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The effect of light and of darkness on blood cell number of the growing Albino rat.

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Rats when 28 days old, at which time they were weaned, were placed in groups of five in the dark room, in the stock room, and given daily exposures of about two hours to direct sunlight and to diffuse daylight on the roof as described in the preceding paper. Counts were made of the blood cells at the ages given in the tables under the four conditions indicated. The red counts were made from the first drop of blood exuding after the tip of the tail was severed. Both a direct and an indirect method were used for counting platelets. Details will be given in a later paper. The same pipettes were used throughout for all counts.

Aside from reestablishing the "normal" count at these ages, the stimulating influence of direct sunlight and diffuse daylight, perhaps of fresh air, and the inhibitory influence of darkness on the reds and platelets is obvious from the table. The figures given for the reds represent the averages of counts on five rats, *i. e.,* 30 rats under each of the four environmental conditions, at the ages indicated. The whites and platelets have been studied on a much larger scale.

The whites show a range of counts so wide that the average is of no real significance. The differential shows a decided drop in the lymphocytes of the rats kept in darkness for six months, and a corresponding increase in the polymorphonuclears. The significance of this change is questionable.

	Reds (in hundred thousands)						Platelets (in thousands)			Whites				
	1 mo.	2 mo.	3 mo.	4 mo.	5 mo.	6 mo.	6 mo.			6 mo.				
							Direct method	Indirect method	Platelet-red cell ratio	Total	Differential			
											Polys.	Lymphs	L. monos.	Eosin
Roomlight	22	28	38	45	64	73	291	762	1 : 10	9,060	30	62	3	5
Sunlight	22	30	39	68	88	110	370	863	1 : 13	7,560	31	66	2	1
Diffuse daylight	22	27	38	60	82	95	333	747	1 : 13	8,000	28	65	3	4
Darkness	22	26	30	42	51	60	264	568	1 : 11	9,720	68	26	4	2