terms of factual knowledge does not present anything new or original, but which rather gives an authoritative text appropriately adorned in accordance with the contemporary antiquitizing fashion. Nevertheless, the editor and author would disagree completely with my last statement. Theodericus Ulsenius must have looked upon himself as the exponent of a new era, since the poem, for instance, starts with an unusually direct statement. It uses rather bellicose words:

'Ad mea, tyrones, properate fluenta, senectus
Invida de vetrici fonte vetusta bibat.
Emeritis tamen irrepunt oblivia curis,
Scita retunduntur, sed metra mente manent.'

(Hurry on, beginners, to the fountain of my knowledge, while you let the envious old age drink from their old spring. Old cures will move into oblivion because they have had their time, the dogmata of our profession will become dull, but poetic metres will stay in the mind forever).

With regard to form and presentation Ulsenius did indeed present something new, which illustrates the fact that what appears to us to be just empty rhetoric is in effect the break through of a new mentality. Here a new, better systematized edition of the *Aphorisms* of the great Greek doctor Hippocrates was published. Because he was a great example in morals as well as in knowledge, there could not be a more proper editing project for one of the leading *archiatri* of Nuremberg than a work of Hippocrates. And what could be more suitable for the medical students at German universities, where at that very moment Italian-style humanism was being imported, than to use this handy edition by the poet laureate Ulsenius in their disputations? Without a doubt, this generation of medical students in the future would, apart from the desired medico-philosophical speculations, be capable of Renaissance rhetorical *tours de force*.

1. An illustration of Vos is found on p. 594. Because a complete edition of the manuscript with introductory essays, full commentary and indices is to be expected soon, the annotation in this contribution has been kept down to a minimum.
The Mysteries of the Four Seasons.
The Hippocratic Tradition in the 17th Century.
An Interim Report

HERMAN F. J. HORSTMANSHOFF

Introduction

The Trent Collection at Duke University, Durham, North Carolina, U.S.A., holds four, probably unique copper engravings, each associated with a season of the year and concerned with scientific matters covering medicine, astronomy, astrology, meteorology, alchemy, and morality.\(^2\) The plates measure 48 by 35 cm. They are of unknown origin and date probably from the second part of the 17th century. Originally they were in Sir d'Arcy Power's possession, sold on 9 June 1941, at Sotheby, lot 166A. Photographs of the prints were sent in February 1988 by the former curator of the Trent Collection, Mr. G. S. T. Cavanagh, to the National Centre for Art Documentation at The Hague, the Netherlands. From there they were forwarded to the Museum Boerhaave in Leiden for medical-historical analysis. They were studied by Dr. Antonie M. Luyendijk-Elshout, professor emerita in Medical History at Leiden Uni-

1. The following scholars, in alphabetical order, participate in the team preparing the edition of the engravings: H. Beukers (anatomy), E. de Bie Leuveling Tjeenk-Brands (art-historical aspects), R. H. van Gent (astronomy, astrology and cartography), G. T. Haneveld (anatomy), Ch. E. Heesakkers (Greek and Latin texts), H. F. J. Horstmanshoff (Greek and Latin texts), Helen M. E. de Jong (alchemy), A. M. Luyendijk-Elshout (general coordination, anatomy), F. G. Schlesinger (Greek and Latin texts), O. Wijnands† (botany). All members of the team deeply regret the unexpected decease of their colleague Dr. O. Wijnands in the autumn of 1993. Other scholars consulted thusfar: G. T. C. Cavanagh, Marta Cavazza, A. Hamilton, P. Hoftijzer, Th. Laurentius, M. Madou, J. D. North, P. F. J. Obbema, F. H. L. van Os, Marielene Putscher, Sandra Raphael, Joachim Telle, D. de Vries. — I am grateful to Dr. R. H. van Gent and Dr. F. G. Schlesinger for their comment on an earlier draft of this contribution.

