Some New Data on Gerard Kinckhuysen (c 1625-1666)

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Kinckhuysen was a 17th century Dutch mathematician, whose 'Algebra ofte Stelkonst' was particularly favourably received in England. Mercator translated the book into Latin and Newton wrote a commentary. This paper offers some new facts on Kinckhuysen. Most of the biographical data given in the existing historiographical literature appear to be incorrect.

1. KINCKHUYSEN'S 'ALGEBRA'

In 1637 the famous 'Géométrie' of René Descartes (1596-1650) appeared. The French edition was difficult to understand, but the Latin editions (of 1649 and 1659/61) by Frans van Schooten (1615-1660), who also added valuable commentaries, very much facilitated its acceptance.

One of Descartes' followers in the Netherlands was Gerard Kinckhuysen of Haarlem. In 1660 Kinckhuysen published 'De Grondt der Meetkonst', an exposition of the elements of Cartesian geometry in Dutch. One year later, in 1661, Kinckhuysen published an algebraic companion volume, the 'Algebra ofte Stelkonst'. According to its preface, 'De Grondt der Meetkonst' was not appreciated by Kinckhuysen's compatriots, because they were not sufficiently acquainted with the algebraic foundations on which Descartes' analytic geometry was based. Since the time of Stevin and van Ceulen no attempts had been made to publish an introducton to algebra in Dutch and Kinckhuysen intended to put that right.

Kinckhuysen was not an original mathematician and the 'Algebra' was not even very well-written. Yet Kinckhuysen had composed a 'useful if somewhat pedantic summary of recently published work in algebra' (WHITESIDE 1968, p. 278) and there was a need for such a book. Several years after the publication in 1666 the book caught the eye of John Collins (1625-1683), the 'mathematical intelligencer' for the Royal Society. Collins was favourably impressed and felt the book could serve very well as an introductory text to contemporary algebra for the English public. He wrote to Wallis that Kinckhuysen's 'Algebra' was 'an excellent introduction' (WHITESIDE 1968, p. 278) and eventually arranged with Nicolaus Mercator, a well-known mathematician of German origin, who lived in England, for a complete Latin translation to be made.

Presumably Collins attempted to involve the Lucasian professor in

Cambridge, Isaac Barrow, in his plans for publication of the translation, but Barrow, on the point of resigning, must have turned the matter over to his newly apointed successor, Isaac Newton. During the winter of 1669/70 Newton began to read Kinckhuysen's book. Mid-January Newton wrote to Collins:

'Your Kinck-Huysons *Algebra* I have made some notes upon. I suppose you are not much in hast of it, wch makes me doe y^t onely at my lesiure' (WHITESIDE 1968; p. 281).

Apparently Collins suggested that Newton might add a commentary to the book, but Newton refused, writing:

'But though the booke bee a good introduction I think it not worth the paines of a formall comment. There being nothing new or notable in it wch is not to be found in other Authors of better esteeme.' (WHITESIDE 1968, pp. 281-282).

Nevertheless, by Christmas 1670 Newton's commentary, 'In Algebram Gerardi Kinckhuysen Observationes' was completed (WHITESIDE 1968, p. 287). Unfortunately, a new English Algebra, John Kersey's, was about to be printed and the time that the book could profitably be published was past. The Latin version of Kinckhuysen's algebra did not appear in print and Newton incorporated his 'Observationes' into his new series of Lucasian lectures on arithmetic and algebra.

Mercator's original Latin translation was for a long time believed to have been lost, until it was rediscovered at the beginning of the 1960's in the Bodleian Library at Oxford (SCRIBA 1964). In 1968, the Latin translation and Newton's commentary appeared in Vol. II of D.T. Whiteside's voluminous edition of the mathematical papers of Newton (WHITESIDE 1968).

The main events surrounding the English interest in Kinckhuysen's Algebra are now known and have been fully described by Scriba and Whiteside. The above account is completely based upon SCRIBA 1964 and WHITESIDE 1968, pp. 277-294. Unfortunately, about Gerard Kinckhuysen very little is known. Below some new data is given on his life and work.

