The Greatest C. Measure

A number is said to be a measure of another number when it will divide it without a remainder; as 2, is a measure of 6, because it divides 6 exactly. A number is said to be a common measure of two or more numbers when it will exactly divide those numbers; and the greatest number which will so divide them is called the greatest common measure. ——

Thus, 2, 4, 12 are common measure, of 24 and 36 and 12, is their greatest common measures ——

A number is ~~a prime~~ called a *prime* when it cannot be divided exactly by a number greater than 1. Thus 3, 5, 7 are prime numbers because they have no divisor greater than 1. We shall write G. C. M. for the greatest Common measure ——

To find the G.C.M of two or more numbers

Take two of the proposed numbers, and divide the greater by the less; if there be a remainder, make that

a new divisor, and take the former divisor as a new dividend, and continue this process until there be no remainder: the last divisor will be the G. C. M.—

If there be a third number, go through the same work with this third number, and the G. C. M. of the other two; then, the last divisor will be the last divisor will be the G. C. M. And the same process must be continued if there be 4th, &c. Or any amount of numbers of which we have to find the G. C. M.

Find the G. C. M. of 348, & 390?

348) 390 (1
348
42) 348 (8
336
12) 42 (3
36
6) 12 (2
12
∴ 6 is the G. C. M.

The G. C. M. of 510 & 595?

510) 595 (1
510
85) 510 (6
510
∴ 85 is the G. C. M.

Find the G. C. M. of 36, 27 & 144?

27) 36 (1
27
9) 27 (3
27
∴ 9 is the G. C. M

9) 144 (16
9
54
∴ 9 is the G. C. M

Find the G. C. M of 324, 456 & 728?

324) 456 (1
324
132) 324 (2
264
60) 132 (2
120
12) 60 (5
60

12) 72 (6
72
4) 12 (3
12

∴ 12 is the G. C. M of 324 & 456 but 4 is the G. C. M of all the three

Common Multiple

Of two numbers the larger is said to be a multiple of the smaller, when the larger can be divided exactly by

a number without a remainder by the smaller; and the
smaller number is said to be a measure of the larger.
Thus since 12 can be divided exactly by 4, 12 is called
a multiple of 4 and 4 a measure of 12. So 16 is a multiple of 8 is
a measure of 16.

Also, one number is said to be a common multiple of two or more
numbers, when it can be divided exactly by the two or more
numbers. Thus 24 is a common multiple of 6, 4 & 2 because
it can be divided exactly by those numbers; 12 is the least
common multiple

To find the L C M break the number into their prime
factors, and then multiply together the greatest number of
different prime factors for the L C M.

Find the L. C. M. of 2, 3, 4 & 8?

2 = 1 X 2
3 = 1 X 3
4 = 2 X 2
8 = 2 X 2 X 2

1 2 3 X 2 X 2 X 2 = 24 ∴ 24 is the L C M of 2, 3 4 8

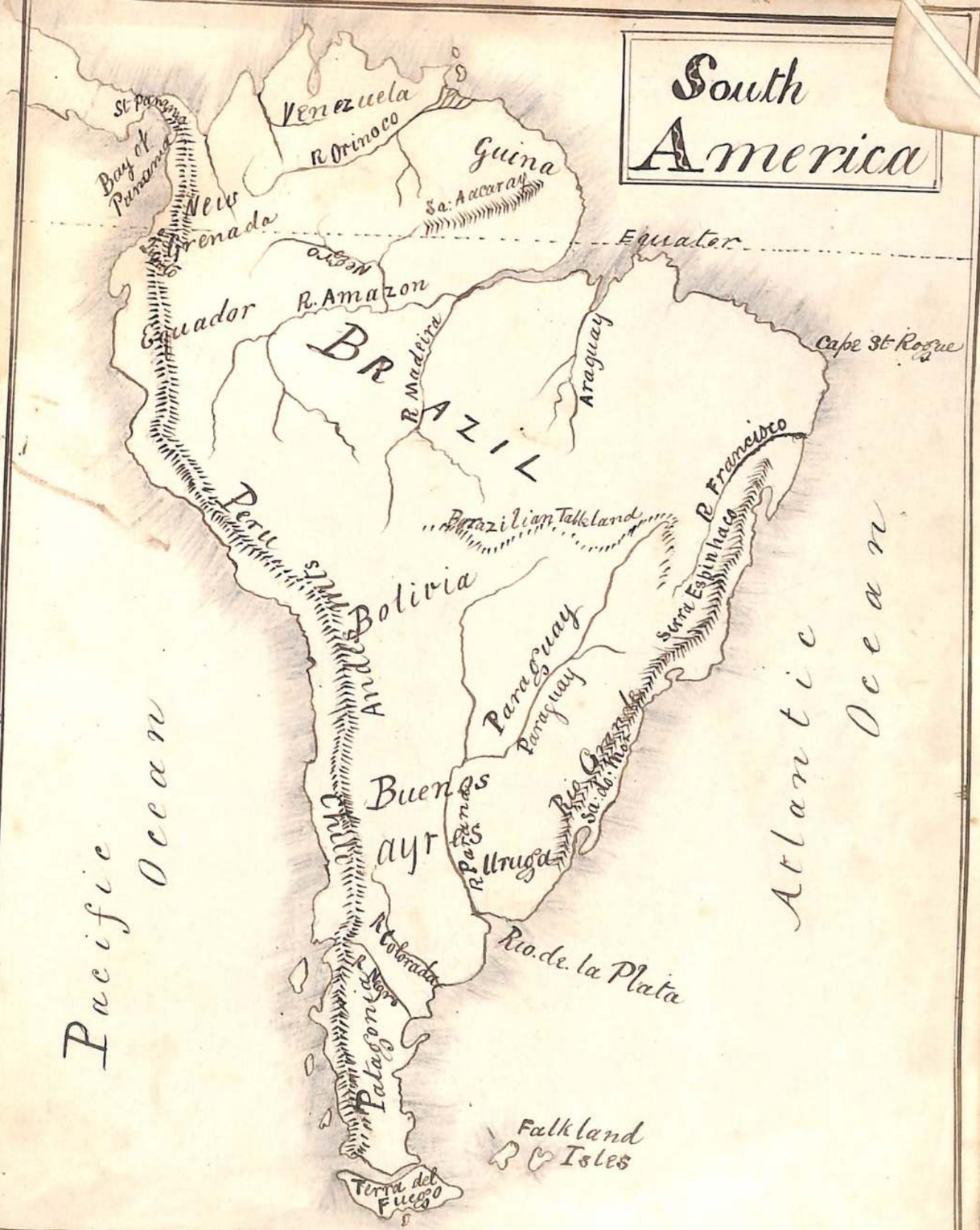
Find the L C M of 3, 5, 9, 16 & 20?

