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54 BEAUCHAMP PLACE KNIGHTSBRIDGE LONDON SW3 1NY
Telephone: 071-589 4325 or 071-584 8559
Fax: 071-589 1041

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Cover Map: Detail from Gerard Mercator's map of Flandria bound in Abraham Ortelius' Theatrum Orbis Terrarum, 1570.

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Gen. Secretary: W.H.S. Pearce, 29 Mount Ephraim Road, Streatham, London SW16 1NQ. Tel: 081-769 5041. FAX: 081-677 5417
Treasurer: Dr Cyrus Ala'i, 1 Golders Park Close, West Heath Avenue, London NW11 7QR.
Membership Secretary: Jenny Harvey, 27 Landford Road, Putney, London SW15 1AQ. Tel: (081) 789 7358
Publicity Officer: Yasha Beresiner, 43 Templars Crescent, London N3 3QR. Tel: 081-349 2207. FAX: 081-346-9539
Int. Development Officer: Caroline Batchelor, Pikes, The Ridgeway, Oxshott, Leatherhead, Surrey KT22 0LG. Tel: 0372-843 425
Int. Secretary: Dr Robert Clancy, 11 High Street, Newcastle, NSW 2300, Australia. Fax: 61-49 252 169

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From the Chairman's Desk

Members who were not able to travel to Antwerp last month may read in this issue about the very successful and enjoyable symposium that was held to celebrate the life of Gerard Mercator who died four hundred years ago. The five papers presented at the symposium were a model of how such things should be done: excellent subject matter, precise timing, all slides carefully selected and the right way up, and all pertinent to the theme. I congratulate not only the speakers, but also the organisers and the symposium chairman. Four of the papers are published here, along with the entertaining presentation by Professor Latré at the opening of the map fair; I hope to publish the fifth in the next issue.

The large number of participants, over a hundred and fifty including accompanying persons, is in sharp contrast to the declining numbers at our summer symposia in Britain. As an experiment, we will have this year a mini-symposium: a talk, (naturally on maps) before the Annual Dinner and the presentation of the IMCoS-RV Tooley Award, on the evening before the Map Fair. I do hope that a large number of members will be able to attend. After many years we are returning to the Royal Over-Seas League, St James, for the Dinner, as it has been refurbished and the location is so central.

Our Map Fair, on the other hand, continues to grow both in size and in importance each year. Here again, however, we are planning to experiment. We are requesting dealers as well as members to donate the sort of maps that might appeal to a beginner collector, so that we can have a 'Bargain' section, where no map will cost more than a nominal amount. The stand will be run by IMCoS volunteers, but all proceeds will be put into widening the advertising for the following year's Map Fair. While letters to this effect are being sent to stall holders, members are requested to get in touch with the Map Fair Organiser, Roger Brown at 160 Crowndale Road, Borehamwood, Herts WD6 4QB, if they have maps which they would be willing to donate. We are also increasing the budget for the Fair, hoping to attract more and younger collectors.

While at Antwerp our new International Secretary Robert Clancy organised a meeting of all participating International Representatives. This was well attended, and should lead both to more local activity, as well as more interaction between members in distant countries. If you live in a country that is not represented and would like to volunteer to act as a Representative, please get in touch with either Robert Clancy or myself. Let me take this opportunity to welcome Martine de Chomel who has agreed to represent us in Mexico. She is well known to many of us as a regular participant in IMCoS activities.

With this Journal, but only to members in UK because of the cost of postage, goes a letter asking for volunteers (IMCoS after all runs on voluntary work!) to review books that are sent by publishers, and which then go into the IMCoS library. It is essential that we build up a wider panel of reviewers, to do justice to the books that are sent to us. So I hope for a

very high response to my appeal.

I would also like to hear in advance about map activities that are planned in all parts of the world, so that other members may know about them in time to plan a visit. By chance the other day, I saw on Newbury station a notice about an exhibition 'Maps: An unfolding local history', that was being held from 1.10.94 to 12.11.94. Too late to inform those interested in maps of Berkshire who may not have heard about what was probably a very good, local, collection, and might have contained some little known maps.

Another idea for which I would like to request help from IMCoS members in all countries occurred to me while returning from Antwerp. Scattered in many of the lesser known collections are copies of maps of which perhaps only one or two examples have survived. I have realised myself how important it is to study the original, particularly of the larger maps. Reproductions, however well produced, somehow never permit observation of all the text, the map language, even the outlines. This was particularly noticeable when we had the opportunity to see the Juan de la Cosa map in Madrid a couple of years ago. If IMCoS could produce a list of such maps and where they are held, it would be easier for members to see them. Often we may be travelling through a town and be unaware that stored in the basement of a museum is the single extant copy of an important map, or perhaps it is even on permanent exhibition, but not widely publicised.

If members would keep sending me information on such maps, let us say, where no more than three copies are known, it could be included in future issues of the Journal. If enough items are listed, they might in addition form a small separate publication which could then be sent to all members, and updated as required.

I have in the meantime loaded myself with more work, promising to produce an Index of articles that have appeared in the first sixty issues of the IMCoS Journal. This will be sent out with No. 60, on 1st March 1995. To ensure that your name remains on our mailing list, please check the date to which your membership is valid. This is given, along with your membership number, on the top line of the label containing your address on the envelope. Each quarter I receive back some half dozen copies of the journal that have not been delivered by the postman, because the addressee has moved and failed to let us know the new address. If one of them was for you, you are not likely to read this, as your copy has gone into my cupboard of unwanted items. But if you are reading this now, make sure it doesn't happen to your copy whenever you change your house or office. Also, please send your subscription well in time if you choose to pay annually, or if your three or ten year subscription is finishing in December. Only by keeping our administrative costs to the minimum can we maintain the very low current subscription rates.

