

Department of The Interior  
Bureau of Education.

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1. Development of Arithmetic As  
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2. Garden Clubs in the Schools of  
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3. Institutes in the United States  
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4. Summer Sessions of City Schools,  
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5. Educative & Economic Possibilities  
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7. The Bureau of Extension of The Univer-  
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8. Industrial Education in Wilmington,  
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1918.

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## LETTER OF TRANSMITTAL

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DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,

*Washington, February 6, 1917.*

SIR: In April, 1916, at the request of school authorities in Indiana, I assigned J. L. Randall, one of the Bureau of Education specialists in school and home gardening, to make a careful study of the possibilities of home gardening directed by the public schools in the city of Richmond, Ind. This study was made in cooperation with the Indiana vocational education survey, and special attention was given to the possible economic results as well as to its educative values. I am transmitting the report of this study for publication as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.



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## LETTER OF TRANSMITTAL

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DEPARTMENT OF THE INTERIOR,

BUREAU OF EDUCATION,

*Washington, April 22, 1918.*

SIR: For five years this office has watched with increasing interest the development of the extension work of the University of North Carolina, some of which, though as yet peculiar to this State, is, with necessary adaptations to the varying conditions in other States, capable of general adoption. Because of the importance of some of the phases of this work I have induced the president of the University to have prepared the account which is herewith transmitted for publication as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.

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DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1917, No. 10

DEVELOPMENT OF ARITHMETIC AS  
A SCHOOL SUBJECT

①

By WALTER SCOTT MONROE  
PROFESSOR OF SCHOOL ADMINISTRATION, KANSAS  
STATE NORMAL SCHOOL



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## LETTER OF TRANSMITTAL.

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DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington, February 9, 1917.*

SIR: The courses of study in our elementary and secondary schools have been accepted largely on tradition and without intelligent criticism as to their adaptation to modern conditions and needs or their educational value. In some subjects much new material has been introduced from time to time, while conservative tendencies have prevented the elimination of the old and outgrown, thus resulting in a congestion of material detrimental to the interests of the subjects and to the proper balance of the entire curriculum. This has been especially true of arithmetic as a school subject. There is now, however, a tendency everywhere to reorganize the curriculum both of elementary and of secondary schools, to the end that each subject may have its proper share of time and attention. That this work of readjustment in arithmetic may be done intelligently, it is very desirable that those engaged in it may have as complete knowledge as possible of the development of this subject and of past as well as present practice in regard to it. I therefore recommend for publication as a bulletin of the Bureau of Education the manuscript transmitted herewith, giving a history of arithmetic in the schools of the United States.

Respectfully submitted.

P. P. CLAXTON,  
*Commissioner.*

THE SECRETARY OF THE INTERIOR.

## PREFACE.

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The arithmetic with which the American schoolboy of the twentieth century wrestles differs in many respects from the "cyphering" which was truly a stumbling block to many a child in colonial days. Not only have there been significant changes in the subject matter of arithmetic, but also in the aim of instruction, in the place of arithmetic in the plan of education, and in the methods of teaching the subject. In fact many of the distinguishing characteristics of arithmetic as a twentieth century school subject are products of the nineteenth century. It has been the purpose of this investigation to trace in some detail the development of arithmetic as a school subject and the methods of teaching it in the United States, and to show the influence of Warren Colburn in stimulating and directing this development.

It is a pleasure to acknowledge indebtedness to those who inspired and encouraged this research and to those who have assisted in making accessible the sources; in particular, Prof. W. W. Charters, of the University of Missouri, who first mentioned the problem, and Profs. S. C. Parker and G. W. Myers, of the University of Chicago, for their direction and helpful criticism.

WALTER SCOTT MONROE.

EMPORIA, KANS.