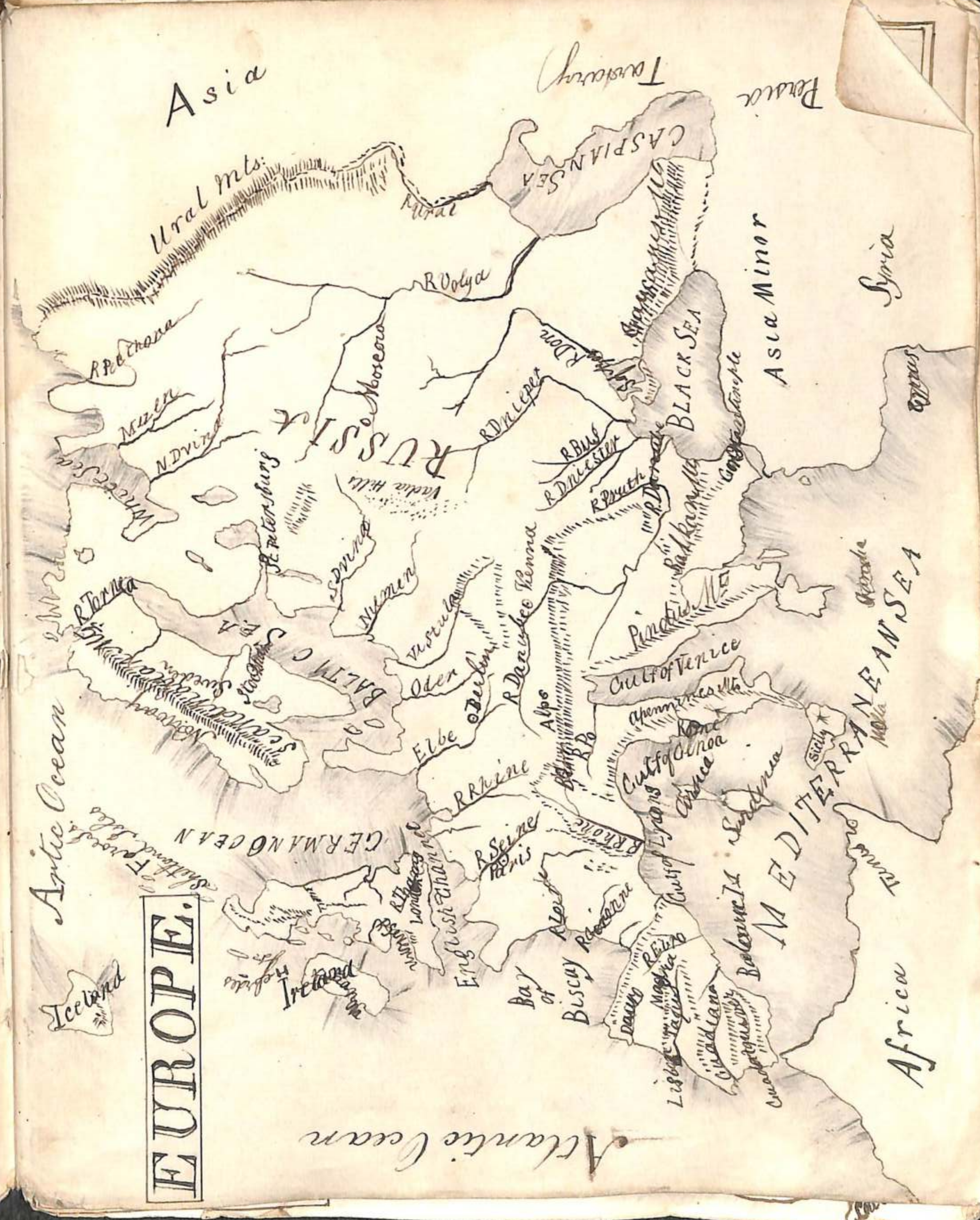
Mast. William Eldridge

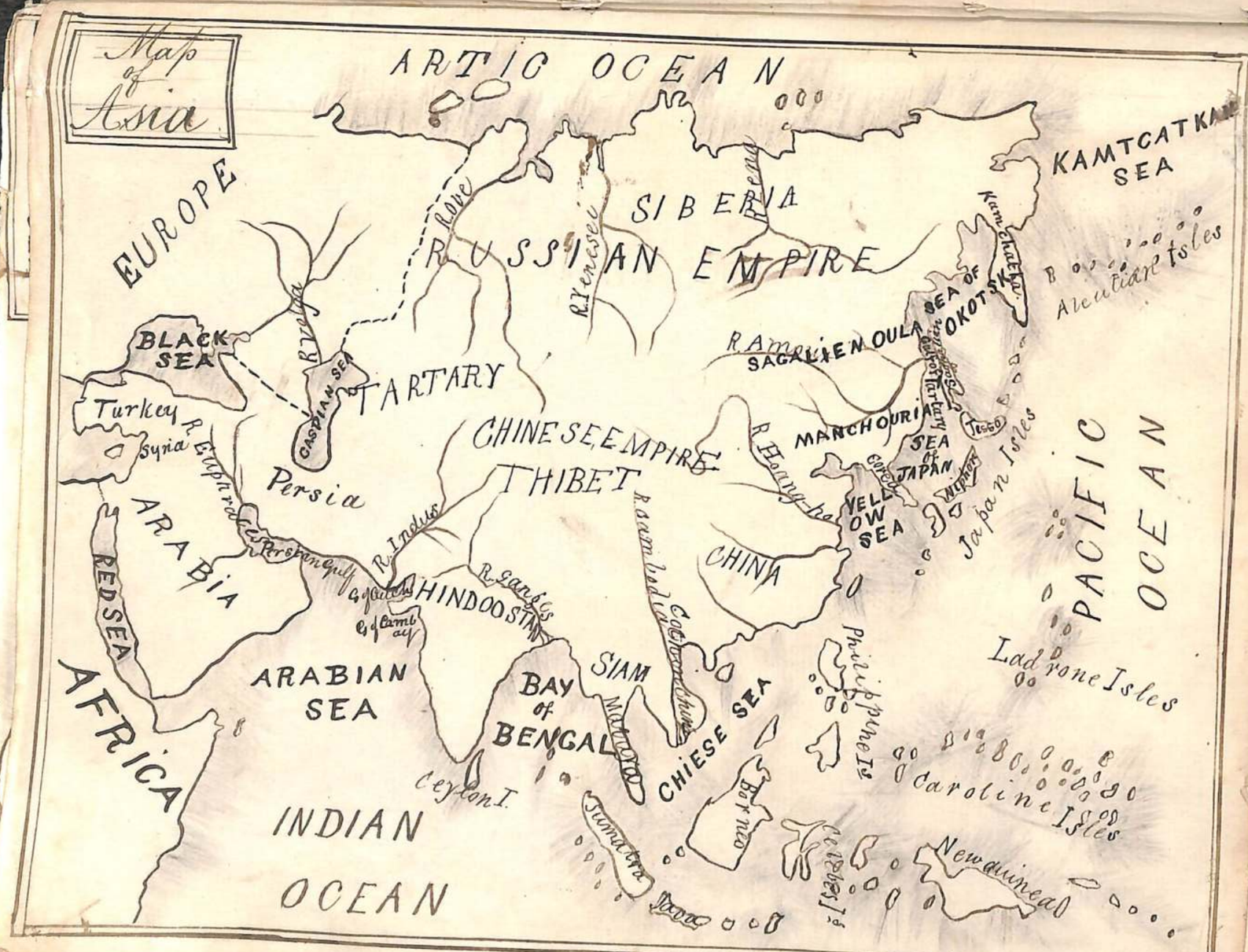
Buchan

Shipton

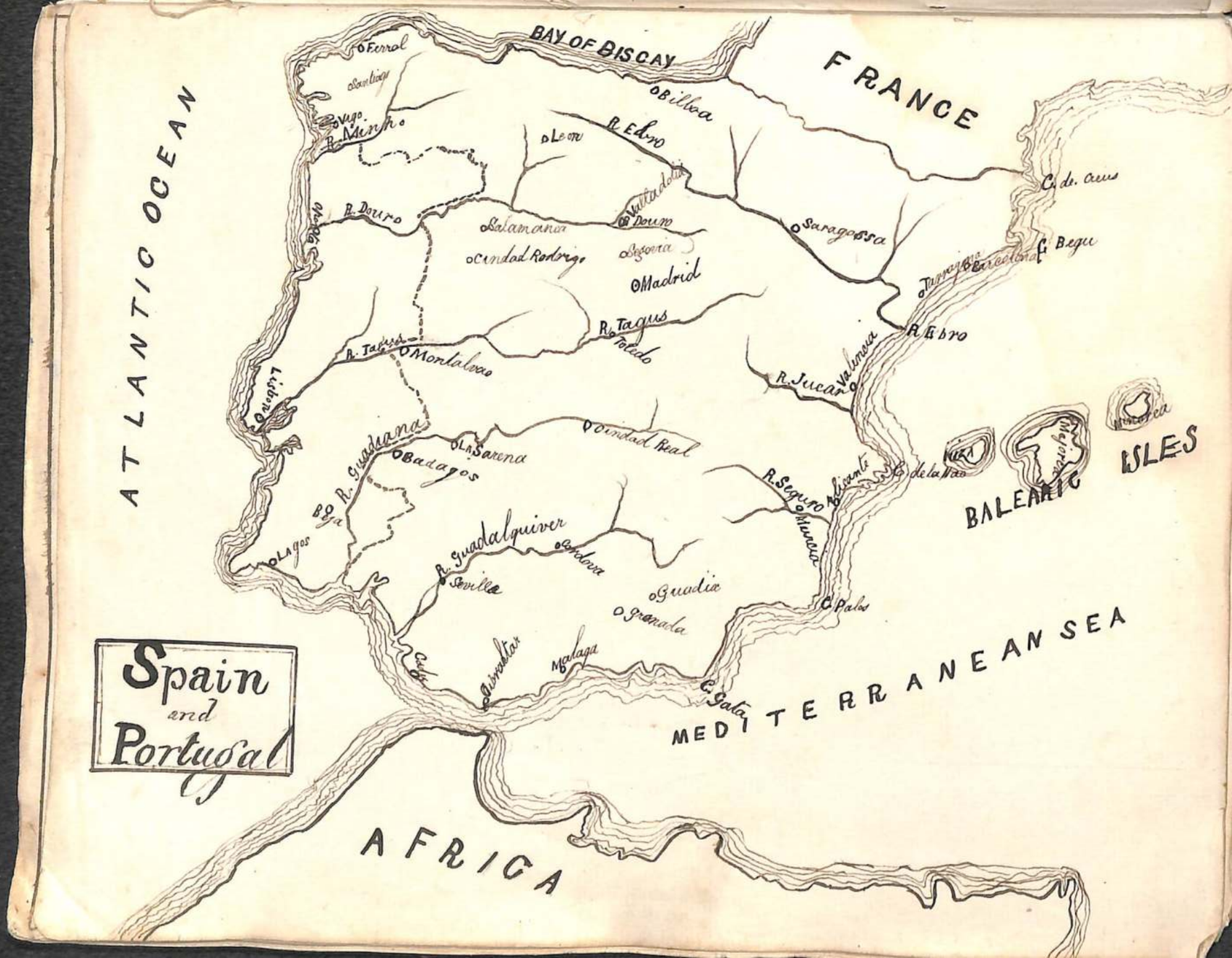
South America




EUROPE.
Asia
Tartary
Persia
Ural Mts:
R Ural
CASPIAN SEA
R Volga
Asia Minor
Syria
BLACK SEA
RUSSIA
R Pechora
R Don
N. Dvina
R Dnieper
R Bug
R Dniester
R Pruth
Moscow
St Petersburg
Valdai Hills
Niemen
Vistula
Oder
Elbe
BALTIC SEA
R Danube