Suggestions for the IMCoS-RV Tooley award for 1995 may be sent direct to me this year for forwarding to the awards committee. Full details of the award and previous winners are in earlier issues. Nominations should be received before the end of March.

Hope to see you all in the summer in London, and in San Francisco in October.

The Development of Cartography in the Low Countries

This paper is an introduction to the exhibition currently being held at Louvain on the development of Netherlands mapping. Because the systems of cartography that were developed here had a decisive impact on European cartography in general, the exhibition also reveals much that is relevant to the early cartography of other countries.

We understand the term 'early maps of the Netherlands' to denote maps of the Seventeen Provinces as a whole. These Provinces were split apart after the Eighty Years War (1568–1648), and this separation resulted in the birth of three new states: the Netherlands, Belgium and Luxemburg. One consequence of this was a neglect of maps of the early Netherlands, since people preferred to concentrate on maps of their own country. The oldest maps of the Seventeen Provinces remain largely a historical memory, charming indeed, but of no actual value. Professor Schilder called them a 'neglected chapter of historical cartography'.

The cartography of the Seventeen Provinces, however, is important for two reasons. Firstly their birth as a juridical unit (to speak of a 'state' would be an anachronism) coincided at the end of the 15th century and beginning of the 16th with the beginning of printed maps. The first official land survey based on triangulation was prepared in the University of Louvain by the famous group of three scholars: Gerard Mercator, Gemma Frisius and Jacob van Deventer, and was completed on the order of the emperor Charles V by Jacob van Deventer. Charles of Hapsburg was born in the Netherlands in Gent and was particularly interested in his Burgundian heritage. Deventer's survey is internationally recognised as being a model for mapmaking in Europe, and in the exhibition are Italian copies of his maps engraved either in Venice or in Rome — proof that they were considered excellent examples of modern mapping, since they were so beautifully copied. A second reason for their importance is their aesthetic value. This is obvious in many of the beautiful wall maps, and in the many versions of 'Leo Belgicus', Netherlands in the form of a lion.

The events causing the political fusion of the Seventeen Provinces occurred some 150 years before map printing began. In 1361 the French king Jean le Bon granted the Duchy of Burgundy, recently re-acquired by the French crown, in fee to his son Philip the Bold. By inheritance, marriage, negotiation or force, province after province came under Burgundian control. In the beginning of the 16th century the provinces Brabant, Luxemburg, Limburg, Guelders, Flanders, Holland, Zeeland, Hainaut, Artois, Namur, Friesland, Groningen, Overijssel, Zutphen, Mechelen, Utrecht and Antwerp became united in the hands of the fortunate youngster Charles of Hapsburg, who at the age of nineteen, became emperor of the Holy Roman Empire. Under his rule, and to further his political aims, he encouraged the newly invented art of printing and ordered that all his provinces

should be mapped. For some of the southern, French speaking provinces the order was placed with father and son Surhon from Mons. The oldest map of the Netherlands as a whole had been printed in the first Italian translation of Ptolemy's *Geographia*, in the later editions of Ruscelli, and in a publication by Porcacchi, as well as Sebastian Münster's edition of Ptolemy. It was necessary to replace these primitive attempts by scientifically correct, contemporary maps. It was the Spanish government which gave the order for the survey, and the very first map prepared on a mathematical base of triangulation, 'by the art of geometry' as Van Deventer himself said, was that of Brabant, which he presented to the Spanish government in Brussels in December 1536.

The first publication about triangulation methods we know of is a treatise by Gemma Frisius of 1533 as an appendix to a translation of Apianus' *Cosmographia.* In the same year Van Deventer, the eldest and possibly the least scientific of the three but surely the 'do-er', started his fieldwork. He completed it in about 1547 with the maps of the provinces of Holland, Zeeland, Guelders and Friesland. His maps of the Netherlands provinces, printed in Malines and probably in very small numbers for military reasons, have all been lost. From later reprints or copies by Antwerp publishers we know of only two examples, that of Zeeland (1560) in the Biblioteca Nazionale in Florence, and Guelders (without date) in the Herzog-August Library at Wolfenbüttel, Germany. Of the other maps, Holland, Brabant, and Friesland (with the other northern provinces), we have only photographs, as the original Antwerp copies were lost during the last war, or disappeared in Breslau.

However, we are more fortunate with the Italian copies. In Italy the map of Flanders (1540) by Mercator, probably based on a triangulation survey by Van Deventer, and maps of the other provinces by Van Deventer himself met with an enthusiastic reception after 1550. Many were inserted into Lafreri atlases. The engraver Jacobus Bossius who left 's-Hertogenbosch for Rome was undoubtedly the most important intermediary. The only map not known to have been copied in Rome was that of Zeeland.

Van Deventer's maps yielded an almost immediate result. The primitive design of the Netherlands provinces was promptly superseded by a map that showed their real shape. This appeared in 1567, and the unique example of the first state is on view in the exhibition. A second state was inserted in the first edition of Guicciardini's *Description of the Netherlands*, however with the name of Cornelis d'Hooghe. It was also copied in Italy, probably engraved by Paolo Forlani.

