Kauffmann and were designated "Duisburg." Two were isolated from human feces, and the third from salad in the Duisburg outbreak of food-poisoning reported by Müller.[10] These resembled *S. pullorum* in their deportment in cysteine-gelatin and in tartrate-agar. Kauffmann[11] also noted minor differences between these and his fowl-strains.

The 120 strains of *S. pullorum*, all from fowls, produced no changes in the cysteine-gelatin, either when incubated at 37°C. or at 20°C. The reactions of the 11 strains of *S. typhi* (all of human origin) in cysteine-gelatin more nearly resembled those of *S. pullorum* than *S. gallinarum*. (See Table I.)

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Distribution of the Sub-groups of A and the M and N Agglutinogens Among the Blackfeet Indians.

G. ALBIN MATSON, PHILIP LEVINE AND H. F. SCHRADER.

From the Department of Biology, Montana State University, the Beth Israel Hospital, Newark, N. J., and the Office of Senior Physician, Blackfeet Agency, Browning, Mont.

The original observations of Matson and Schrader[1] on the Blackfeet and Blood tribes of American Indians revealed a distribution of the 4 blood groups vastly different from what was formerly believed to be characteristic for Indians. Group A was observed to have the same high preponderance (76.5%) among these tribes as group O has among other tribes of Indians.[1, 2, 3, 4] These findings suggested that, contrary to former speculation concerning the origin of Indians, the "Blackfeet" did not separate from the rest of the human family before the A agglutinogen developed in the race.

In contrast to the characteristic differences of the two sorts of Indians with regard to the distribution of the 4 blood groups, subsequent work by us has shown that the Indians thus far studied, behave alike in having a high incidence of the M factor.[2]

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10 Müller, R., *Münch. med. Wochensch.*, 1933, **80**, 1771.

11 Kauffmann, F., *Zent. f. Bakt. I. Orig.*, 1934, **132**, 337.

1 Matson, G. A., and Schrader, H. F., PROC. SOC. EXP. BIOL. AND MED., 1933, **30**, 1380; *J. Immunol.*, 1933, **25**, 155.

2 Levine, Philip, Matson, G. A., and Schrader, H. F., PROC. SOC. EXP. BIOL. AND MED., 1935, **33**, 297.

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The present study which deals with the distribution of both M and N factors as well as the incidence of the sub-groups of group A, shows an exceedingly high percentage of the A^1 factor. The results are tabulated in Table I.

TABLE I.
Distribution of the Blood Groups, the sub-groups of A and the M and N Factors Among the Blackfeet Indians.

		O	A	B	AB	A^1	A^2	MN	M	N
Putative	No.	25	77	0	1	92	1	38	52	5
full-bloods	%	24.27	74.76	0	0.97	99	1	40	54.74	5.26
Whites	No.	123	130	30	8			151	50	71
	%	42.27	44.67	10.31	2.75			55.52	18.38	26.10

These findings as to A and B agree with our previous observations of 103 putative full-blood Blackfeet Indians, a high proportion (77 individuals or 74.8%) belonging to group A.

Of 93 individuals* belonging to Group A, all but 1 (99%) belonged to sub-group A^1, as determined by tests with a serum of group B previously absorbed with cells A^2. This figure is to be contrasted with the corresponding values of 84% for whites and 55% for negroes in the studies of Landsteiner and Levine.[5] In this connection, reference may be made to the 100% incidence of A^1 among 237 group A Hawaiians observed by Nigg.[6] Incidentally, the distribution also of the 4 blood groups among these Hawaiians (36.5% group O, 60.8% group A, 2.2% group B, and 0.5% group AB) resembles that of the Blackfeet Indians.

In agreement with our previous findings among these Indians and with those of Landsteiner and Levine[7] among Indians in Kansas reservations, the percentage distribution of the M factor was found to be high and that of N low. The gene frequencies of M and N for the Indians and the white race examined in this study, are 9.7 and 9.4 respectively.

Summary. Our previous findings with respect to the distribution of the 4 blood groups and the M factor among the Blackfeet Indians have been confirmed and a surprisingly high incidence of the A^1 sub-group was observed.

* Part of these were tested in a previous study.

5 Landsteiner, K., and Levine, Philip, *J. Immunol.*, 1930, **18**, 87.

6 Nigg, Clara, *J. Immunol.*, 1930, **19**, 93.

7 Landsteiner, K., and Levine, Philip, *J. Immunol.*, 1929, **16**, 123.