

# *De Logaritmische Schalen van Edmund Gunter*

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Het vroegste  
logaritmische  
rekeninstrument:  
de Gunter liniaal  
met steekpasser



# GRESHAM

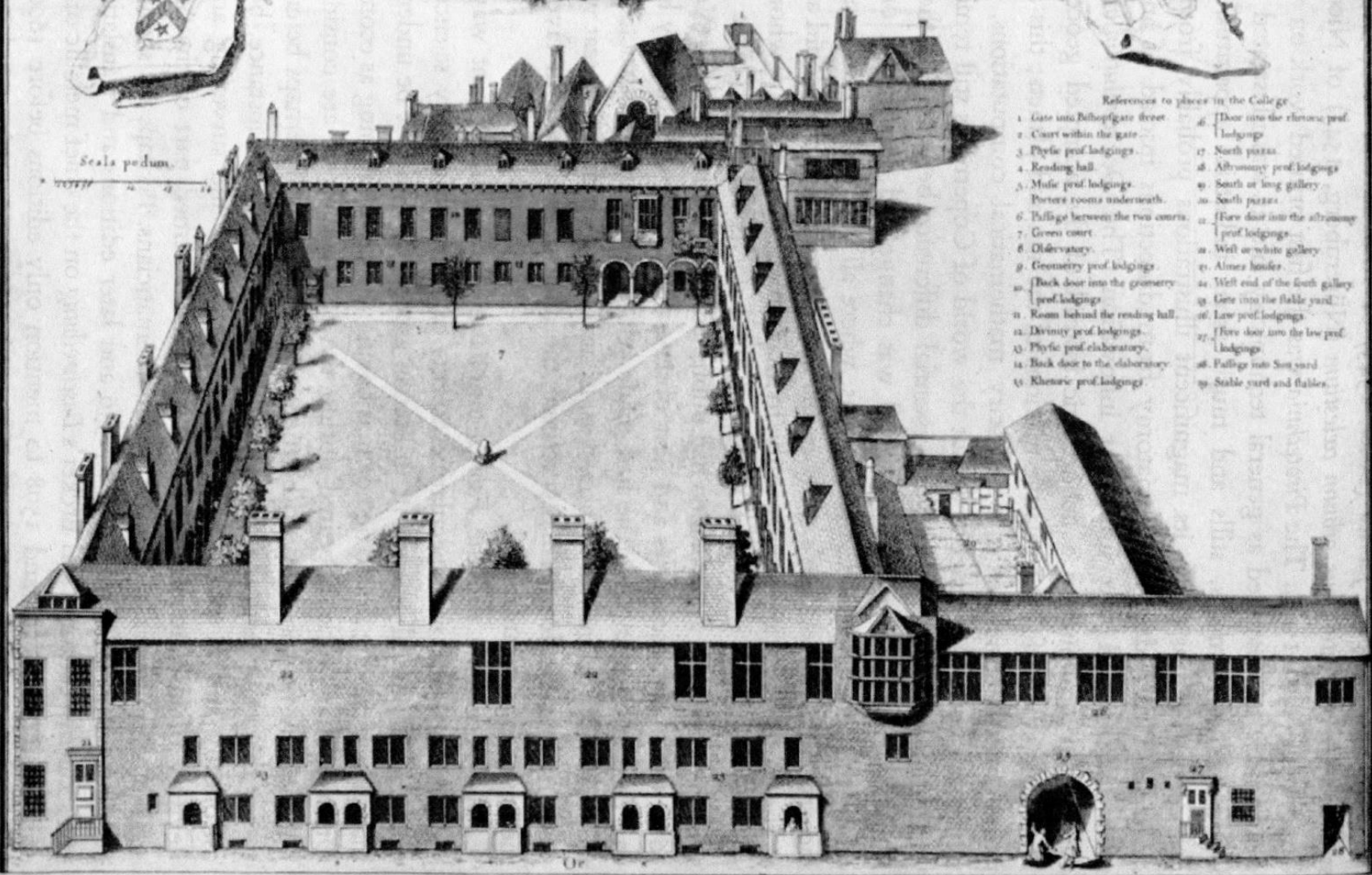
# COLLEGE - 1597



Scala pedum.  
10 20 30 40

References to places in the College

- |  |  |
|--|--|
| 1. Gate into Bishopgate street.                | 46. Door into the rhetoric prof. lodgings        |
| 2. Court within the gate.                      | 47. North piazza                                 |
| 3. Physic prof. lodgings                       | 48. Astronomy prof. lodgings                     |
| 4. Reading hall                                | 49. South or long gallery                        |
| 5. Music prof. lodgings.                       | 50. South piazza                                 |
| 6. Posters rooms underneath.                   | 51. Flare door into the astronomy prof. lodgings |
| 7. Green court                                 | 52. Well or white gallery                        |
| 8. Observatory.                                | 53. Alms house                                   |
| 9. Geometry prof. lodgings                     | 54. Well end of the south gallery                |
| 10. Back door into the geometry prof. lodgings | 55. Gate into the stable yard                    |
| 11. Room behind the reading hall               | 56. Law prof. lodgings                           |
| 12. Divinity prof. lodgings.                   | 57. Flare door into the law prof. lodgings       |
| 13. Physic prof. elaboratory.                  | 58. Passage into Sun yard                        |
| 14. Back door to the elaboratory               | 59. Stable yard and flables.                     |
| 15. Kitchens prof. lodgings                    |  |