From this beginning the development of Netherlands cartography and its influence on other European countries is well known. The predominance of the southern Netherlands is conspicuous. It all started in Louvain, in the silence of study and science and it reached its economic and international value in Antwerp, in those days the financial and cultural capital of western Europe. It was in Antwerp that the first atlas in the modern sense of the word was born. Abraham Ortelius, probably at the instigation of rich merchants, published his *Theatrum Orbis Terrarum* in 1570, and included in it a

beautiful map of the Netherlands. Later Ortelius, who was greatly interested in history, also engraved the Netherlands in Roman times, with four magnificent cartouches. But he did not use the word 'atlas'. It was Mercator who engraved on the title-page of his atlas in 1594 the mythological figure of Atlas with the world in his hands. Mercator's map of the Netherlands served as a model for many of his successors, among them the wall maps of De Jode (1566) and Van Doetecum (1594), both preserved in the Bibliothèque Nationale, Paris, and that of Jansz Visscher (1636) which was reproduced in the famous painting of Jan Vermeer 'The painter in his studio', also called 'Allegory of the art of painting'. Without doubt Netherlands cartography had its origin in the southern Netherlands, now a part of Belgium.

As stated earlier, the Seventeen Provinces were split by war. The surrender of Antwerp to the Spaniards under Alexander Farnese in 1585 was the crucial moment and from that time onwards separation became an undeniable fact. In 1587 Frans Hogenburg published an atlas of the Netherlands called *Belgica Florens, Belgica Destructa*, the unique copy of which is in the University Library of Marburg. This title can be translated as 'Rise and Fall of Netherlands' Prosperity' and is a vivid expression of the tragic situation. On the title-page can be seen, at the top, a happy, fortunate and wealthy Netherlands woman, while below the same woman is shown raped, bereft of her possessions and mourning for the towns on fire in the background.

But remarkably, all survey maps of the Netherlands until the official declaration of independence of the Dutch Republic in 1648, by the Treaty of Münster, are maps of the no longer existing Seventeen Provinces as a whole. There are only two small exceptions of minor importance. And until the time of the French Revolution maps of the Netherlands in the shape of the original Seventeen Provinces continued to be engraved, printed and sold. Why were there so many, after the confirmed separation of about 1600?

In my opinion there are several reasons. In the first place we know that the famous cartographic school of the Golden Age in the Dutch Republic owes its origin to Netherlanders from the south who fled from Antwerp and settled in Amsterdam. First among these was Jodocus Hondius, who bought Mercator's copperplates after his death. In Amsterdam he published not only the famous *Mercator-Hondius-Atlas*, but also made fine maps of the Netherlands as a whole. That by his son Henricus Hondius has a decorative border. Fleeing with him to Amsterdam were Petrus Kaerius, Bertius, Plancius, the engraver Van den Ende and the bookseller and publisher Cornelis Claeszoon. They were the predecessors and teachers of the northern cartographers such as Blaeu and Janssonius. But till about 1605 the southern engravers held almost a cartographic monopoly in Amsterdam. Experience has shown that refugees who have fled from terror or persecution do not easily forget their native soil. When designing their maps they met with considerable uncertainty as to the borders in the east and the south. Frontiers were liable to capricious changes according to the success or defeat of the warring parties. The engravers, therefore, preferred to stick with the tradi-

tional shape of the Seventeen Provinces.

Secondly, until about 1630 the hope of liberating the southern provinces from Spanish and catholic domination remained vigorous. The Calvinist church, to which the greater part of the southern engravers belonged, was zealous in combating papism in the southern provinces. The influence of the southern immigrants into the Dutch Republic can be readily understood when it is realised that they numbered about 150,000 in a total population of about 2 million.

Around 1630 there was a change in the situation. The wish to liberate and the desire to be free began to flag. In the south people became exasperated by the intolerance of the Protestants in the north, shown at the capture of 's-Hertogenbosch in 1629, and the merciless raids of irregular bodies of soldiers from the north. On the other hand, there was growing recognition in the north that French support was necessary to resist the Spanish. After all, Amsterdam had profited greatly by the fall of Antwerp and was not at all keen on assisting its rival to a new start. So it was as early as 1633 that partition of southern Netherlands between the Dutch Republic and France came up for discussion.

But the French remedy turned out to be worse than the Spanish evil. By 1660 France seemed ready to conquer the whole of the southern Netherlands as soon as the position of the Republic weakened. After secret negotiations with England and Cologne, Louis XIV sparked off the notorious disaster of 1672 and in a short time his troops overran all the Republic beyond the inundation line. The extraordinary pretensions of Louis XIV can be seen on a very rare specimen of the Leo Belgicus map.

Again the Republic's view of the southern provinces underwent a change. The new situation demanded protection against France and the military events decisive for the destiny of the northern Netherlands mostly took place in the former southern provinces. There is in the exhibition a map which shows the site of every battle fought on sea and on land in the second half of the 17th century. The southern Netherlands are black with battle signs. After the defeat of France the Dutch Republic occupied a number of 'barrier-towns' in the southern provinces as a wall to protect the north against French aggression.

The prolonged survival of the Seventeen Provinces maps thus becomes comprehensible. The southern provinces, once the main core of political, cultural and economic power in the Netherlands, had fatally turned out to be the heaviest burden. For almost two centuries the southern Netherlands had been a source of anxiety to the people of the Republic. It is no wonder that maps of the Netherlands in those years had to include the southern part as well.