2. An illustration of VER is found on p. 554. Because a complete edition of the engravings with introductory essays, full commentary and annotations is to be expected soon, the annotation in this contribution has been kept down to a minimum.
versity. A more detailed study was not possible until October 1989, after receiving four new photographs, provided by Mr. William Schupbach of the Wellcome Institute for the History of Medicine in London.

Since autumn 1989 an interdisciplinary team of scholars under the guidance of Professor Luyendijk-Elshout have been studying these engravings. By courtesy of Mr. Zinn on behalf of The Mary Duke Biddle Foundation, Durham, North Carolina, the *Four Seasons* were shipped to Leiden and studied by a group of scholars in the Museum Boerhaave. My own task in this team is the edition, translation and commentary of the medical texts on the plates, mainly, but not exclusively, from the *Hippocratic Corpus*. Within the near future a complete edition of the plates and the texts, with full commentary, will be available. We hope that many, if not all, of the mysteries of the *Four Seasons* will be unveiled. We can make some informed guesses now at the meaning of the composition and the date of the plates. However, we still have no inkling of an idea where, by whom and for whom they were made. Thus far there are no other copies of the plates known.

The aim of my contribution to this conference is twofold:
1) to give an introduction to the problems that have risen during the study of the engravings and to present a part of the pictures and the texts;
2) to ask for help and information. It is like a police bulletin: any information that might lead to the discovery of the provenance and the meaning of these documents will be rewarded!

I would like to make two preliminary remarks. First of all: the results of the research that I present to you now are the results of interdisciplinary team work. These are certainly not only my own findings. Secondly: this is an interim report on work in progress.

I. The composition of the plates and the human figures

1. Each print holds at the center two human figures, standing between two trees. The first print, VER (spring) shows a fetus, a seven months old baby, a child aged three, and a boy, 14 years of age. On the right hand side, a little figure with a long fur-tail is sitting on a celestial map.

On AESTAS (summer) the man and the woman are holding the ‘Alchemical Vessel’ from which rises the *urina meretrix* (‘urine as a harlot’) and a *homunculus*. The texts on the basket all refer to uroscopy. The woman is 18 years old; the age of the man is not given.
On 

AUTUMNUS (autumn) the couple seems to be in the prime of life. The pregnant woman is 35 years old. The age of the man is not given. The emphasis on this print is on sexual vigor and fertility.

On HYEEMS (winter) the man, aged 49, has turned his back towards the viewer. The woman steps into the grave.

2. Each print holds an astrological arch, with the Zodiac signs and the months of the season, astrological-medical and meteorological data.

3. Each print holds maps or charts. VER and AESTAS have astronomical charts, AESTAS and HYEEMS maps from Asia and the American continents. Two diagrams involved with length standards are shown on AESTAS, two aspectuaria and a horoscope illustrate the fall of life: AUTUMNUS.

4. Each print holds urinal flasks, AESTAS holds an alchemistic centerpiece, a basket with a retort and a 'white' man. The basket bears alchemistic inscriptions.

5. Each print holds a rich background, birds, various flowers of the season represented by the print, human figures and villages.

6. Each print holds pennants, banderoles and inscribed leaves with moral proverbs and Hippocratic texts from the Aphorisms, the Prognostics and other writings, as well as other classical texts, all in Latin translation. Some words are written in Greek.

II. The astrological arches

Combined with the aspectuaria and the horoscope the arches emphasize the 'Zodiac' position of the couple. Man is Microcosmos, under the arch of Macrocosmos. This situation strongly suggests that we are dealing with a bloodletting calendar, very popular during the sixteenth century. Any respectable printer in Europe sold these bloodletting calendars to people of importance. They had artists in their workshops who designed them for trade.

The astrological arches are constructed according to the Julian calendar which was still in use in the 17th century in Protestant regions. Surgeons and physicians used these arches as a tool for the decision of bloodletting.

