

# Algorithms and Neoplatonism in an Old Norse Algorismus

Dan Sloughter

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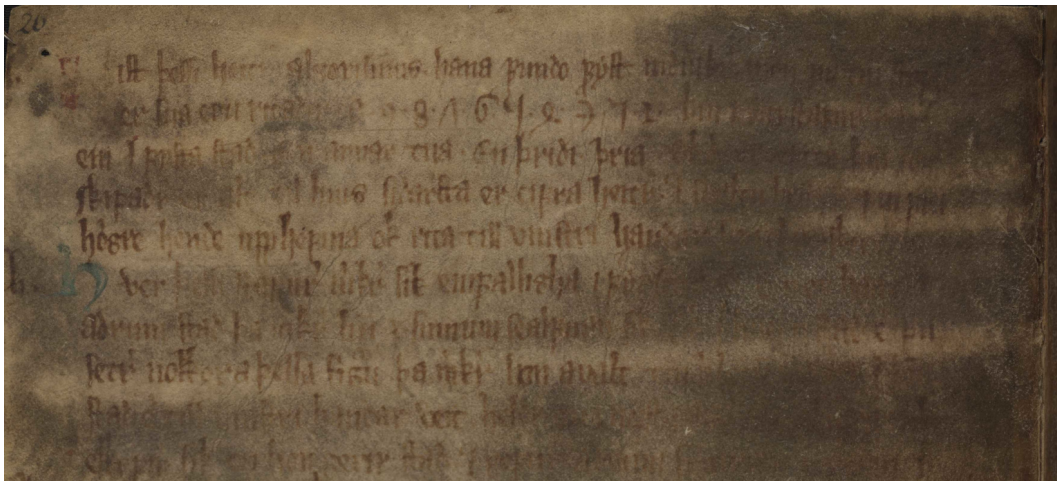
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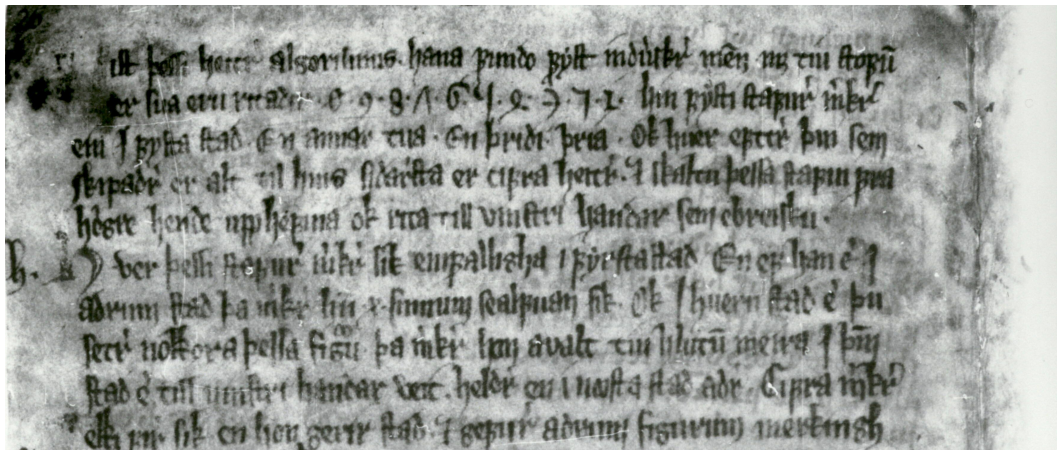
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  - One copy is in *Gammel kongelig samling 1812 quarto* (GKS 1812 4to)

# GKS 1812 f. 13v



# GKS 1812 f. 13v - black and white image



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- Plato, the *Timaeus*, and the line between mathematics and numerology



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- But what is mathematics?

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- These four areas of study, arithmetic, geometry, music, and spherics (that is, astronomy), would become the quadrivium, forming, along with the trivium of grammar, logic, and rhetoric, the core of medieval education.
- But our notion of what topics are part of mathematics has changed with time.

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*My own personal definition of mathematics is more descriptive than prescriptive: mathematics is what mathematicians do, and mathematicians are the people who study mathematics. This sounds like a tautologically circular definition, but I think of it more as describing the equations of motion of a stochastic dynamical system, in which breakthroughs in mathematics attract more attention by mathematicians, which in turn redefines the relative weighting of different fields of mathematics.*

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- Whatever the nature of mathematical objects and mathematical knowledge, the *academic discipline* of mathematics is a social construct.

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  - *Foundations of Constructive Mathematics* by Errett Bishop (corollary to the Stone-Weierstrass theorem)

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- Does the *Algorismus* belong to the prehistory of algorithmics, or to the history of mathematics?

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- Johann Balmer's sequence for the frequencies of the spectrum lines of hydrogen

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*There is thus a possibility that the ancient dream of philosophers to connect all Nature with the properties of whole numbers will some day be realized. To do so physics will have to develop a long way to establish the details of how the correspondence is to be made. One hint for this development seems pretty obvious, namely, the study of whole numbers in modern mathematics is inextricably bound up with the theory of functions of a complex variable, which theory we have already seen has a good chance of forming the basis of the physics of the future.*

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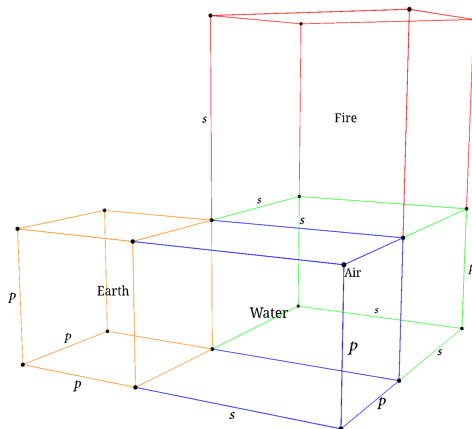
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  - States of matter: solid – liquid – gas – plasma

# Geometric progression between cubes

- Progression from earth to fire:  $p^3 - p^2s - ps^2 - s^3$



# Christianity meets neoplatonism

- Book of Genesis begins with “In principio creavit Deus caelum et terram”







# Saint-Hubert Abbey Bible



# Paintings on the walls

- Cormac McCarthy (*The Passenger*)



## Some references

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