The exhibition at Louvain illustrates this story. In addition are many rare maps. Among the 20 wall maps is that of Kaerius in 12 sheets, known for four centuries only from a written inventory and now recently discovered; the unique example of the wall map of Vrients from the Austrian National Library at Vienna with the beautiful scene of Albrecht and Isabella seated in a ceremonial boat drawn by Neptune's horses; and Blaeu's wall map which is inserted in the three giant atlases in London, Berlin and Rostock. On view is also

the beautifully drawn manuscript atlas by Christiaan sGrooten. And last but not least the complete number of all the maps of the Netherlands in the form of a lion, Leo Belgicus, can be seen in one place for the first time.

The Austrian diplomat Michael von Aitzing or Aitsinger got the idea from the Virgo Europe map by Johan Putsch or Bucius from Innsbruck. Frans Hogenberg engraved the first lion in 1583. Many others followed, including the lion of the Twelve Years Truce, the cease-fire period between Spain and the Netherlands rebels. The lion is quietly seated and is peacefully eating the truce as a meal. But gradually the situation changed after the end of the cease-fire. Danger came from the south and now the lion is roaring southwards. But under the financial and military predominance of the province of Holland the lion of the Seventeen Provinces changed yet again into Leo Hollandicus; the editio princeps of this version, of 1622, has recently been found. Soon Leo Hollandicus also became a tradition.

The exhibition is arranged chronologically, but in every period can be seen various aspects of early cartography: fine engraving, artistic decoration, much information of a non-geographical character, such as types of ships, sea battles, portraits of governors, costumes, coats of arms, and much more.

HENK VAN DER HEIJDEN
Netherlands

The exhibition 'Maps of the Low Countries from Charles V to William I' can be seen at Louvain in the Predikherenkerk (Church of the Dominicans) until 4th December 1994.

A Unique Collection of Feudal Maps: the 'Cadastral' Maps of the Duchy of Aarschot (1596–1601), Brabant, Belgium

At the turbulent end of the 16th century, one of the mightiest noblemen in the Spanish Netherlands, Charles de Croÿ, Duke of Aarschot, had drawn up a unique private cadaster of his vast possessions. An important selection of these maps having been published recently,[1] I am privileged to introduce to you this remarkable cartographical collection.

Charles II de Croÿ held high military and civilian functions in different provinces. In 1595 he inherited the immense patrimony of the Croÿ family, which was spread all over what is now Belgium and the north of France. Soon he reigned over these possessions as a prince does over his country, and as a prince he lived on his mansions of Beaumont and Heverlee, which he had transformed into pleasant renaissance dwellings by the best architects and artisans of the time.

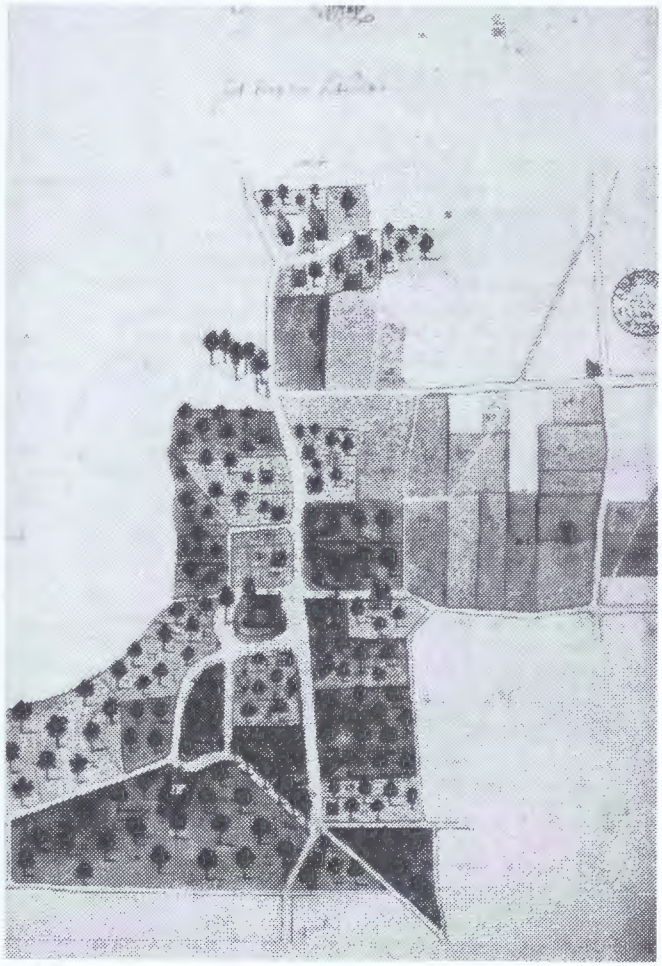
The mighty duke combined a modern, efficient management of his estates with a refined sense of splendour. It is to this successful combination that we owe an astonishing collection of maps, drawings

and detailed descriptions, among which are the famous 'Albums of Croÿ' and the private 'cadasters'.

Amongst others, these cadastral maps have been preserved for the duchy of Aarschot, in Brabant. The duchy consisted of four important medieval seigniories which the Croÿ family had acquired between 1432 and 1516. These 'seigniories' or baronies, namely Aarschot, Bierbeek, Heverlee and Rotselaar, were located north and south of the important city of Louvain, along the Demer and the Dijle, two of the main rivers in Brabant that gave access to Malines and from there to Antwerp.