Vienna
Alps
R Po
R Rhine
R Seine
Paris
R Rhone
Pindus Mts
Gulf of Venice
Apennines Mts
Gulf of Genoa
Corsica
Sardinia
Sicily
MEDITERRANEAN SEA
Bay of Biscay
English Channel
GERMAN OCEAN
Ireland
Iceland
Artic Ocean
Atlantic Ocean
Africa
Lisbon


Map of Asia
ARTIC OCEAN
EUROPE
R. Volga
R. Obe
R. Yenesei
SIBERIA
RUSSIAN EMPIRE
KAMTCATKA SEA
Kamtchatka
Aleutian Isles
BLACK SEA
CASPIAN SEA
TARTARY
Turkey
Syria
R. Euphrates
Persia
CHINESE EMPIRE
THIBET
R. Amoor
SAGALIEN OULA
SEA OF OKOTSK
MARCHOURIA
JAPAN SEA
Yesso
Japan Isles
R. Hoang-ho
YELLOW SEA
CHINA
ARABIA
RED SEA
Persian gulf
R. Indus
HINDOOSTAN
R. Ganges
Gulf of Cambay
Gulf of Bengal
Coromandel Coast
ARABIAN SEA
BAY of BENGAL
SIAM
Malacca
CHIESE SEA
Philippines
Ladrone Isles
PACIFIC OCEAN
AFRICA
Ceylon I.
INDIAN OCEAN
Sumatra
Java
Borneo
Celebes
Carolina Isles
Newguinea