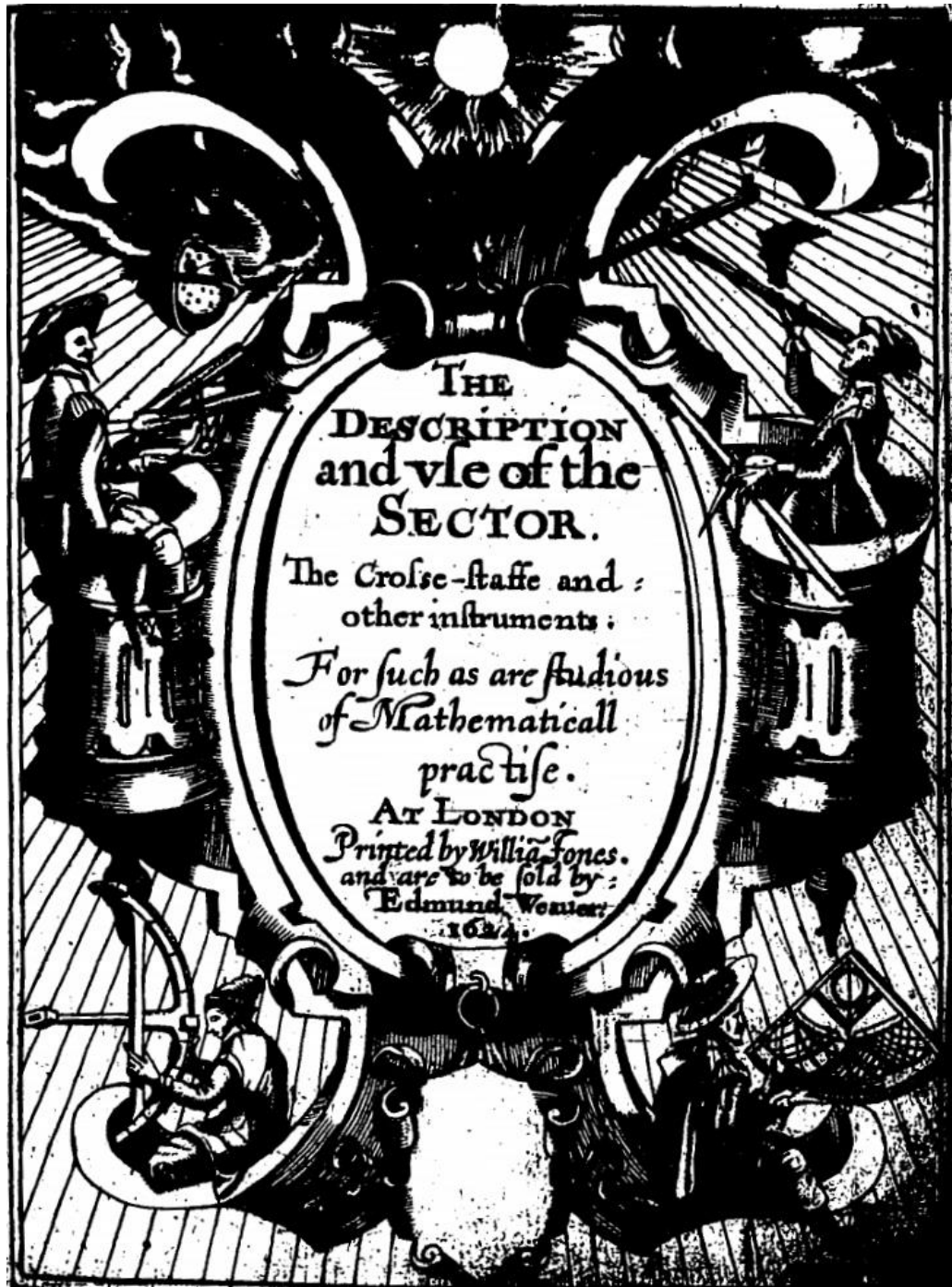
Georgius Vertus, Londani delineavit et sculpsit anno MDCCXXXII.

GRESHAM COLLEGE—THE BIRTHPLACE AND EARLY HOME OF THE ROYAL SOCIETY

|             | John Napier<br>(1550-1617)                  | Henry Briggs<br>(1560-1630)         | Edmund Gunter<br>(1581-1626)                | William Oughtred<br>(1574-1660)      |
|-------------|---|-------------------------------------|---|--------------------------------------|
|             | Edinburgh                                   | Gresham College, London             |   | Albury, Surrey                       |
| <b>1597</b> |   | Professor in<br>Geometry            |   |                                      |
| <b>1614</b> | <i>Mirifici Log . . . .<br/>Descriptio</i>  |                                     |   |                                      |
| <b>1617</b> |   | <i>Chilias Prima</i>                |   |                                      |
| <b>1619</b> | <i>Mirifici Log . . . .<br/>Constructio</i> |                                     | Professor in<br>Astronomy                   |                                      |
| <b>1620</b> |   |                                     | <i>Canon<br/>Triangulorum</i>               |                                      |
| <b>1624</b> |   | <i>Arithmetica<br/>Logarithmica</i> | <i>Use of Sector<br/>&amp; Cross-staffe</i> |                                      |
| <b>1630</b> |   |                                     |   | <i>The Circles of<br/>Proportion</i> |

# Studies en Publicaties van Gunter

- Logaritmische Schalen NUM, SIN en TAN
- Astronomisch Quadrant
- Cross-Staff (Jacobsstaf), voorloper van octant
- Sector (Proportionaalpasser)
- Surveyor's Chain (meetketting voor landmeters)
- Kompas: variatie afhankelijk van plaats en tijd
- Zonnewijzers in Whitehall

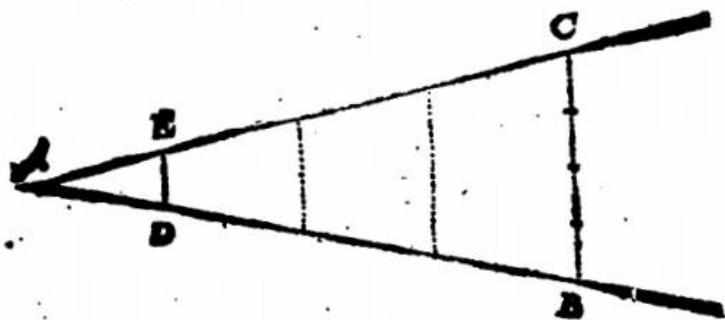


Gunters boek, waarin  
de logaritmische schaal  
werd geïntroduceerd  
(1624)

THE <sup>2d</sup> Edition *W. Sutton*  
DESCRIPTION  
AND USE OF THE  
SECTOR,

THE CROSSE-STAFFE,  
and other Instruments,

For such as are studious of  
*Mathematicall practise.*



LONDON,  
Printed by WILLIAM IONES.  
and are to be sold by *Edmund Weaver.*

1623.