2. KINCKHUYSEN'S LIFE

Who was Gerard Kinckhuysen? According to Struik Kinckhuysen was born in 1630 and died in 1679 (STRUIK 1979, p. 16, note 2). Struik also writes that Kinckhuysen was a school-master in Haarlem (STRUIK 1979, p. 142). Whiteside and Scriba give no exact year of birth and as the year of Kinckhuysen's death they mention 1661 (SCRIBA 1964, p. 45 and WHITESIDE 1968, p. 277). I will show that except for the fact that Kinckhuysen lived in Haarlem, all of this data is wrong.

Apparently Gerard Kinckhuysen was a son of Margrieta Philips from Maseyck[1] and Gerard Kinckhuysen senior (c. 1583-1647)[2]. Kinckhuysen senior was a merchant in Haarlem and from the age of 17 his son Gerard worked as an assistant in his parents business. According to an act in the Haarlem Notarial Archives, two years after his father's death, on April 26th 1649, Gerard received the amount of 3500 guilders from his mother to start his own business[3]. According to the act this amount was the sum of an earlier investment by Gerard's father, plus the total interest (5% yearly) up until Gerard's 24th birthday. We can draw the conclusion that Gerard was very probably born in 1625.

Half a year later Gerard received a second donation from his mother for the same purpose amounting to 4200 guilders[4]. In the same year, 1649, Gerard not only started his own business, but he also decided to get married. On December 27th 1649 the young merchant and his future wife, Elisabeth Ampen, drew up a marriage contract. It stipulated that when one of them died, the other would receive the whole inheritance at his/her disposal on the condition that 2000 guilders would be paid to each of the possible children[5]. The marriage of Gerard and Elisabeth took place in Haarlem on January 2nd 1650[6].

In order to get an indication of the value of the above mentioned amounts at that time, I have compared them with the amounts paid for houses in the years 1638 and 1639[7]:

On April 3rd 1638 an amount of 1112 guilders was paid by a certain Jan Goossens in order to get a house (named the 'Orangieboom') and premises situated in the 'Frankestraat' in Haarlem. On March 20th 1638 Gerard senior bought three houses and premises next to each other in the 'Noorderlaan' in Haarlem outside the 'Kleine Houtpoort'. He paid 255 guilders for his purchase.

Although these transactions took place ten years earlier, the amounts indicate that the money Gerard started his business with exceeded many times the value of a house. In their testament of June 16th 1652 Gerard and his wife declared the above mentioned clause about the children in the marriage agreement null and void. Instead they stipulated a further division of the posthumous possessions[8]. At this time Elisabeth was pregnant. Four children were born from the marriage of Gerard and Elisabeth:

- Abraham (1652-1725)
- Gerard the younger (1657-1720)
- Levina
- a nameless child that was buried on December 28th 1655 in the 'Groote Kerk' in Haarlem.

Abraham became a doctor of medicine, he worked for one year as a notary in Haarlem[9] and finally became secretary of the colony of Surinam, where he also died[10]. Gerard the younger was trained as a retail merchant and worked as a twiner.

On August 21st 1666 Gerard Kinckhuysen was buried in the 'Groote Kerk' in Haarlem, in the grave 'Middelkerk' number 40[11]. Two years later, on September 29th 1668, his wife Elisabeth remarried a Govert van Leent[12]. She would also outlive her second husband[13]. Elisabeth Ampen was buried on May 25th 1706 in the 'Groote Kerk' in Haarlem[14].

3. KINCKHUYSEN'S BUSINESS

Struik wrote that Gerard Kinckhuysen was a school-master in Haarlem (STRUIK 1979, p. 142). However, at the Haarlem municipal record office nothing is to be found about a school-master by the name of Kinckhuysen. On the contrary, most of the time Gerard is described as a merchant. Although not much can be found about what he trafficed in, we do get some hints.

In the years 1650, 1651 and 1652 Gerard paid tax[15] on:

-   the corner-house with premises situated on the corner of the 'Graft' and 'Sijlstraat' in Haarlem for an amount of 22 guilders, 10 'stuyvers' and 8 'penningen'
-   an apartment situated on the 'Oude Graft' for an amount of 4 guilders and 12 'stuyvers'
-   a house on the 'Gasthuisstraat' (Westside), for which he paid an amount of 4 guilders and 10 'stuyvers'.

