

SCIENCE:

PUBLISHED BY N. D. C. HODGES, 874 BROADWAY, NEW YORK.

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MENTAL IMAGES.

BY E. A. KIRKPATRICK, WINONA, MINN.

SPENCER, in his "Philosophy of Style," decides in favor of the English custom of placing the adjective before the noun because when the word "horse," for example, is pronounced, there tends to arise in the mind a mental image of a horse, probably of a brown color, since that is most common, and when the adjective "black" follows, as in French, this image must be changed, producing hindrance. While listening to a recitation upon this well-known passage, in a high school, the question came to me: "Do people form distinct mental images when words are spoken?" I immediately obtained permission to test the matter there and later in the grammar school and in a college in the same town.

The following ten words were selected and pronounced, one at a time, the pupils being requested to write down just what came into their minds when the words were spoken: "church," "book," "drum," "tree," "horse," "dog," "chair," "stove," "man," "lamp." They were told to give the size and color, if it were visual, and if it was something heard or felt to state that fact.

The answers were various, and of all grades of distinctness and vagueness, so that the task of classifying them was very difficult. This standard was finally adopted. If the writer mentioned the size and color of the object, or named an individual or species of the general class indicated by the word, his mental image was counted as a distinct mental image, otherwise it was not. Three classes of visual images were found: (1) distinct, including all that conformed to the standard given above; (2) particular, including those of the above that were of particular or individual things; (3) indistinct images, or none. The auditory and tactile images, which were very few in number, were classified separately.

The general results for the different grades of pupils and classes of students, and the sexes are shown in table I.

It will be seen from the general average that for those persons and those words distinct visual images were found in about three-fourths of the cases. The conditions were much more favorable, however, for forming mental images than are present in ordinary reading or listening. More time was allowed between the words. A tendency to form mental images was excited by the preliminary remarks, and the fact that they were to write something tended to make them form more distinct men-

TABLE I.

	Grammar School				High School				College Students				Gen. Aver.													
	7th G.	8th G.	Average.		9th G.	10th G.	11th G.	12th G.	Average.	Fresh.	Junior.	Senior.	Average.													
F. M.	F. M.	F. M.	F. M.	F. M.	F. M.	F. M.	F. M.	F. M.	F. M.	F. M.	F. M.	F. M.	F. M.	F. M.												
No. of Persons,	12	12	13	18	25	30	22	22	21	22	9	7	8	3	60	54	14	32	13	21	16	21	43	74	128	158
Distinct Im'g's,	8.51	7.08	7.61	7.72	8.04	7.46	9.13	8.18	8.23	7.36	8.00	7.71	9.12	4.66	8.65	7.64	7.42	6.96	6.30	6.75	6.06	5.90	6.58	6.74	7.83	7.19
Particular,	2.75	2.91	3.07	4.50	2.92	3.66	2.40	3.00	4.00	4.27	3.00	4.14	3.00	2.66	3.11	3.68	2.85	2.77	1.77	3.75	3.75	2.23	2.86	2.90	2.21	3.36
Indistinct or None,	.91	.25	.207	.216	1.52	2.20	.76	1.68	1.66	2.50	1.99	2.00	.87	5.33	1.25	2.29	2.28	2.68	3.15	2.35	3.56	3.57	3.02	2.85	2.21	3.36