THE SECOND BOOKE.

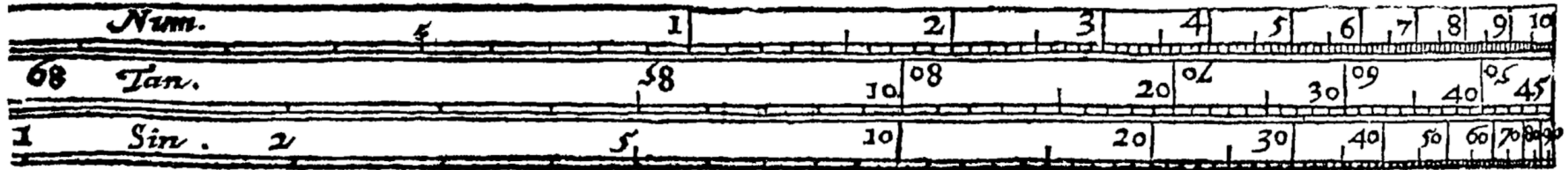
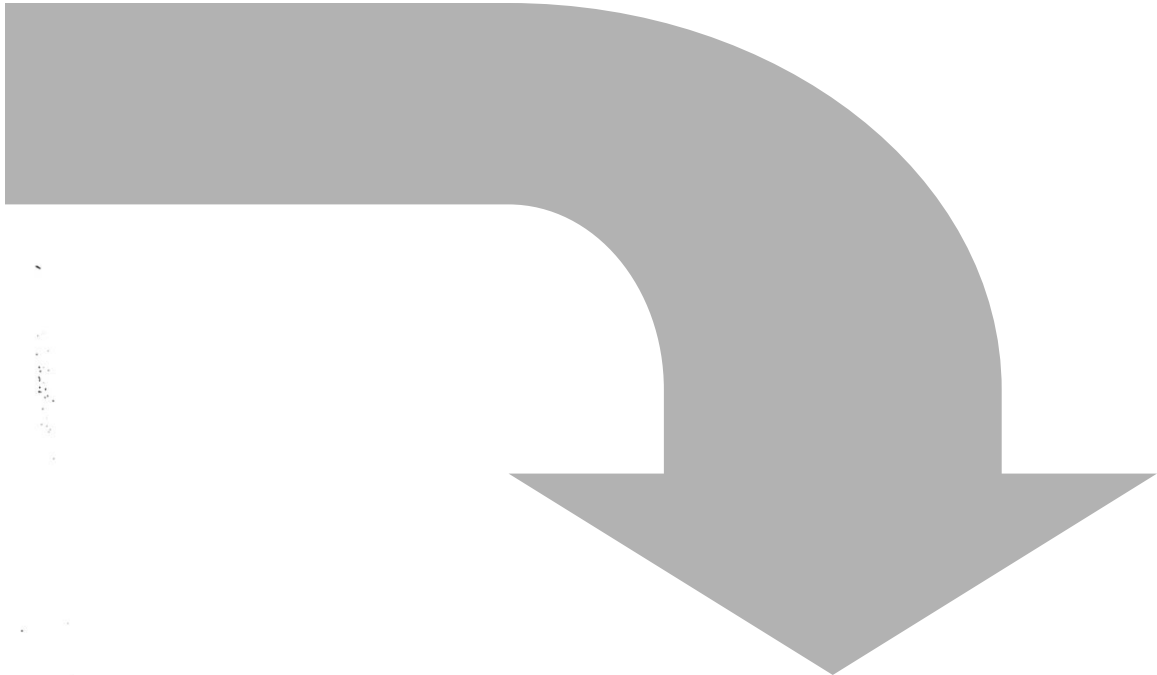
Of the use of the former lines of proportiō,  
more particularly exemplified  
in severall kinds.

**T**He former booke containing the general use of each line of proportion, may be sufficient for all those which know the rule of *Three*, and the doctrine of triangles. But for others, I suppose it would be more difficult to find either the declination of the Sunne, or his amplitude, or the like, by that which hath been said in the use of the line of *sines*, vnlesse they may haue the particular proportions, by which such propositions are to be wrought. And therefore for their sakes I haue adioyned this second booke, containing severall proportions for propositions of ordinary use, and set them down in such order, that the Reader considering which is the first of the three numbers giuen, may easily apply them to the Sector, and also resolue them by Arithmetique, beginning with those which require help onely of the line of *numbers*.

CHAP. I.

The use of the line of Numbers in broade  
measure, such as boord, glasse,  
and the like.