Obviously Gerard let rooms or bought and sold real estate. He was, however, also involved in other business. On April 8th 1661[16] Gerard took over all merchandise and securities from his sister Engeltjen. Specially mentioned is a claim (which is not specified) on a certain Warnaer Westenrae from Dublin, Ireland. It seems that Kinckhuysen was not successfull in collecting these debts. On September 30th 1661[17] he appointed a notary in Haarlem to recover an amount of money (again not specified) for which the late husband of Engeltjen (Geraert van den Hove) had delivered goods. The money Westenrae owed him would, if necessary, be recovered by the medium of a notary in Dublin. How this affair turned out is not known. Possibly further data can be found in Dublin, Ireland.

4. THE MATHEMATICIAN KINCKHUYSEN

At the request of the widow of Pieter Wils, Gerard Kinckhuysen published in 1648 a selection out of the mathematical work of Wils (WILS 1654). From the preface we learn that Wils had been Gerard's teacher of mathematics. Wils had been a good teacher, because Kinckhuysen had studied

-   the mathematical works of Euclid
-   the 5th book of the Conics of Apollonius
-   a work titled 'Apollonius Cattes' (available in the Library of Munich University)
-   The 'Géométrie' of Descartes.

The reference to the 5th book of the conics of Apollonius, which only appeared in printed form in the 18th century, is striking. Apparently Kinckhuysen knew the manuscripts in circulation at that time.

Kinckhuysen must have turned to mathematics when he was very young. When he was 18 years old he published his first book:

-   Het gebruyck des quadrants (On the use of the quadrant), Haarlem 1643, 4°.

Two years later a second book followed:

-   Verklaringhe ande gebruyck van den altijdt-duerende maenwijser (Explanation and the use of the perpetual moondial), Haarlem 1645, second

edition 1684, 4°.

Then during a period of 15 years he did not publish anything. It is probably not accidental that it was during that time that he started his own business, got married and the children were born. Yet in 1660 he started publishing again and three more books appeared:

-   De Grondt der Meetkonst (The foundation of geometry), Haarlem 1660, second edition 1684, 4°,
-   Algebra ofte Stelkonst (Algebra or the art of putting [putting in the sense of: put $AB = x$]), Haarlem 1661,
-   Geometria ofte Meetkonst (Geometry or the art of measurement), Haarlem 1663, 4°.[18]

In the introduction of the 1663 geometry book Kinckhuysen wrote the following:

> 'It is strange that there are only a few lovers of geometry, because it is one of the best sciences to sharpen one's mind and prepare for a good opinion, but it seems that wisdom is less appreciated when it takes much work and there is little money in it ...'[19]

In the bibliography, VAN ABKOUDE 1743, p.189 a sixth work is given (under the name of Kirckhuisen):

-   Over den Altijdtduurende Magasijnen (On the perpetual magazins), Haarlem 1645, 4°.

Another relevant bibliography, VAN ARRENBERG 1788, does not mention this book (p. 278 under the name of Kirckhuisen) and I have not been able to trace the book in Dutch libraries. It is possible that 'maenwijser' was at some time erroneously transformed into 'magasijnen' so that VAN ABKOUDE mistakenly assumed that Kinckhuysen had published two books instead of one in 1645. A possible seventh work is

-   Gerard Kinckhuysen's Konstigh Cijffer-boeck (Gerard Kinckhuysen's ingenious marksbook), Amsterdam 1699, 4°.[20]

If Kinckhuysen wrote this book, it was published posthumously. It is also possible that the book was written by his son.