Already in 1593 Charles de Croÿ had given orders for drawing up a new kind of rent-book, in the form of private cadastral maps, describing two seigniories which he had inherited earlier from his mother. From 1596 onwards he extended this enterprise to the whole of the duchy of Aarschot, which covered some 25,000 hectares. Charged with both tasks was Pierre de Bersacques, a surveyor from Courtray. Also from 1596 onwards, the duke had Adrien de Montigny, a painter from Valenciennes, make a number of sketches of villages and notable buildings. From both the cadastral maps and the views, Adrien de Montigny had to make lavish full-page gouaches, which were to be assembled into the well known 'Albums de Croÿ'.

What is unique for the duchy of Aarschot is that not only the original cadastral maps but also twelve of these preparatory drawings have been preserved. As both maps and views were drawn on the spot, they contain a much higher degree of accuracy than their copies in the Albums, which increases their value as historical sources. A watercolour of the village of Werchter, with local men towing a barge in the foreground, faithfully renders the sky-line, whereas on the copy in the Album it is filled in by an invented landscape.



Cadastral map of the village of Rotselaar (1596–1601)

Pierre de Bersacques worked at the private cadastral maps from 1596 till 1601. To each barony within the duchy of Aarschot was devoted one map- volume. The four volumes together contain 396 folia.

In fact, they are traditional *rent-books*, to which a visual dimension was added. Pierre Bersacques therefore started by copying the texts of the existing older rent-books. Sufficient blank space was



View of the same village, Rotselaar (1596–1598).

left on which de Bersacques later made pencil drawings of the locality covered by the texts. Early in the spring the surveyor went to the spot, with the assistance of the local ducal functionaries, who pointed out to him the parcels of land. Colouring was done afterwards, indoors. Pierre de Bersacques provided his pencil drawings with the necessary instructions for the colouring: inside the fields, buildings or watercourses he noted in pencil the first letter of the colour to be applied.

The volumes mainly contain maps of those parcels on which the duke of Aarschot, as local lord, claimed seigniorial taxes. Most of the parcels are numbered. Each number refers to the textual description, mentioning for each parcel: the owner, the surface, its financial use, the precise location (a treasure for toponymy), and of course the land-tax to be paid. Many of the descriptions, however, are *not* numbered; as they were copied from older registers they describe parcels that, after almost a generation of warfare, were overgrown and untended, and of which nobody remembered the exact location.

In addition to the cadastral maps, these volumes also contain single drawings of villages, hamlets or notable buildings. This dual aspect (cadastral maps on the one hand, single drawings on the other) leads us to the structure of the map volumes, as it reveals the medieval nature of the seigniories. Hence, we can consider these cadastral maps as feudal map volumes and take a closer look at their composition.

1. Each volume opens with a representation of the central part of the seigniory, either a general map of the *main*

village of the seigniory, or a map of the *seigniorial reserve*, that is, that part of the seigniory situated around the lord's castle that was directly exploited for him. These maps are accompanied by single illustrated maps or views of the formal seigniorial castles; for example, the residence of Aarschot, or the ruins of the medieval castle of Rotselaar, with a dungeon on a steep mound.

2. Then follow cadastral maps of the settlements and the land on which the duke of Aarschot raised seigniorial taxes, mostly hereditary tributes, sometimes also forms of partial land-leasing or legacy duties. To each locality of the seigniory is devoted a map. A fair example is the map with the main arable land-complex of Rotselaar, on which we can distinguish four different forms of seigniorial land-taxes.

3. At the end come the feudal holdings of each seigniory. These were sometimes rather vast inferior seigniories, in which case only the central parts are drawn: a dungeon, for example, that of the seigniory of Rivieren; a château, for example that of Schoonhoven, both near Aarschot; or sometimes settlements belonging to it, such as the village of Langdorp, that was divided between the seigniories of Rivieren and Schoonhoven, both at that time dependent on the barony of Aarschot. In many other cases, however, a fief contains only a few parcels of land.

Not all these feudal estates were situated within the territory of the seigniory. A few small fiefs in Louvain, dependent on the seigniories of Rotselaar and Heverlee, gave rise to a map of the whole city, with a nice view of the 12th as well as the 14th century circular walls. Some estates were situated miles from the feudal courts



The castle of the seigniory of Rivieren, with a huge dungeon (1596–1598).

to which they belonged. The village of Ligny with its imposing castle, an important fief of the seigniory of Heverlee, was situated some 50 km away from its feudal court.

The series of twelve descriptions mentioned above add interesting supplementary details to these cadastral maps. On a drawing of the village centre of Rotselaar, we observe the striking green aspect of the cemetery, with its grass and trees, the house in which the court of aldermen and the archers' guild gathered, the judicial lime-tree, the pillory, the construction of the houses and—as a status symbol—on the most important house of the village, a stork's nest.