Professor Marta Cavazza in Bologna identified the horoscope. The horoscope on AUTUMNUS was made according to the Gregorian calendar for the date of May 22, 1605. The hour counting was done after Latin and Jewish timing. It was part of an anthology of horoscopes compiled by the professor of mathematics Giovanni Antonio Magini (1555-1617), who lectured at Bologna, Italy, from 1588 onwards. The 'houses'
were fixed according to Regiomontanus, a German astronomer. There seems to be, however, no relationship between Magini and other aspects of the engravings.

III. The astronomical and geographical maps

Both celestial hemispheres shown on VER and AESTAS contain important clues for dating the plates. Apart from the forty-three Ptolemaic constellations known from classical antiquity, six new constellations are shown which were first introduced in the second half of the sixteenth century: Coma Berenices and Antinous (on the northern hemisphere), Triangulus Antarcticus, Crux, Polophylax and Columba Nothae (all on the southern hemisphere). The astronomical maps are copied from Plancius' drawings of the Southern celestial hemisphere in 1592. We can recognize the figure of Polophylax on the southern astronomical map around the ecliptical pole. Polophylax disappeared from the maps and celestial globes soon after 1600 and was replaced subsequently by eleven new constellations discovered by Dutch navigators. The iconography of the southern hemisphere indicates that the astronomy on the plates was based on antiquated sources dating from ca. 1600. For the dating of the engravings based on the anatomy of the bloodvessels of the brain see below (Ch. VI. The anatomical aspects).

IV. The alchemical aspects

There is a striking reference to alchemy in AESTAS, where the central figure sits in a vessel, located in a urinal, enclosed by a basket with a handle, such as were used to transport urine to the physician. The theme was akin to Splendor Solis, a precious and famous manuscript on alchemy during the late sixteenth and seventeenth century. It symbolizes the purification of the urine by the kidneys. When the basket is opened the urinal with the analysis of the urine becomes visible. Underneath is an anatomical diagram of the kidneys, the ureters and the bladder. In AUTUMNUS, the abdomen of the pregnant woman has the shape of the sun, creation of new life. The engravings seem to breathe a hermetic atmosphere.

The designer has been acquainted with alchemical sources and emblems. These were widely known in medical circles. To mention but one clearly alchemical characteristic: in the four engravings we see vessels of different shapes. In VER at the bottom left: the baby rises out of
it. The child and the older boy hold vessels in their hands. In AESTAS the vessels are held in the hands of the male and female. The homunculus in the basket is kept in a vessel. In AUTUMNUS there are vessels beside the heads of the two figures. The belly of the woman is a vessel. This belly is shaped mathematically circle-round. In HYEMS the male holds a vessel in his raised hand, while the female holds a turned-down vessel and steps into the opened grave, which in alchemical imagery represents the vessel as well. In these vessels the alchemical transmutation is taking place, which is cyclical, similar to all the processes of nature and which aims at the integration of opposites.

The basket on the AESTAS-engraving, held by the male-female duality, with the homunculus in the vessel, fits in a long tradition. The hermetic-alchemical concept of the strong connection between macrocosmos and microcosmos, the emphasis on the vessel in numerous forms and symbols, the emphasis on the principle of duality, expressed in the male-female figures as reality and metaphor, the symbol of the circular process, are surprisingly recognizable in these four medical season-engravings.

V. Botanical aspects

Many plants can be recognized as copied from Crispijn vande Passe, Hortus floridus (Arnhem-Utrecht 1614-1616). The plants reflect the horticultural interest of a wealthy garden owner in the early seventeenth century. They illustrate the four seasons, following Vande Passe's arrangement. According to the late Dr. Onno Wijnands who studied the botany of these prints, the plants seem to bear no relation to the main themes in the prints: medicine, alchemy and astrology.

At least in VER, the trees on the left and on the right side of the plates however, have a symbolic meaning. The left tree is the stultus amygdalus, the 'stupid almond-tree', which flowers too early and risks its flowers to be frozen. The right tree is the sapiens morus, the 'wise' mulberry tree, which seems to take care better of her flowers.