5. KINCKHUYSEN'S RELIGION

Although I have not been able to establish it with absolute certainty, it is probable that Gerard Kinckhuysen was a Mennonite. Kinckhuysen was, obviously, a religious man. In KINCKHUYSEN 1645 he wrote:

> 'Now, as we enjoy the movement of the heavenly bodies so let us not refrain from the Creator. One may not judge by appearances, like the Animals do, but in the spirit, one has to go farther, and pay honour to him, who created it all for us. The Power and kindness of the Omniscient God is perceived in the external Creatures. Praise and Honour to Him to all eternity Amen.'[21]

In the above mentioned last will (June 1652) there is talk of a legacy of 300 guilders to the poor of a parish where a certain Ysaack Snep was a teacher. Ysaack Snep was a Mennonite. On verification in de 'Groote Kerk' in Haarlem the present-day grave number 40 in the middle of the church (Middelkerk

number 40) bears the inscription 'Vereenigde Doopsgezinde Gemeente' (The United Mennonite Community). It is, however, not clear to me that this grave is in its original state. Yet both his sons, Abraham[22], Gerard junior[23] and Gerard Kinckhuysen's mother[24] were all Mennonites.

ACKNOWLEDGEMENTS

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NOTES

Abbreviations

GAH: Gemeentearchief Haarlem (the Haarlem municipal record office)
ARA: Algemeen Rijksarchief te 's-Gravenhage (the general public record office in the Hague)
NAH: Notarieël Archief Haarlem (the Haarlem Notarial Archives)
RAH: Rechterlijk Archief Haarlem (the Haarlem Judicial Archives)
DTBH: Doop-, Trouw- en Begraafregister van Haarlem (in old Dutch archives the Haarlem register of baptism, marriages and burials).

[1] According to RAH 76.80 folio 41 it is clear that she died before February 21st 1671.

[2] In a statement, dated January 14th 1633, made by Gerrit and some other men Gerrit's age is given as 50 (NAH 133 folio 360).

[3] NAH 190 act 42 is the deed of conveyance of the money, dated April 26th 1649.

[4] NAH 190 act 133.

[5] NAH 192 folio 166 verse.

[6] RAH 96.1 folio 173 verse.

[7] There is an index (Tr. Not. Div. - Kinkhuysen) in the reading room of the GAH. The sales of the houses are mentioned in RAH 76.58 folio LXXVII (77) verse, RAH 76.58 folio XCI (91) verse, respectively.

[8] NAH 199 folio 24

[9] Abraham was born on November 4th 1652 (Act Veniam Aetatis dd January 19th 1675; ARA, 'Staten van Holland na 1572', inventory number 2094 act 56). In 1670 he studied briefly at Utrecht University (ANONYMOUS 1886, register 64), but soon became a medical student at Leyden University, registered by the name of Kerckhuysen (DU RIEU 1875, p. 564). Minutes of all kinds of notarial acts from the time he was a notary in Haarlem (from December 3rd 1700 until March 13th 1702) are available at GAH (NAH 679).

[10] NAH 817 act 87

[11] DTBH 76 folio 99

[12] RAH 96.1 folio 303

[13] This is clear from a statement, made by Elisabeth Ampen on August 15th 1702 (NAH 453 folio 319)

[14] DTBH 85 folio 303

[15] 'Verpondingsboek van de huysen binnen Haarlem 1650' (GAH; kast 15, inventory number 234 folio 286 verse)

[16] NAH 239 folio 526 verse

[17] NAH 241 folio 385 verse

[18] The Library of the Utrecht State University possesses all five mentioned works of Gerard Kinckhuysen. As parts of the 'Wiskonstighe werken, deel 1-5 (the mathematical work, parts 1-5) the five works are also in the possession of the 'Teylerstichting' in Haarlem. As separate works they are available at a few other Dutch libraries.

[19] 'Het is vreemd datter tot dese Konst soo weynich Liefhebbers zijn, door dien het een van de beste wetenschappen is om 't verstandt te scherpen, en tot een goed oordeel bequam te maecken, maer het schijnt dat wijsheydt te minder geacht wordt, om datter arbeijdt aen vast is om die te bekomen, en weynich geldt mede gewonnen wordt ..' (KINCKHUYSEN 1663, Tot den Leeser).

[20] BIERENS DE HAAN 1883, p.150 mentions a 1697 edition of this book. I found a copy of a 1699-edition in the library of the University of Amsterdam. The original title page has been replaced by a new one, so it is possible that it is an original 1697 edition.