This collection of maps and drawings is so exceptional that its importance ex-

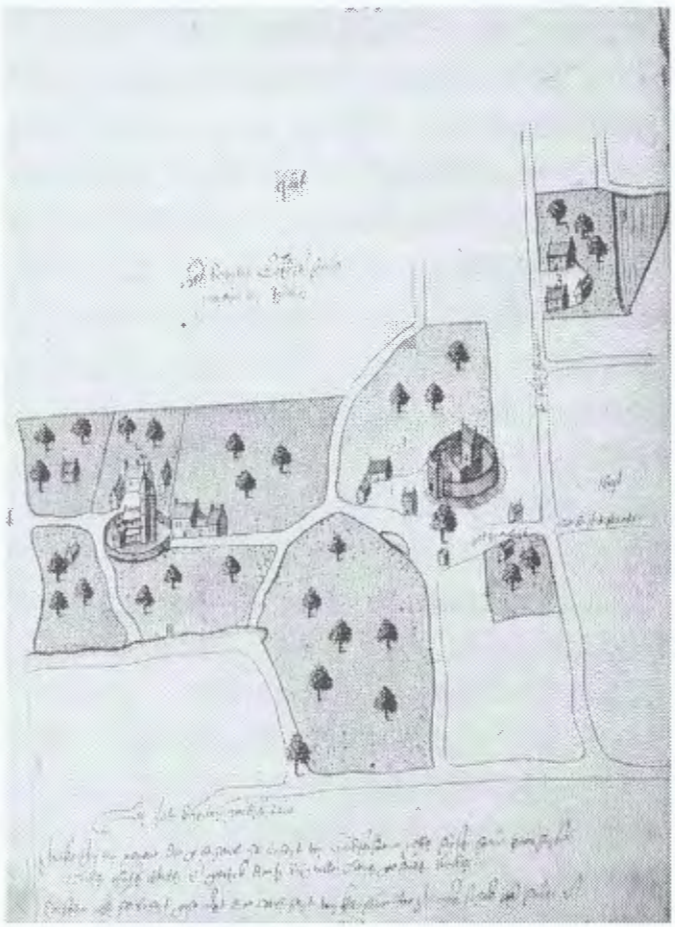
ceeds the regional character of the duchy of Aarschot. Without exaggeration, one can state that no map or other visual material of this type and quality, for an era so remote and for such a wide area, exists in all Europe.

For the first time a window has opened onto a landscape covering an extensive area at the end of the 16th century. The detailed rendering of villages, hamlets, dwellings (from the most luxurious château to the most humble cottage), waterways, roads, forests and the allotment of land, allows us to make a detailed reconstruction of the landscape four centuries ago. Moreover, because this landscape mainly took its form in the Middle Ages and because the legends permit direct localisation of all toponyms, these cadastral registers are a unique source for the study of the *genesis* of this landscape.

The social structure also becomes perceptible; it too shows its medieval roots. The Church is omnipresent. In the centre of the village of Bierbeek, close to the church, there were a small Benedictine priory, a chapel, and even a parish hospital. On the outskirts of the cultivated land, abbeys were situated (like the abbey of Averbode, in the midst of woodland), or leper-houses, as that in Tremelo, on the fringe of the moorland.

Next to the impact of the Church it is evident in these maps how in the Middle Ages not only the city, but also the village reflects the image of a *towered* society. Next to the church tower, most of the villages had at least one, sometimes several, dungeons, not always on a mound; they were the visibly eminent sign from afar of the power of the nobility and the local knighthood. Examples are the remaining huge dungeon of Ter Heiden-Rotselaar, dating from the 14th century and one of the most remarkable of its kind in Belgium; or the manor of 'Ter Hofstad' in Haacht, which was occupied by a wealthy city patrician who aspired to knightly status and had his dungeon built around 1500.

The financial impact of the medieval seigniory is illustrated by the depiction of toll-houses—such as the toll-house near the bridge of Haacht with the Croÿ coat of arms, seigniorial breweries and watermills, and the extent and structure of the seigniorial reserve, which contained farmland, woods, hunting and fishing grounds. The judicial power of the highest nobility emerges clearly in the striking



A 'towered' society: on the left, the church; on the right, the castle with its dungeon (1596–1601).

presence of gallows and the wheel on the border of the seigniory, signifying a particularly frightening aspect at the boundary posts of important seigniories, such as between Rotselaar and Aarschot.

Agrarian life is still based on late-medieval principles. The geographical structure of the village is concentric: in the middle the rural settlement, surrounded by a green belt of orchards; these in turn surrounded by the farmland and pasture land; in a third circle we find meadows, woods, swamps and moors. The legends, copied from older feudal rent-books, reveal the location of former vineyards that were so abundant in the area in the 14th and 15th century. A proof of this is a vineyard near Aarschot represented on an illustrated map from the middle of the 16th century which also belongs to the collection of the dukes of Aarschot. Thanks to the elevations of the dwellings and the coloured rendition of their building materials, it becomes possible to reconstruct the social geography of the rural settlements. Incidentally or not, the idyllic detail of the stork's nest seems only to be present on the chimneys and gables of the most prominent stone buildings.

Almost every village harbours one or more archers' guilds, pre-eminent expression of corporate life. In some villages part of the village green is occupied by a double row of trees, in between which lay the shooting range.

This medieval image was greatly disturbed by the Eighty Years' War that almost permanently raged throughout the area from 1578. Hence, around 1600 many buildings still lay in ruins. The older rent-books and feudal registers used by Pierre de Bersacques no longer offered a faithful record of the use of the grounds. Of the hundreds of parcels and buildings listed in the ten-column wide legends for the city of Aarschot, Pierre de Bersacques succeeded in locating only 31. The war introduced a new element into the landscape: the fortress. In 1582, a fortification was built by Spanish soldiers around the watermills of Aarschot. In many villages the remaining inhabitants turned the church into a fortified place; they loop-holed the cemetery wall, or, as in Haacht, heightened it with a wooden palisade.