VI. The anatomical aspects

The human figures can be opened to display some rather primitive anatomy, mainly (blood)vessels. In this construction we recognize the method used by Joannes Remmelin (1604) for his well-known anatomical illustrations. The rather poor anatomy of the bodies might indicate the
astral body of the Neo-Platonists. The fetus in the abdomen of Eve on **Autumnus** are derived from the books of Jacob Rueff, Eucharius Roesslin and Ambroise Paré. They indicate the normal and abnormal position of the fetus in utero. Paré’s twins and Siamese twins represent extraordinary cases in childbirth. The *situs viscerum* of Adam in **Autumnus** also displays a poor kind of anatomy. Besides, the other figures also hold anatomical illustrations, such as a layered anatomy of the eye in **Ver** under the sun and a layered anatomy of the hand under the sun in **Aestas**. The anatomy is very much in the vein of Casserius. The scholar, who designed the plates used anatomical illustration only to illuminate his concept of the theme. Therefore, he was not interested in the proper representation of anatomical details. But he was careful enough to avoid anachronisms. None of the sources he used were after ±1640. On one of the engravings, **Ver**, representing the vascular ring at the base of the brain, the circle named after Thomas Willis (1621-1675) (*circulus Willisii*) is clearly visible, which provides a *terminus post quem*.

VII. The parergon or background

Apart from the plants and the trees there are also animals to be seen on the engravings. The birds are symbolic: two swallows in the spring, two turtle-doves in the summer, a stork in the fall and a crane in the winter.

The houses and the activities in the background have the aspect of daily life in Northern Europe, possibly Germany. But there are strange elements such as an olive press on **Hyems**.

The background of the four plates represents the four continents. **Ver** represents Europe, **Aestas** Asia, **Autumnus** Africa, and **Hyems** America. The artist combined illustrations from various books at the time.

VIII. The inscriptions

The main part of the inscriptions refer to the Hippocratic *Aphorisms*. But there are also quotations from other sources. As a specimen the complete text of **Ver** is given here, together with a reading text, a preliminary commentary and a translation in English. The scholar who designed the texts for the plates was well versed in the Hippocratic lore. We have not yet been able to identify the translations that have been used. They do not seem to differ very much from the *vulgata*. 
As we had to constitute the text our method has been as follows. We read, transcribed, localized, translated and subsequently commented the texts. Our first task was the reading of the texts, which are written in a very tiny handwriting, for example on the leaves of the trees. We constituted a 'true' text, reflecting exactly the wording, hyphenation and the spelling of the original prints. An extra difficulty was the word order, as it was not immediately clear how the text should be read on successive leaves. After the reading and the transcription of the text came the localization and the translation. As soon as we had found the exact place of a quotation in, e.g. the Hippocratic Corpus, we could read the Latin text easier. There were, however, some idiosyncrasies which made our task more difficult. The references to the *Aphorisms* mentioned in the text were at first glance incomprehensible, e.g. *Aphor. 20. l. 3*. There is no 20th book of the *Aphorisms*! This reference, we discovered soon, should be read as: liber 3, aphorism 20. Sometimes the Hippocratic quotations have been cited literally, sometimes, however, they have been abridged in order to fit within the tiny space on the leaves. It is obvious that the texts have also been abridged and combined in order to fit the season with its particular diseases. The author or designer must have had a vast knowledge of Hippocratic texts. Not only quotations from the *Aphorisms* appear, but also from Galenic commentaries, from other Hippocratic writings, from Hesiod, Celsus and Pliny the Elder. The unknown scholar also had access to Ovid, Vergil and the Bible and probably to a collection of *Adagia*, as is proven by several citations. He worked in an eclectic manner and chose his texts carefully.