NORTH
AMERICA


BAY OF BISCAY
FRANCE
ATLANTIC OCEAN
Ferrol
Santiago
Vigo
R. Minho
Leon
R. Ebro
Bilboa
Valladolid
R. Douro
Salamanca
Ciudad Rodrigo
Segovia
Madrid
Zaragoza
C. de Gata
Tarragona
Barcelona
C. Begur
R. Tajus
Toledo
Montalvao
R. Ebro
R. Jucar
Valencia
Ciudad Real
La Serena
Badajos
R. Guadiana
R. Segura
Alicante
C. de la Nao
Murcia
Mallorca
Menorca
BALEARIC ISLES
Lagos
R. Guadalquiver
Cordova
Sevilla
Granada
Guadix
C. Palos
Cadiz
Gibraltar
Malaga
C. Gata
MEDITERRANEAN SEA
Spain and Portugal
AFRICA

England wants for nothing

Edward Ayrton

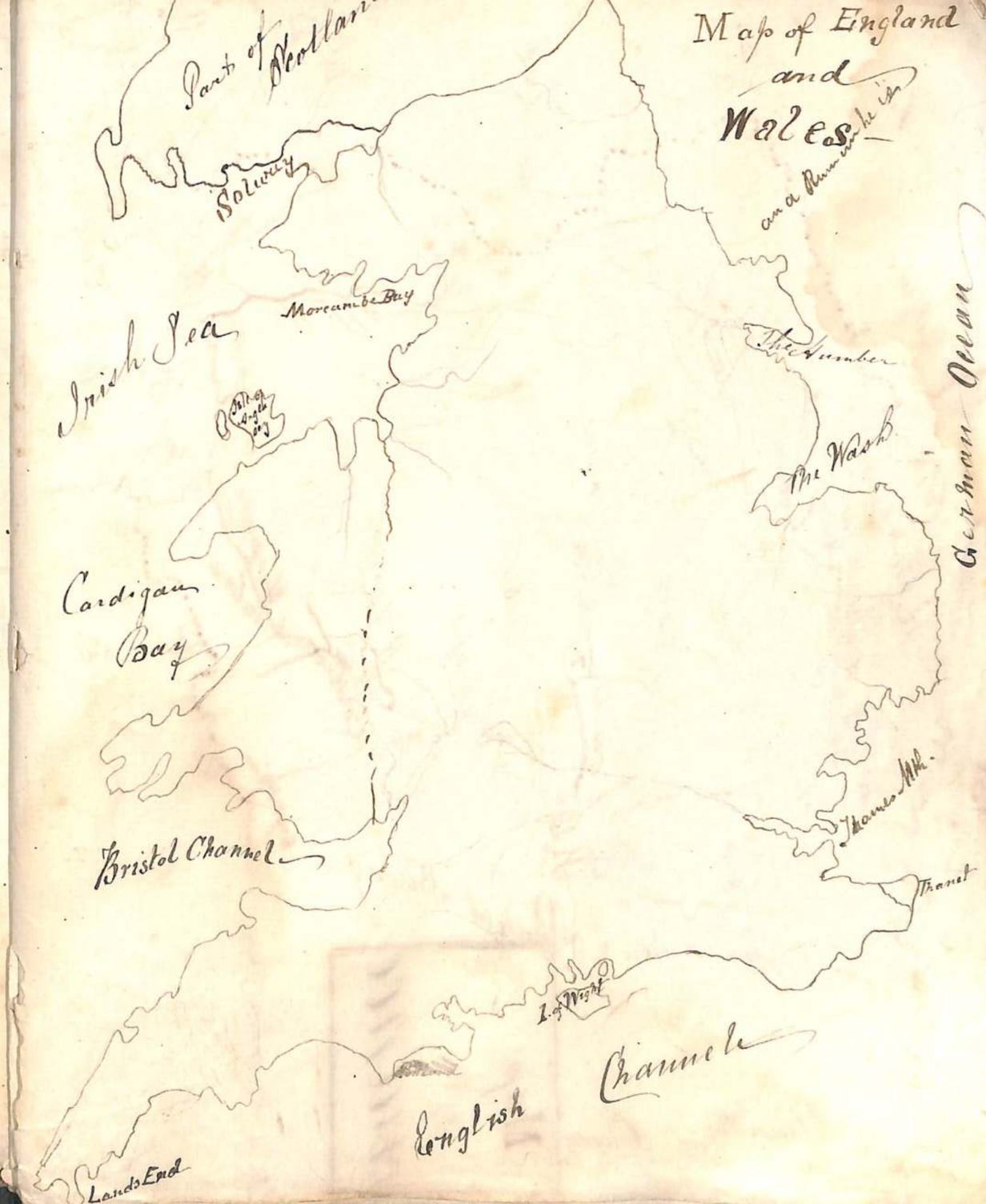
Selside

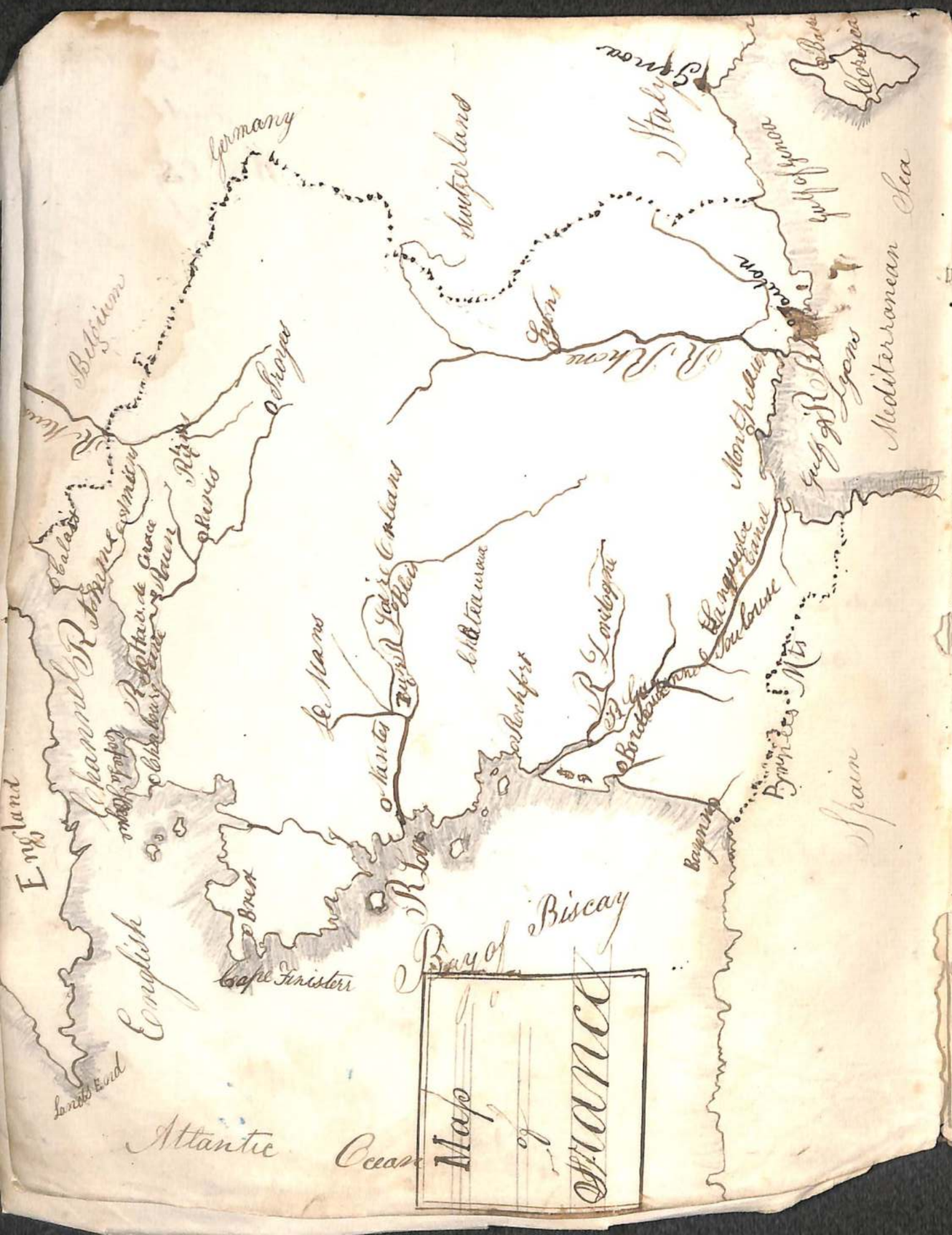
Ed. Ayrton's Book

Ed. Ayrton

Selside

Horton





2=1X2
3=1X3
4=2X2
5=1X5
6=2X3
8=2X2X2
9=3X3
10=2X5
12=2X2X3
15=3X5
16=2X2X2X2
18=2X3X3
20=2X2X5

∴720 is the L C M of 3, 5, 9, 16, & 20

1X2X2X2X2X3X3X5=720

Find the L C M of 5, 7, 9, 12, 15

5=1X5
7=1X7
9=3X3
12=2X2X3
15=3X5

1X5X7X3X3X2X2=1260, ∴1260 is the L C M of 5, 7, 9, 12, & 15

Find the L C M of 36, 54, 85 & 90

36=3X3X2X2
54=3X3X3X2
85=5X17
90=3X3X2X5

3X3X3X2X2X5X17=9180, ∴9180 is the L C M of 36, 54, 85 & 90

Find the L C M of 63, 100 & 72

63=3X3X7
100=2X2X5X5
72=2X2X2X3X3

2X2X2X3X3X5X5X7=12600, ∴12600 is the L C M of 63, 100, & 72

Fractions

By the term Unit, we are to understand a single article of any kind, as Inch, Yard, Penny, Ounce, &c

Unity is merely another name for the figure 1

A fraction is a part or parts of a number or quantity, supposed to be broken into any number of equal portions. If then, the unit be divided into 4, 5, or 6 equal parts, one of these parts will be called one fourth one fifth, or one sixth, and is thus written $\frac{1}{4}, \frac{1}{5}, \frac{1}{6}$. So also, if any two of these parts be taken, the quantities thus taken will be called two fourths two fifths and two sixths, and be written $\frac{2}{4}, \frac{2}{5}, \frac{2}{6}$.

