experiments with crystalline vitamin B_1 were in progress confirm this conclusion, in that they have shown that B_1 is beneficial to the growth *in vitro* of excised pea embryos, the effect being apparently principally upon the root.

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THE SPARING EFFECT OF DOG DISTEMPER ON EXPERIMENTAL POLIOMYELITIS[1]

WE wish to report a disease produced in rhesus monkeys by the virus of dog distemper and the sparing effect it has on subsequently induced poliomyelitis.

Distemper virus from ferret spleen was inoculated into rhesus monkeys intracerebrally, subcutaneously and intraperitoneally as well as by combinations of these methods. From 0.2 to 0.5 cc of the supernatant fluid of a 20 per cent. emulsion of splenic tissue was used. Twenty-eight monkeys have been infected in this fashion and all have contracted a characteristic and uniform disease which strikingly resembles distemper. The incubation has been from 3 to 9 days, the febrile reaction has lasted about three weeks and rhinitis, conjunctivitis, red streaks about the eyes, weakness and slight incoordination have been the usual symptoms. Only one of the animals died of distemper. This monkey developed encephalitis and expired seven weeks after inoculation. Two other animals were successfully infected from an emulsion of his brain and the disease has also been passed from monkey to monkey by injection of infected blood.

Twenty-five of the monkeys suffering from distemper were later given poliomyelitis (0.2 cc of the supernatant fluid of a 10 per cent. cord emulsion). This virus has regularly produced poliomyelitis in our laboratory with a mortality of 100 per cent. However, in the animals suffering from distemper the results were entirely different. The mortality rate was only 33 per cent. and an equal number recovered without residual paralysis. The animals which did die differed from the controls in that paralysis was delayed.

The results are interesting in that they show the protective power of a relatively benign disease on one otherwise invariably fatal, in the degree to which protection has been afforded monkeys against poliomyelitis and because they suggest the existence of a new immunity mechanism in the virus field.

TABLE I
EFFECT OF DISTEMPER ON COURSE AND OUTCOME OF POLIOMYELITIS IN RHESUS MONKEYS

Group	Animal number	Days after distemper inoculation poliomyelitis was given	Incubation of poliomyelitis in days to paralysis	Outcome		Number of extremities paralyzed	
				Recovered	Died		
III	56	4	no paralysis	×		0	
	58	4	13	×		1	
	60	4	13		×	all	
	62	4	13	×		2	
Control	31		7		×	all	
I	42	7	13	×		2	
	43	7	13	×		3	
	38	7	no paralysis	×		0	
	48	7	12		×	3	Polio death on 24th day
Control	49		8		×	all	
IV	57	9	no paralysis	×		0	
	59	9	no paralysis		×	0	Lobar pneumonia 16th day
	61	9	no paralysis	×		0	
	63	9	12		×	4	
Control	74		8		×	all	
V	64	13	15	×		2	
	66	13	no paralysis	×		0	
	68	13	7		×	all	Polio death 7th day
	70	13	no paralysis	×		0	
Control	75		7		×	all	
VI	65	20	11		×	all	Polio death on 11th day
	69	20	12	×		2	
VII	37	70–20	13	×		4	
	39	70–20	8		×	all	
	44	70–20	9	×		4	
Control	53		8		×	all	
II	36	31	6		×	all	Group indistinguishable from control animals
	40	31	6		×	all	
	46	31	6		×	all	
	47	31	6		×	all	
Control	51		5		×	all	

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