IX. The prints and the paper

The quality of the prints is moderate, regarding the engraving in the copperplate and the printing itself. It is most likely that this was a late print from an already used and perhaps modified set of copperplates. This impression was confirmed by the structure of the paper and the watermarks. The grating of the paper indicates use of seventeenth- and perhaps early eighteenth century paper. The watermarks are French, a bunch of grapes and a fool's cap and bells. A slight modification in the last one indicates clearly the time of the printing: after 1680, perhaps before 1690. According to Mr. Th. Laurentius, ancient prints expert, the French paper could be found in the stock of various printers at the time, in Switzerland, Italy, and other European countries.
Concluding remarks

1. The design was made by an artist of moderate quality. However, the choice of the subjects and the relevant texts indicate an outstanding degree of scholarship, i.e. extensive knowledge of facts and ideas prevailing around the date on the horoscope (May 22nd, 1605). Designer and artist, addressee and the one who gave the order to make the engravings need not necessarily be one person. Especially the high quality of the astronomical and astrological data is impressive. Also the very appropriate method of combining of the Hippocratic texts for each season reveals skill and well versed knowledge of the classics.

2. The anatomical illustrations are from later sources, which means that the design might have been made between 1645 and 1655, but unlikely after 1660.

3. The many references to hermetic medicine and the dominating idea of Macrocosmos/Microcosmos symbolism lead to the conclusion that the design was meant for a person of high birth, as was fashionable in Europe during the sixteenth- and seventeenth century.

Unsolved, however, remain the questions: who was this person? And especially: who made the engravings? Who steps into the opened grave?
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Ver (Spring). The first of four engravings illustrating the four seasons. Each print holds pennants, banderoles and inscribed leaves with moral proverbs and Hippocratic texts from the *Aphorisms*, the *Prognostics* and other writings, as well as other classical texts. Courtesy, Duke University, Durham, North Carolina, USA, History of Medicine Collections.
APPENDIX

The text and translation of the inscriptions on *Ver*

I Text

I VER

Ver medicum finitur ad ortum1 Vergiliarum. Aestatis partem primam claudit solstium aestivale; θερινα (?) dicitur.

Aries. Zephyri flare debent.2 Austri succedant, Zephyri redeant usque ad ortum Vergiliarum. Tepescere ac siccari debet Aer usque ad solstium.

Martius Aprilis Maius Iunius

Mensis peragrationis3 constat diebus 27 horis 8, quibus 12 Signa percurrit.4 Mensis medicinalis complet dies 26 cum horis 22. Mensis apparitionis conficit dies 28 dividiturque per quadras aequales.

Februarius Martius Aprilis Maius Iunius

Una hirundo Ver non facit.5

In Aere maior est vis ad immutandum corporis habitum et humorem quam in Diaeta. 1 Epidem.6

1. Generally in this work heliacal rising is meant.
3. The various lunar months encountered in medieval astronomical and astro-medical texts may be described as follows (cf. O'BOYLE (1991) 74):
(a) *mensis apparitionis* = the common, or calendrical, lunar month of 28 days – a convenient approximation to the monthly phases of the Moon.
(b) *mensis consecutionis* = the sequential month or synodic month, of 29 days 12 hours – the period in which the lunar phases (New Moon, First Quarter, Full Moon, Last Quarter) repeat themselves.
(c) *mensis peragrationis* = the wandering month, or tropical month, of 27 days 8 hours – the period in which the Moon reaches the same position in the zodiac.
(d) *mensis manifestae visionis* = the clearly visible month of 26 days 12 hours – the interval from the first visible lunar phase shortly after New Moon to the last visible lunar phase just before the next New Moon, taken to be three days less than the synodic month.
(e) *mensis medicinalis* = the medical month of 26 days 22 hours – the arithmetical mean of months d and e.
4. Meant are the Zodiacal signs.
Aphor. 20.1.3⁷ Vere accidunt insaniae, melancholie, epilepsiae, hemorrageiae, anginae, gravedines, raucitatis, tusses, leprae, impetigines, alphi, arthritides, pustulae ulcerosae purulentae, tuberculae.

Aph. 9.1.3⁸ Ver saluberrimum est, minimeque funestum.