The number below the line, which shows into how many parts the unit was broken, is called the denominator because it expresses the denominator, or kind of parts, as fourths, fifths, sixths. The upper number, which he numerates, or counts, how many parts are taken is called the numerator. Thus, in the fraction $\frac{2}{5}$, 5 is the denominator, 2 the numerator.

A fraction is sometimes used to express division; as $\frac{2}{5}$ means that 2 is to be divided by 5.

A fraction is called a proper fraction when the num^{r} is less than the den^{r} thus $\frac{3}{5}$ or $\frac{4}{5}$ are called proper fraction because they really represent a part or parts of a unit, and are less than the whole unit.

A fraction whose num^{r} is equl, to, or is greater than the denam^{r}, is called an improper fraction. Thus, $\frac{5}{5}$, $\frac{12}{1}$, are called improper fractions because they are not in reality parts of a unit broken up i.e. are not less than the whole unit but they are either one compleate unit or more than one

A whole number may be made to appear as an improper fraction with any required denr. by multiplying and dividing by the whole number by that denominator.

Thus, $9 = \frac{9 \times 5}{5} = \frac{15}{5}$: if the required denr. be $\frac{5}{7}$ $9 = \frac{9 \times 7}{7} = \frac{63}{7}$.

A mixed number is one formed of a whole number and a fraction, as $3\frac{2}{5}$, which is read three and two fifths that is, three units, and two fifths of another unit; just as 3s. 6d means 3 shillings and $\frac{1}{2}$ of another shilling, and might be written 3 $\frac{1}{2}$ sh. were the unit is one shilling.

A fraction consisting of two or more fractions, connected by the word of placed between them, is called a compound fraction; as $\frac{2}{3}$ of $\frac{5}{7}$ of $\frac{6}{9}$:

and a complexed fraction is one in which either the numr. or denr, or both are fractions; as

$\frac{2\frac{3}{4}}{4}$ $\frac{3}{1\frac{1}{2}}$ $\frac{1\frac{1}{3}}{3\frac{3}{5}}$ $\frac{6}{7}$ of $\frac{1\frac{3}{5}}{11\frac{1}{5}}$, &c.

This last fraction is thus read: eight ninths of one and two thirds, divided by seven and one fifth.

This last fraction is thus read: eight ninths

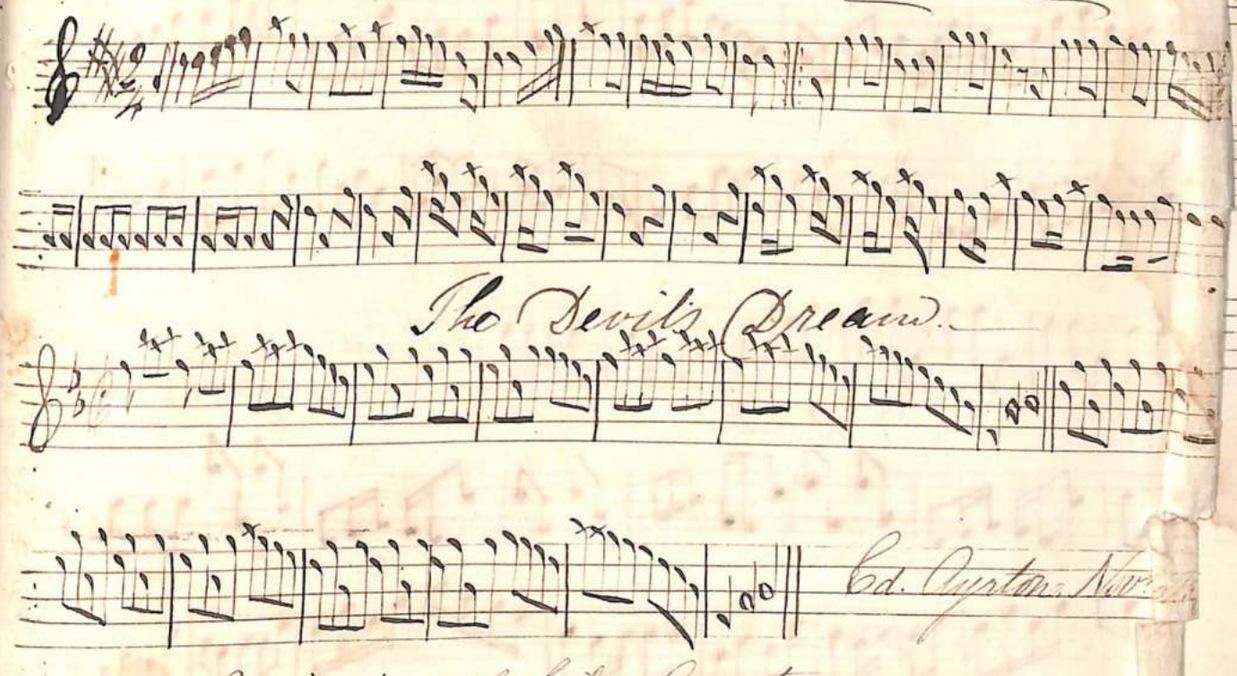
To ascertain the weight of a beast while alive
Rule. By the square of the girth multiply five times the
length divide the product by 21.
Suppose the girth of a cow be 6 ft. and the length
5 ft.