**T**He ordinary measure for bredth and length are feete and inches, each foote diuided into 12 inches, and euery inch into halues & quarters,



Oorspronkelijke schets van Gunters schalen



# PROPORTIES

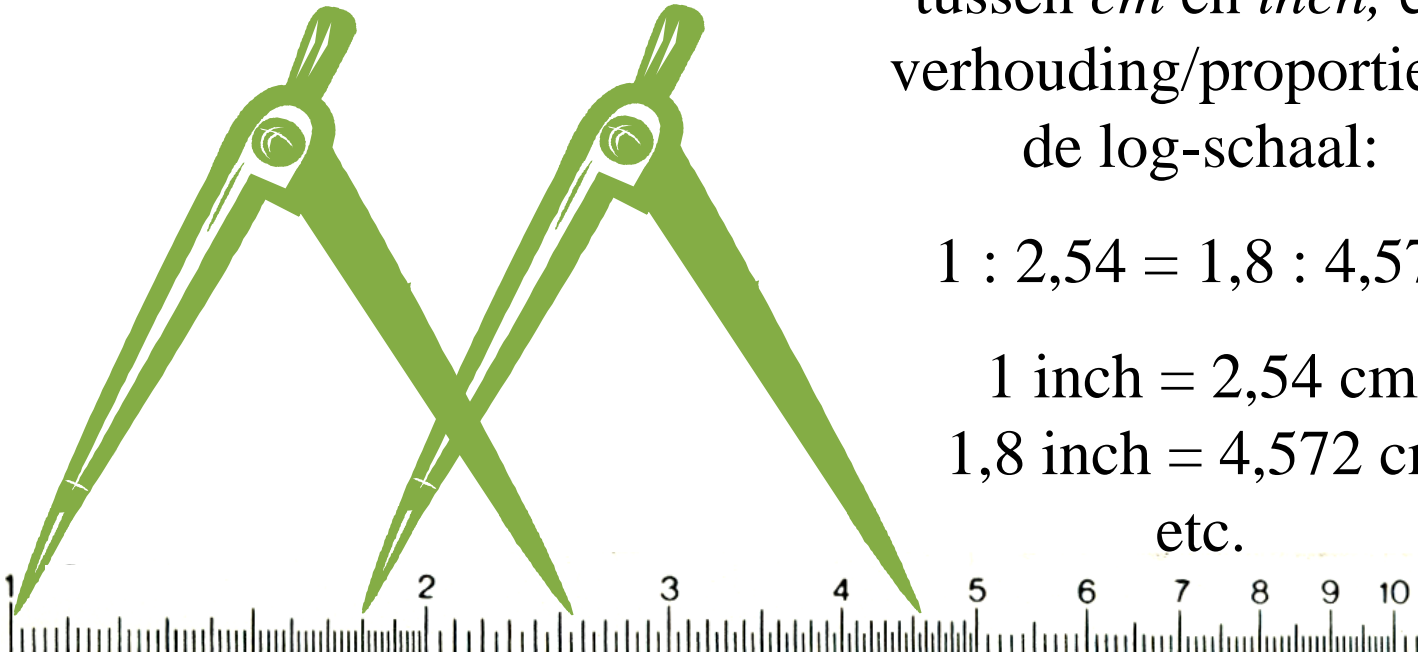
Bijvoorbeeld: de conversie  
tussen *cm* en *inch*, een  
verhouding/proportie op  
de log-schaal:

$$1 : 2,54 = 1,8 : 4,572$$

$$1 \text{ inch} = 2,54 \text{ cm}$$

$$1,8 \text{ inch} = 4,572 \text{ cm}$$

etc.



# PROPORTIES

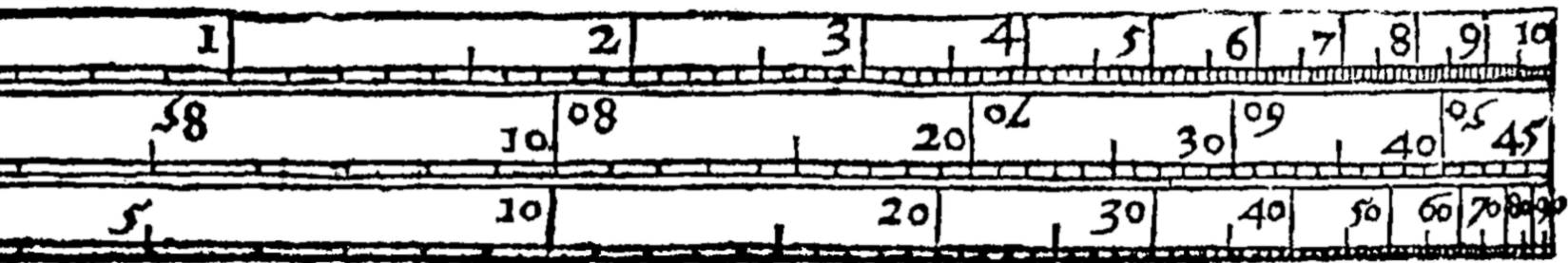
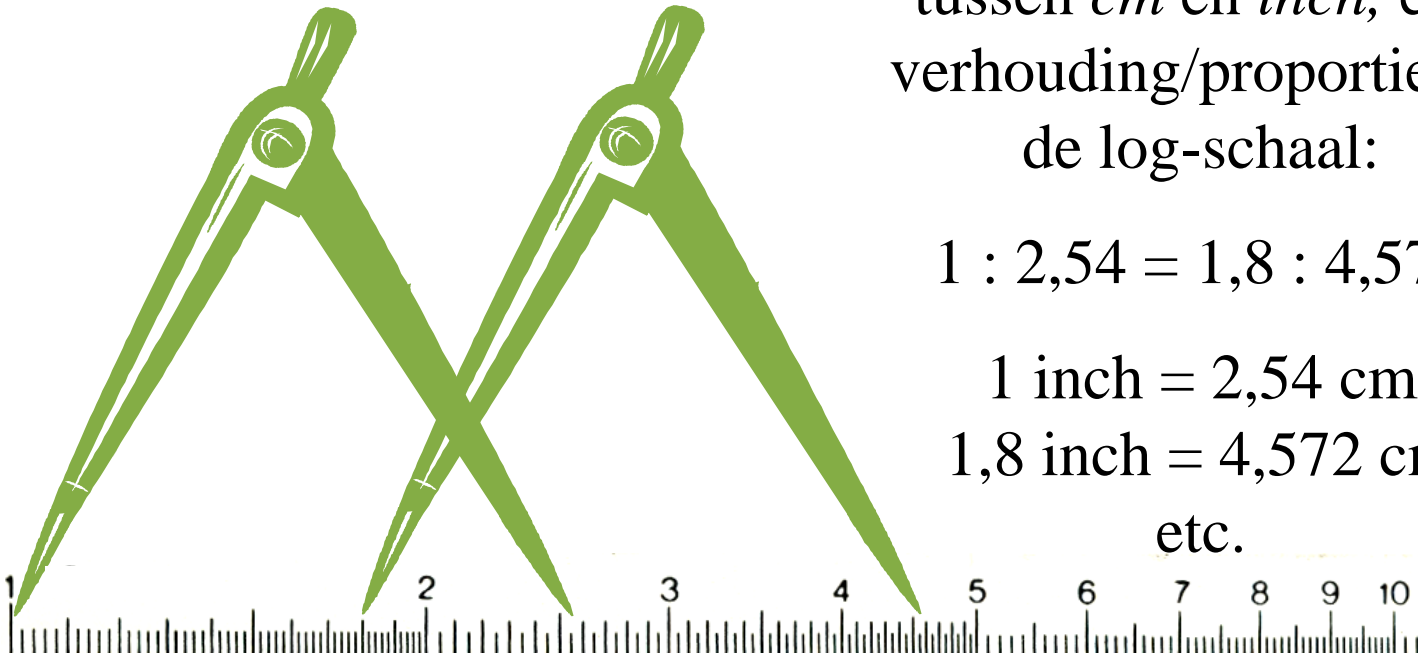
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Hoe de Gunter liniaal gebruikt zou kunnen zijn in de Napoleontische tijd



