

Minnesota Section.

University of Minnesota, November 26, 1930.

5304

Spatial Discrimination.

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Spatial discrimination on various parts of the body under approximately constant external conditions was studied in a group of 25 male medical students, and in 1 individual on 25 different occasions over a period of 4 days.

The regions tested were: (1) the tip of the tongue, (2) the volar surface of the distal phalanx of the index finger, (3) the volar surface of the second phalanx of the index finger, (4) the tip of the nose, (5) the dorsal surface of the second phalanx of the index finger, (6) the dorsum of the hand, (7) the manubrium sterni, (8) the antero-radial surface of the forearm, and (9) the back of the neck (*regio nuchae*).

The subject was blindfolded, and the tests were made with the aesthesiometer in the usual manner. The means, standard deviations, coefficients of variation, and differences between the tongue (always the subtrahend) and the other regions, found for the 25 medical students are presented in Table I.

TABLE I.
Spatial Discrimination in 25 male students.

Region	Means (mm.)	Standard Deviations	Coefficients of variation	Differences (Tongue as subtrahend)
1	1.45±0.053	0.394±0.037	27.15	—
2	2.03±0.11	0.823±0.078	40.52	0.58±0.12
3	3.18±0.21	1.59 ±0.15	40.91	1.73±0.21
4	3.33±0.18	1.36 ±0.13	40.38	1.88±0.19
5	4.93±0.23	1.75 ±0.17	35.39	3.48±0.23
6	15.31±0.96	7.14 ±0.68	46.63	13.86±0.96
7	28.46±1.18	8.76 ±0.83	30.79	27.01±1.18
8	29.67±1.64	12.18 ±1.15	41.05	28.22±1.64
9	36.16±1.41	10.47 ±1.00	28.95	34.71±1.41

TABLE II.
*Spatial Discrimination in 1 Subject on 25 Occasions.**

Region (See text)	Means	Standard Deviations	Coefficients of variation
1	1.50±.029	0.212±.020	14.14
2	1.85±.047	0.346±.033	18.72
3	3.00±.138	1.033±.098	34.23
4	3.91±.174	1.29 ±.123	33.05
5	4.53±.177	1.31 ±.125	28.99
6	17.62±.571	4.23 ±.404	24.02
7	29.78±.863	6.40 ±.610	21.48
8	37.12±.699	5.18 ±.494	13.96
9	40.28±.649	4.81 ±.459	11.94

* The authors are much indebted to Mr. Carroll J. Bellis (Teaching Fellow in Physiology) for acting as the subject on whom 25 tests were made during 4 days. The results found for Mr. Bellis are presented in Table II.

The differences between the means for Mr. Bellis and for the 25 students were calculated, and with the exception of the forearm results, they were found to be insignificant statistically. In 6 of the regions examined (excepting 4, 5 and 7) the standard deviations found for Mr. Bellis were significantly lower than those for the group.

We wished to determine if a high sensitivity of the tip of the tongue was associated with high sensitivity in other regions of the body. For this, the correlation coefficients (ρ) between the readings for the tongue, and those for 1—the back of the neck, 2—the volar surface of last phalanx of the index finger, and 3—the tip of the nose, were calculated. The following results were found:

	Correlation Coefficient
Tip of tongue and back of neck	— .136±.132
" " " " volar surface last phalanx	
" " " " of index	— .006±.135
" " " " tip of nose	— .081±.134

These clearly show an absence of correlation between the sensitivity of the tongue, and of other parts of the body.