THE ARITHMETICAL TABLE-BOOK, OR, THE METHOD OF TEACHING THE COMBINATIONS OF FIGURES BY SIGHT

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CHARLES DAVIES

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ARITHMETICAL TABLE-BOOK;

OR

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OF

TEACHING THE COMBINATIONS OF FIGURES
BY SIGHT.

BY

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AND PERSPECTIVE, ANALYTICAL GEOMETRY, AND
DIFFERENTIAL AND INTEGRAL CALCULUS.

Entered according to Act of Congress, in the year 1848,

By CHARLES DAVIES,

In the Clerk's Office of the District Court of the United States for
the Southern District of New York.

PREFACE.

In my University Arithmetic, published in 1846, Arithmetic is treated as a science, having its own peculiar language. The alphabet of that language is the ten characters called figures. The combinations of these characters, according to certain laws, afford the means of expressing every idea connected with the science of numbers. The language of arithmetic is but the result of these combinations.

The train of reflections thus suggested induced me to believe that elementary arithmetic might be taught by this method with great success, and a recent visit to the schools in Providence, Rhode Island, under the care of Mr. N. Bishop, City Superintendent, and a corps of very able teachers, has fully confirmed me in that impression.

The author is much indebted to Mr. Bishop, and to the teachers acting in conjunction with him, for many valuable suggestions. Indeed, but for their favorable opinion of the method here illustrated, verified by satisfactory experiments, this Elementary Book, presenting the subject of numbers to the minds of children in a new light, would not have appeared in its present form.

CHARLES DAVIES.

New York, *April*, 1848.

PLAN OF THE WORK.

The leading feature of the plan is to teach the reading of figures; that is, so to train the mind that it shall, by the aid of the eye alone, catch instantly the idea which any combination of figures is intended to express.

The method heretofore pursued has aimed only at presenting the combinations by means of our common language: this method proposes to present them purely through the arithmetical symbols, so that the pupil shall not be obliged to pause at every step and translate his conceptions into common language, and then re-translate them into the language of arithmetic.

For example, when he sees two numbers, as 4 and 8, to be added, he shall not pause and say, 4 and 8 are 12, but shall be so trained as to repeat 12 at once, as is always done by an experienced accountant. So, if the difference of these numbers is to be found, he shall at once say 4, and not 4 from 8 leaves 4. If he desires their product, he will say 32; if their quotient, 2: and the same in all similar cases.

This is all to be done by *the simple process of reading;* and the method consists,

1st. In teaching the alphabet, and

2dly. In teaching the combinations of the alphabet, which become the exponents or signs of ideas.

After this is done, the pupils of a class should be taught to read together, all the combinations, in *the same* manner as they practise reading lessons *in our common* language.

PRIMARY TABLE BOOK.

LESSON I.

Counting.

One,	.... *
Two,	.... * *
Three,	.... * * *
Four,	.... * * * *
Five,	.... * * * * *
Six,	.... * * * * * *
Seven,	.... * * * * * * *
Eight,	.... * * * * * * * *
Nine,	.... * * * * * * * * *
Ten,	.... * * * * * * * * * *
Eleven,	.... * * * * * * * * * * *
Twelve,	.... * * * * * * * * * * * *
Thirteen,	.... * * * * * * * * * * * * *
Fourteen,	.... * * * * * * * * * * * * * *
Fifteen,	..... * * * * * * * * * * * * * * *
Sixteen,	... * * * * * * * * * * * * * * * *
Seventeen,	. * * * * * * * * * * * * * * * * *
Eighteen,	. * * * * * * * * * * * * * * * * * *
Nineteen,	* * * * * * * * * * * * * * * * * * *
Twenty,	* * * * * * * * * * * * * * * * * * * *

LESSON II.

Figures from One to Twenty.

```
1   .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  *
2   .  .  .  .  .  .  .  .  .  .  .  .,.  .  .  .  .  .  .  .  .  *  *
3   .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  *  *  *
4   .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  *  *  *  *
5   .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  *  *  *  *  *
6   .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  *  *  *  *  *  *
7   .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  *  *  *  *  *  *  *
8   .  .  .  .  .  .  .  .  .  .  .  .  .  *  *  *  *  *  *  *  *  *
9   .  .  .  .  .  .  .  .  .  .  .  *  *  *  *  *  *  *  *  *  *
10  .  .  .  .  .  .  .  .  .  *  *  *  *  *  *  *  *  *  *  *
11  .  .  .  .  .  .  .  .  *  *  *  *  *  *  *  *  *  *  *  *
12  .  .  .  .  .  .  .  *  *  *  *  *  *  *  *  *  *  *  *  *
13  .  .  .  .  .  .  *  *  *  *  *  *  *  *  *  *  *  *  *  *
14  .  .  .  .  .  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
15  .  .  .  .  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
16  .  .  .  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
17  .  .  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
18  .  .  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
19  .  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
20  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
```

Which figure stands for two? Which figure stands for four? Which figure stands for nine? Which stands for eight? What stands for ten? What stands for twelve? What stands for fourteen? What stands for sixteen? What stands for eighteen? What stands for twenty? What stands for seventeen? What stands for fifteen? What stands for nineteen? What stands for eleven? *What stands for thirteen?*

LESSON III.

Figures from One to One Hundred.

Naught . .	0	Thirty-four	34	Sixty-eight	68
One . . .	1	Thirty-five	35	Sixty-nine	69
Two . . .	2	Thirty-six	36	Seventy	70
Three . .	3	Thirty-seven	37	Seventy-one	71
Four . . .	4	Thirty-eight	38	Seventy-two	72
Five . . .	5	Thirty-nine	39	Seventy-three	73
Six . . .	6	Forty . .	40	Seventy-four	74
Seven . .	7	Forty-one .	41	Seventy-five	75
Eight . .	8	Forty-two .	42	Seventy-six	76
Nine . . .	9	Forty-three .	43	Seventy-seven	77
Ten . . .	10	Forty-four .	44	Seventy-eight	78
Eleven . .	11	Forty-five .	45	Seventy-nine	79
Twelve . .	12	Forty-six .	46	Eighty	80
Thirteen .	13	Forty-seven	47	Eighty-one	81
Fourteen .	14	Forty-eight	48	Eighty-two	82
Fifteen . .	15	Forty-nine	49	Eighty-three	83
Sixteen . .	16	Fifty . .	50	Eighty-four	84
Seventeen .	17	Fifty-one .	51	Eighty-five	85
Eighteen .	18	Fifty-two .	52	Eighty-six	86
Nineteen .	19	Fifty-three .	53	Eighty-seven	87
Twenty . .	20	Fifty-four .	54	Eighty-eight	88
Twenty-one	21	Fifty-five .	55	Eighty-nine	89
Twenty-two	22	Fifty-six .	56	Ninety	90
Twenty-three	23	Fifty-seven .	57	Ninety-one	91
Twenty-four	24	Fifty-eight .	58	Ninety-two	92
Twenty-five	25	Fifty-nine .	59	Ninety-three	93
Twenty-six	26	Sixty . .	60	Ninety-four	94
Twenty-seven	27	Sixty-one .	61	Ninety-five	95
Twenty-eight	28	Sixty-two .	62	Ninety-six	96
Twenty-nine	29	Sixty-three .	63	Ninety-seven	97
Thirty . .	30	Sixty-four .	64	Ninety-eight	98
Thirty-one .	31	Sixty-five .	65	Ninety-nine	99
Thirty-two .	32	Sixty-six .	66	One hundred	100
Thirty-three	33	Sixty-seven	67	Two hundred	200