The war had created a sharp contrast between the devastated villages and the city of Aarschot itself, which was reduced to a small garrison town, while the renaissance mansion of Heverlee was developed into a splendid residence and decorated in a princely manner for Charles de Croÿ. Both these places were brought together on a curious painting of 1627, still hanging in Heverlee castle.

It is obvious that many characteristics of rural society in the duchy of Aarschot around 1590 are also to be traced in other areas in the Southern Netherlands. Hence these maps and views are an almost inexhaustible source for the study of many aspects of the landscape *and* daily life, not only at the end of the 16th century, but also for the Middle Ages; and not only for this part of Brabant, but also for the surrounding regions.

1. B. Minnen, *Het hertogdom Aarschot onder Karel van Cröy (1595–1612). Kadasters en gezichten.* Brussel, Gemeentekrediet van Belgie, 1993.

BART MINNEN
Wezemaal

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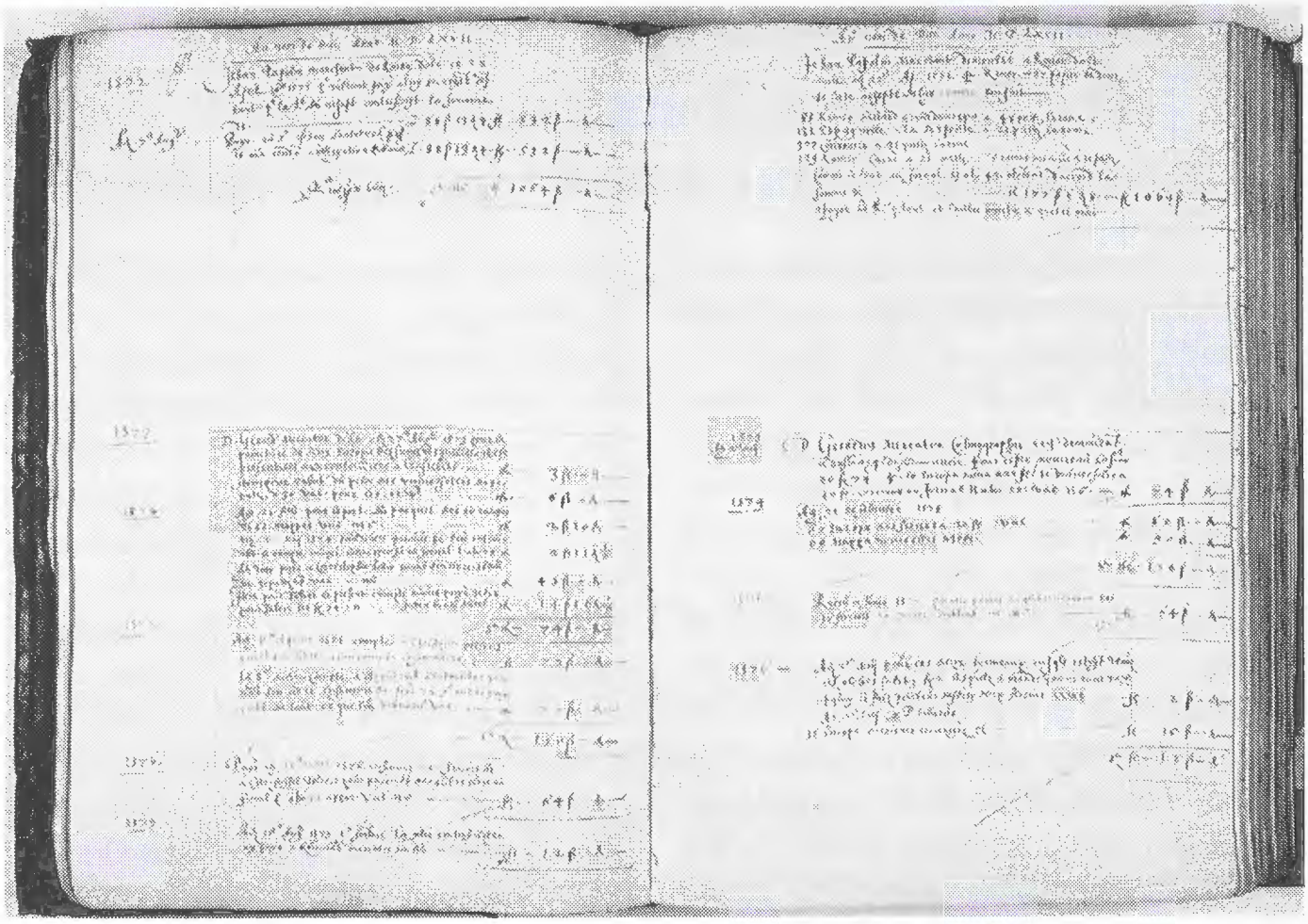
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The Business Relationship between Christopher Plantin and Gerard Mercator

In 1555, three years after Gerard Mercator had settled in Duisburg, Germany, Christopher Plantin was printing his first books in Antwerp. Plantin, born in France c.1520, came to Antwerp c.1548–49 where he was initially active as a book binder before he became a printer and publisher. In spite of the turbulent political situation in the Netherlands in the 16th century, he succeeded in building up his business such that it became one of the most important publishing houses in 16th century Europe. When he died on July 1st, 1589, he had published nearly 2,500 works, including the 'so-called' Royal Bible, or the Polyglot Bible — a monumental folio Bible edition in eight impressive volumes, published between 1568 and 1573, that made his name immortal.