Auster auditum hebetat, caliginem visui obducit, caput gravat, membromar tarditatem et languorem consiliat. Aph. 5.3.⁹

Excisi ex ephcis
Phlegma
Aetatis 3'.

Anno aetatis 14

Aquilo tusses movet,¹⁰ fauces exasperat, alvum indurat,¹¹ urinam supprimit,¹² horrores excitat, lateris et pectoris dolores facit. Ap. 5.1.3.¹³

Aph. 7.1.5¹⁴ Epilepsia ante pubertatem veniens curationem recipit.

Aph. 11.1.3¹⁵ Si hyems sicca et aquilonia fuerit, ver autem pluviosum et austrinum, aestate fient febres acutae et ophtalmiae, et dysenteriae, maximeque mulieribus et viris natura humidis.

Hip., Coac.¹⁶ Hi morbi ante pubertatem non enascentur: peripneumonia, pleuritis, podagra, nephritis, varix ad tibiam, cruentum profluviurn, cancer nisi congenitus, leuce non innata,¹⁷ catarrh dorsalis, haemorrhois, neque cordapsis nisi congenitus.

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course and mental activity'. Cf. Galen's commentary in: In Hipp. Epid. VI comm. I-VIII, CMG V,10,2,2, 483,20-23 (only in Arabic) and Galen, Ars medicinals 23, 1.367 K. This is the basis of the canon of the six so-called res non naturales, those factors that influence bodily health and would be well known in the medieval regimen sanitatis-litterature for centuries: aer, cibus et potus, motus et quies, somnus et vigilia, excreta et secreta, affectus autrui.

8. Aph. 3.9 (4.124-125 J.).
11. Cf. Celsus 1.3.25: ubi venter suppressus parum reddit; 1.3.30: alvum adstringit labor.
Qui in aetates incidunt morbi huiuscemodi sunt: nuper in lucem editis aphae, tusses, vomitiones, vigiliae, pavores, umbilici inflammationes, aurium sordes humidae Ap. 24; cum dentire caeperint gingivarum pruritus, febres, convulsiones, diarrhoeae, cum edunt caninos dentes. Quilibet in quibusvis temporibus morbi fieri possunt; nonnulli tamen in quibusdam magis fiunt, tum irritantur. Aph. 3. 19

Stulta amygdalus

Anno 7
Opponens aegida torvo ori morborum

Mense 7
Sapiens morus
Sapiens dominabitur astris.
Orta est ex cerebro docta Minerva Jovis.

... 4. eare perces... Julii

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19. *Aph.* 3.25 (4.130-131 J.); the indispensable Greek word μᾶλιστα has been ignored in the Latin translation.
21. The 'stupid' almond tree flowers too early and risks its flowers to be frozen.
23. The *sapiens morus* is the wise mulberry tree, who seems to take better care of her flowers than the 'stupid' almond tree. The dictum is known from the Story of Ahikar 2. 1-8 in the Syriac and Arabic version, CHARLES (1913), vol. II, 728-729.
24. WALTHER nr. 27515. This popular adagium, commonly cited as 'vir sapiens dominabitur astris', 'sapiens homo dominatur astra' etc., is usually attributed to Ptolemy's *Centiloquium.* It is first attested in 13th-century astrological sources; cf. WEDEL (1920) 135-141 and COOPLAND (1952) 175-177. The meaning of this controversial and difficult adagium is interpreted by the authors cited above as: the wise (and god-fearing) man will be the captain of his fate by his own free will. Thus he can avoid the 'slings and arrows of outrageous fortune' (SHAKESPEARE, *Hamlet*, Act III. scene 1) which the stars have in stock for him. We may cite COOPLAND (1952) 176 as follows: '... mediaeval authors frequently use the dictum as a convenient salvo clause, before embarking on a more or less orthodox consideration of the influence of the stars on mankind: his orthodoxy thus established, the writer feels free to step well outside his limits in his speculations.'
25. Pentameter. Source unknown, probably not from classical literature.
26. Non liquet...