described was injected intracerebrally in 4 young Syrian hamsters. All hamsters showed symptoms characteristically seen in animals succumbing to similar injections of hamster adapted virus. The same results were observed in hamsters injected with mouse brain of the 18th mouse passage.

Summary. The hamster-adapted Newcastle virus (California strain Number 11914) of the 203rd passage has been successfully transmitted to Swiss albino mice and carried through 20 serial passages in this species by intracerebral inoculation. The virus produced symptoms of irritability and malaise usually followed by paralysis, and often accompanied by a characteristic nervous jerking with labored breathing. Mice showing typical symptoms of central nervous system involvement did not recover. Positive Newcastle chicken serum neutralized the virus from the 15th mouse passage while normal chicken serum failed to neutralize the virus. The virus of the 15th mouse passage titred 10^{-3} in mice by intracerebral inoculation. The mouse-adapted virus proved pathogenic for Syrian hamsters upon intracerebral injection.

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[4] Reed, L. J., and Muench, H., *Am. J. Hyg.*, 1938, **27**, 493.