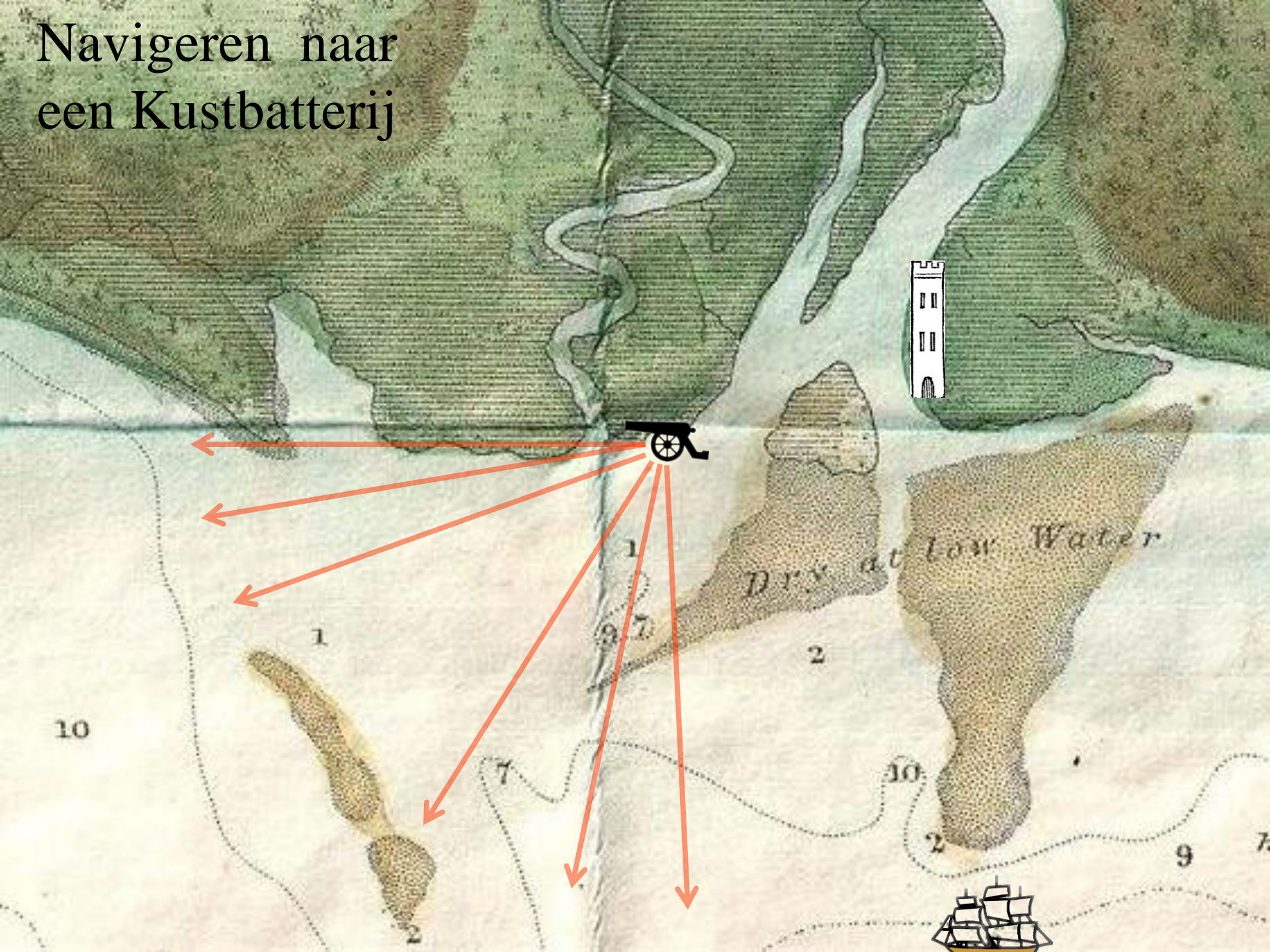


# Kustnavigatie



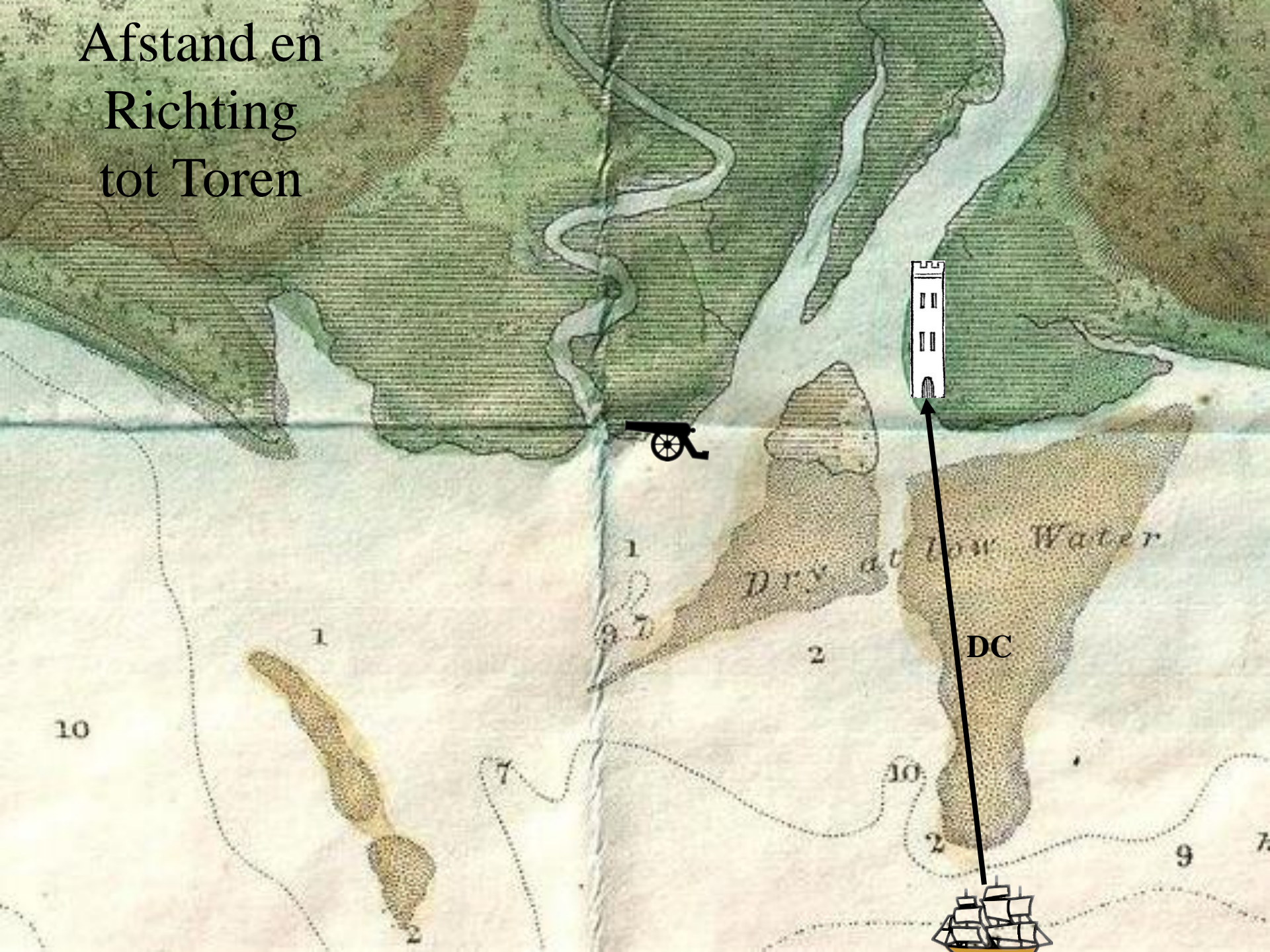


# Navigeren naar een Kustbatterij





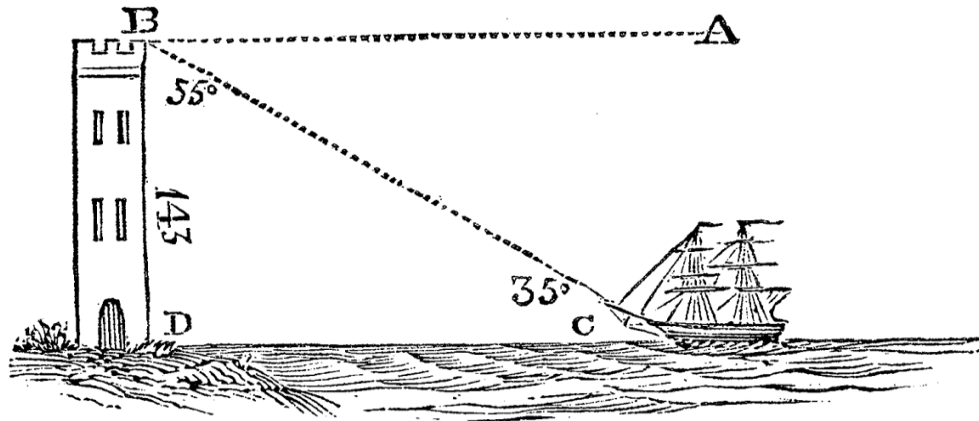
Afstand en  
Richting  
tot Toren



## Kustnavigatie

Als de octant een hoogtehoek  $BCD = 35^\circ$  meet van een toren met bekende hoogte  $BD = 143$ , dan is de afstand  $DC$  van schip tot toren:

$$DC = BD : \tan (35^\circ)$$



The angle of depression of the vessel is  $ABC$ , and consequently is equal to the angle of elevation of the tower,  $BCD$ . Hence, making  $BD$  radius;