Girth 6 Length 5 ft
6 5
36 25.
25
150
2
21 | 300 (42 „ 12
84
60
42
18
14
18
21 | 252 (12
21
42
42

Ans: 42 St. lbs. 12

E. Ayrton.
Preside

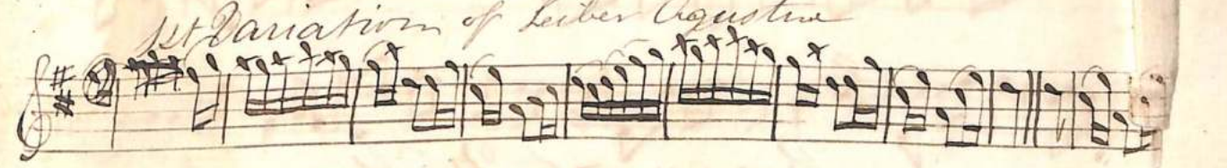
The Huntman's Chorus.



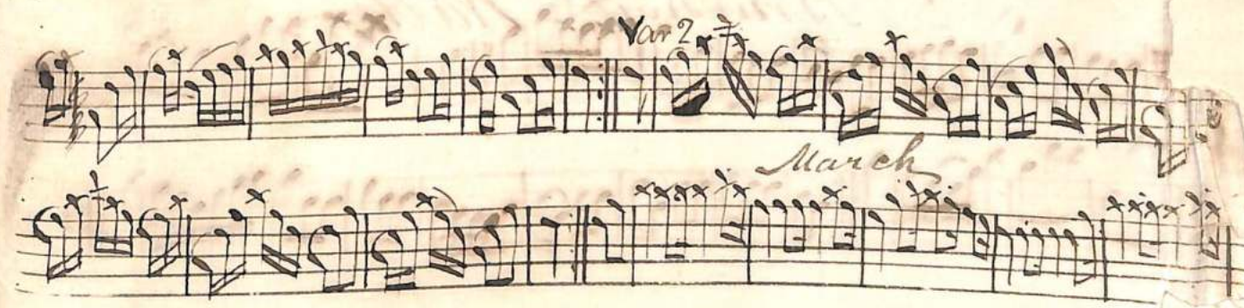
The Devil's Dream.

Ed. Ayrton. Nov.

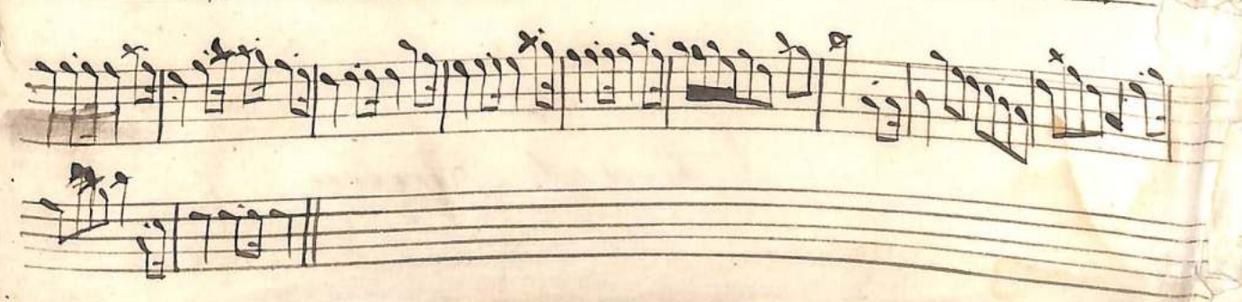
1st Variation of Leiber Augustine



Var 2



March



Hornpipe

E. Ayrton 1860.

Polka

Brunswick Walk

Edward Ayrton
Craycombe Buckden

D.C.

English Composition

Edward Ayrton

Horton Grammar School

May 1863

lbans, to avoid much bloodshed, agreed to
day, by a combat of three on each side. The
happened to be in each camp three two
of equal age and equal stature
oratii on the side of the Romans,
uriatii on that of the Albans. The battle
ried on with equal courage and conte
til two of the Horatii were killed, &
nd finding himself unable to withs
three adversaries together, feigned fear
ay, and by this means drew them
nder; then turning round upon
onents he easily slew them one, an
s secured the victory for the Romans.