[21] KINCKHUYSEN 1645, Tot den Leeser.

[22] When Abraham Kinckhuysen was admitted as a notary in Haarlem on December 3rd 1700, as a Mennonite he made an affidavit instead of an oath (ARA; 'Hof van Holland, tweede register van notarissen', inventory number 5930, p.259).

[23] In the minutes of the meeting d.d. june 7th 1689, Gerard junior is mentioned as a Mennonite deacon. See 'Klapper Doopsgezinden' GAH.

[24] In the three testaments Margieta Philips is mentioned as a follower of Ysaack Snep (E.g. NAH 202 folio 45 - August 3rd 1654).

Ter gelegenheid van het derde eeuwfeest van de Mathematische Gesellschaft in Hamburg werd van 17 tot 24 maart 1990 een internationaal symposium gehouden onder de titel 'Mathematische Wissenschaften, Gestern und Heute.' Bij dit congres en verdere manifestaties werd het Wiskundig Genootschap vertegenwoordigd door een bestuursdelegatie.

Tijdens de openingsplechtigheid werden door Prof. Dr. H. Freudenthal, erelid van beide verenigingen, namens het Genootschap gelukwensen aangeboden en een geschenk overhandigd. Hij hield hierbij de volgende toespraak.

Meine Damen und Herren!

Ich darf ihnen hier als Mitglied einer Delegation des Wiskundig Genootschap die Glückwünsche einer Schwestergesellschaft übermitteln. Warum gerade der niederländischen? Est ist ein Gegenbesuch. 1978, bei der 200-Jahr-Feier des Wiskundig Genootschap, war ihre Gesellschaft ja als Gratulant vertreten. Als Geburtstagsgeschenk brachte sie dem damaligen Vorsitzenden die Ehrenmitgliedschaft mit, demselben, der heute die Rechnung begleichen darf.

Warum *jener*, warum *dieser* Besuch? Wenn *Sie* die *älteste* mathematische Gesellschaft der Welt sind, so dürfen *wir* uns die zweitälteste nennen (wobei eine längst verschiedene anderthalb-älteste englische ausser Betracht bleibt).

Eine Schwestergesellschaft nannte ich die unsere. Oder sollte ich von einer Tochter reden? Die Hamburger hatte von Anfang an allerlei nicht-hamburgische Mittglieder. Wiskundig Genootschap wurde von einer Gruppe ihrer holländischen Mitglieder errichtet - sozusagen als Amsterdamer Ortsgruppe der in Hamburg - aber doch selbständig: Wiskundig Genootschap.

'Wiskundig' - was bedeutet das? Das Niederländische ist meines Wissens unter den Kulturen, die von Griechenland her geprägt sind, die einzige Sprache, in der die Mathematik einen eigenwüchsigen Namen hat: Wiskunde - die Kunde von dem, was gewiss ist. Wir verdanken ihn, wie viele andere Namen für Fächer und Fachgegenstände, dem Simon Stevin, dem die 'neder-duitsche' Sprache als älteste, vornehmste und zweckdienlichste galt.

Eigentlich ist unser Name etwas länger, wie es ja einer so alten Gesellschaft geziemt. Es gehört hinzu: onder de zinspreuk 'Een onvermoeide arbeid komt alles te boven' - unter dem Motto 'Unermüdliche Arbeit überwindet alles'.

Est ist übrigens kaum ein Zufall, dass es Hafenstädte sind, die sich der ältesten mathematischen Gesellschaften rühmen duŕfen. War doch die Schiffahrt und alles, was sie angeht, damals ein bedeutender, vielleicht der bedeutendste Kunde der Mathematik! Da finden wir denn Kapitäne und Steuerleute und deren Präzeptoren; auch Leute, die berufsmässig die Tonnages von Schiffen und die Inhalte der von den Schiffen transportierten Weinfässer massen, und schliesslich die, die dazu die nötigen Lehrbücher verfassten.

Aber nun zur Sache, zum Geburtstagsgeschenk! Ich zeige ihnen hier aus der