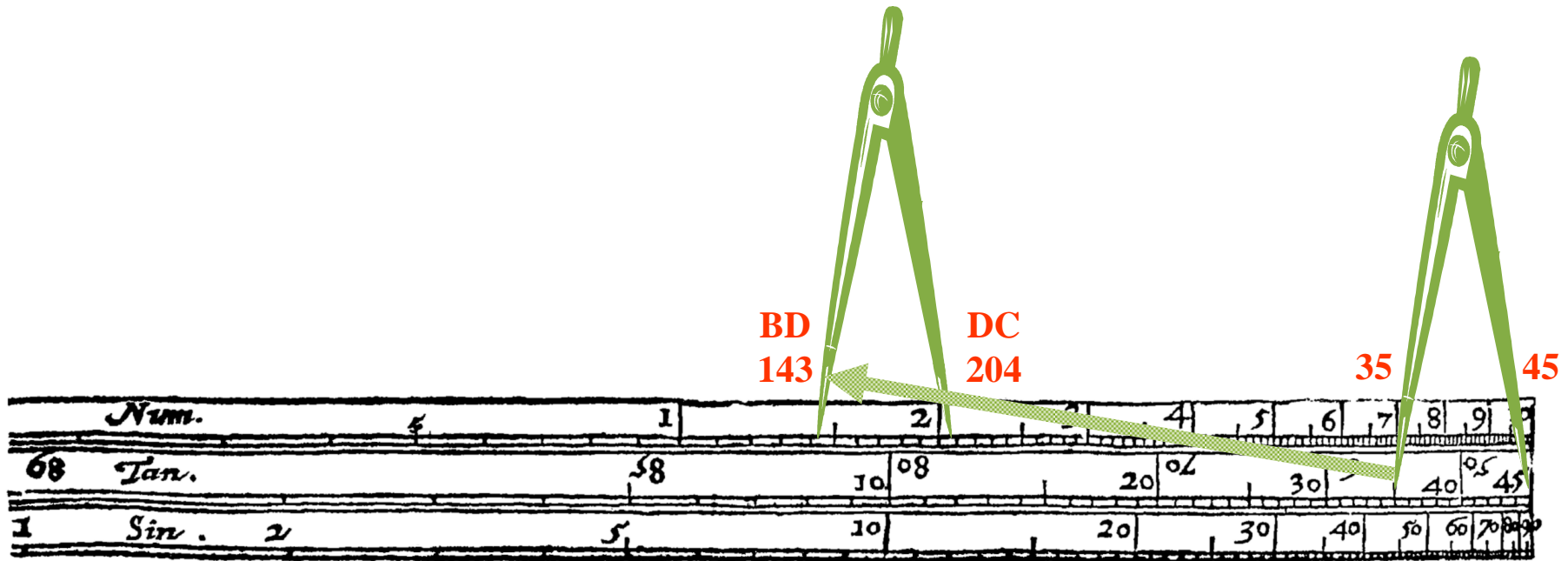
$$\text{Rad.} : \text{tang. } 35^\circ :: BD : DC.$$

Stretch the compasses on the line  $T$ , from 45 to 55; this will reach from 143 to 204 on the line  $N$ .

## Kustnavigatie

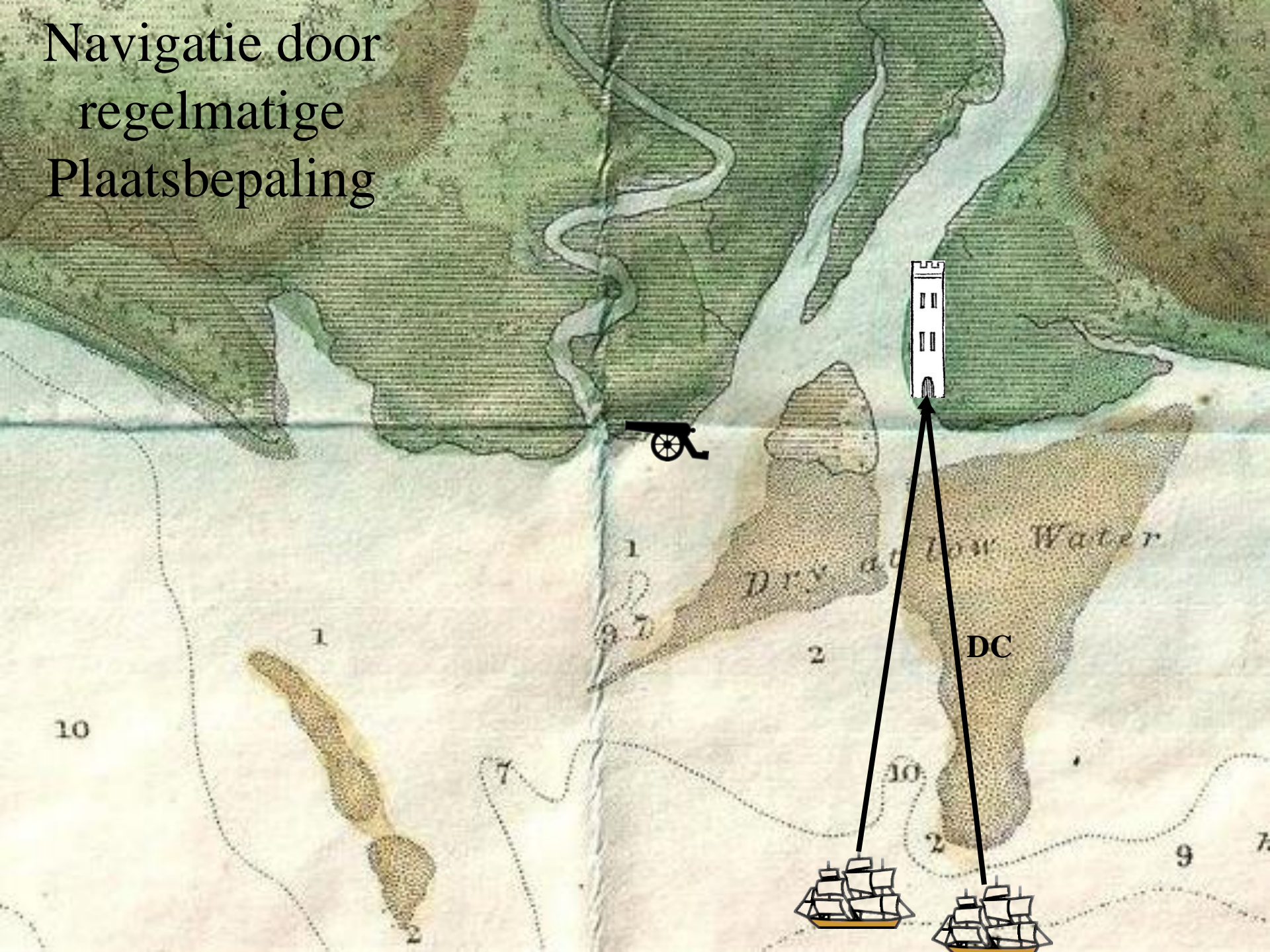
Als de octant een hoogtehoek  $BCD = 35^\circ$  meet van een toren met bekende hoogte  $BD = 143$ , dan is de afstand  $DC$  van schip tot toren:

$$DC = BD : \tan(35^\circ), \text{ ofwel } DC : BD = 1 : \tan(35^\circ)$$

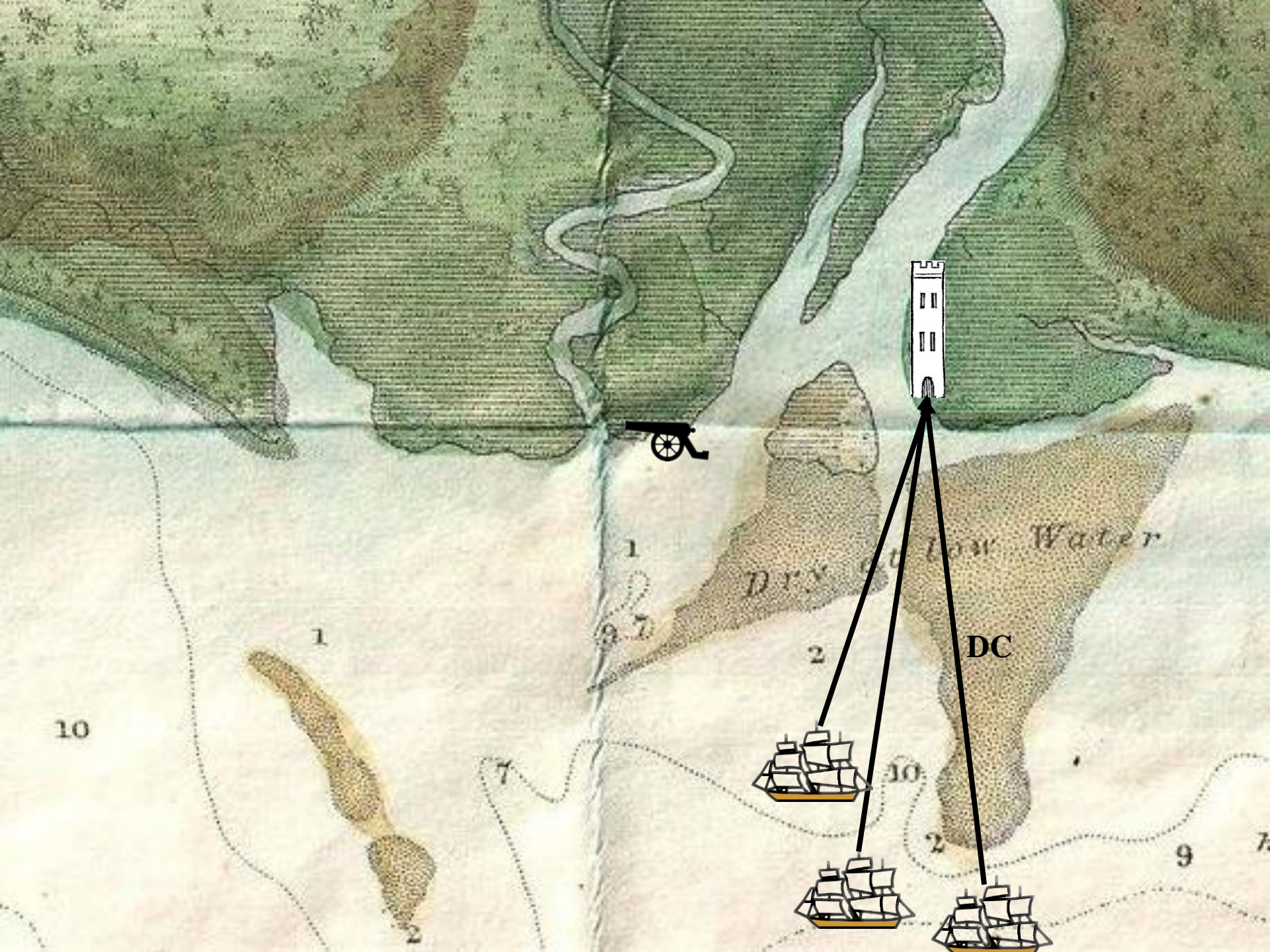




# Navigatie door regelmatige Plaatsbepaling







Dry Cut low Water

DC

10

1

1

2

2

10

2

9

7



## *“Common Gunter”*

Het vroegste logaritmische  
rekeninstrument