In addition to being a printer and publisher of books, Plantin was also a book dealer. In his shop, one could find not only Plantin's own publications, but also the works published by other European printers-publishers. Besides books, one could also purchase maps and other cartographic instruments from Plantin's shop. Within a few years, Plantin became an important supplier of wall maps and in due course, he had nearly the monopoly for their sale in the Netherlands. Plantin's successors saw to the preservation of all his business records and accounts. In this manner, the records of Plantin's sales of Mercator's globes, maps and atlases have also been preserved. Although some information concerning the distribution of Mercator's maps occasionally can be found in Mercator's correspondence, it is in no way comparable to the Plantin archives. In the archives one can find information about the quantity of maps and globes that were traded in Antwerp, the lands to which they were sent, how much they cost, who bought them, etc.... Moreover, the archives of Plantin's book trade provide data on maps and atlases by Mercator for which there are no known exemplars. The trade between Plantin and Mercator was not purely one-sided; we see, for example, in the preserved accounts, how Plantin provided Mercator with paper and pasteboard, as well as numerous books for the cartographer's library.

The first time that the cartographer's name appears in the Plantin archives is on March 19th, 1558. On this day, Mercator (who is called 'M^{e} Gerard le marchant de Ripelmonde') delivered four maps of Europe to Plantin. It was the start of the delivering of hundreds of wall maps that would be distributed further by Plantin. We see here that the scale of the trade of Mercator's maps and globes was dependent upon the situation of Plantin's own business. If business was going well, Plantin bought many more of Mercator's works. Indeed, it is during the great years of growth of Plantin's Press, from 1566 to 1576 that the dealings with Mercator were greatest. It was in this period that Plantin succeeded in nearly monopolising the trade in maps in the Netherlands. When Plantin's business declined after 1576 as a result of the difficult situation in the Netherlands, the number of maps that



Pages from the 'great book' of Christopher Plantin, 1572–1589, in which records of the daily accounts were kept. [Plantin-Moretus Museum, Archive no. 19 p. 21]

were distributed via Plantin's shop consistently diminished. From 1583 onwards, the 'Officina Plantiniana' was compelled to buy Mercator maps from another Antwerp map dealer, Philip Galle.

Striking is the huge quantity of Mercator's works that Plantin was able to purchase during the high point of his business. In the period of 1564/5 to 1576, Plantin bought in total ten sets of globes and 884 maps. In the period 1579 to 1599 however, Plantin and his successor Jan Moretus I bought only four sets of globes and not more than 213 maps and atlases. As would be expected, the largest number of maps were sold in the Netherlands (312 maps between 1566 and 1576). France was second with 247 maps sold during the same period. For the other countries, the numbers sold during this period are not nearly as high: for Germany 51 maps, England 30, Spain 24, and Italy 22. These figures are based upon a study by Prof. L. Voet, the former director of the Plantin-Moretus Museum, which was published in the special number of the *Duisburg Forschungen* in 1962. The sale via Plantin was only one channel through which Mercator's documents were spread. No archival data are known concerning sales by Mercator himself, or other book dealers.

Plantin sold great quantities of maps of Europe from 1554 and 1572, the world map and the map of the British Isles. Voet counted no less than 316 of the 1554 maps of Europe and 88 of the 1572 edition in the account books.

Mercator's most famous map, the

1569 world map, was also sold in great quantities: 185 were sold during the same period. Finally, 81 copies of the 1564 maps of the British Isles were sold during those same ten years.

For Plantin, the purchase of all these maps was a great investment. Mercator's wall maps were, as you know, very expensive. For example, on February 23rd, 1568, Plantin bought no less than 100 uncoloured maps of Europe at one time. Comprising fifteen engravings, this map cost 30 st. This was just as much as 42 full-page engravings from J. Valverda's anatomical treatise, *Vivae imagines partium corporis humani*, published by Plantin in 1566. In comparison, I would also like to mention the price of an unillustrated work: the Dutch folio Bible from 1566, a book of no less than 1016 pages was sold for 26 st., thus less than Mercator's map of Europe.

While the majority of Mercator's maps were sold to other book dealers, the list of the private purchasers shows that these were often rich and noble persons. A large wall map was also a prestigious object to hang on the wall of a library or drawing room.

Few or no exemplars of Mercator's other maps were sold. It appears that Plantin did not sell any copies of the *Orbis imago*, the first world map, which Mercator published in 1538. The map of the Holy Land was also sold by Plantin. In 1568, more than thirty years after the map had first appeared, Plantin bought 100 copies in Frankfurt, but only a few of these exemplars appear to have actually been sold in Antwerp. Finally, there is only one mention of a sale of the 1540 map of Flanders in the Plantin archives.

Aside from the independent maps, Plantin also sold Mercator's globes. Through 1576, he bought approximately twenty sets of globes from Mercator. It goes without saying that these globes were extremely expensive. Until 1575, Plantin was able to buy Mercator's globes for 16 fl. a pair, but afterwards, the price skyrocketed: in a purchase five years later in 1580, the price had mounted to 36 fl.

Only a few copies of Mercator's atlases were sold by the Plantin press. Noteworthy is that it appears from various references in the archives that it was possible to buy separately such distinct components of the atlas as that with the maps of France, or that of the Netherlands, with texts in French, Latin or Italian. Generally, copies of these no longer exist.

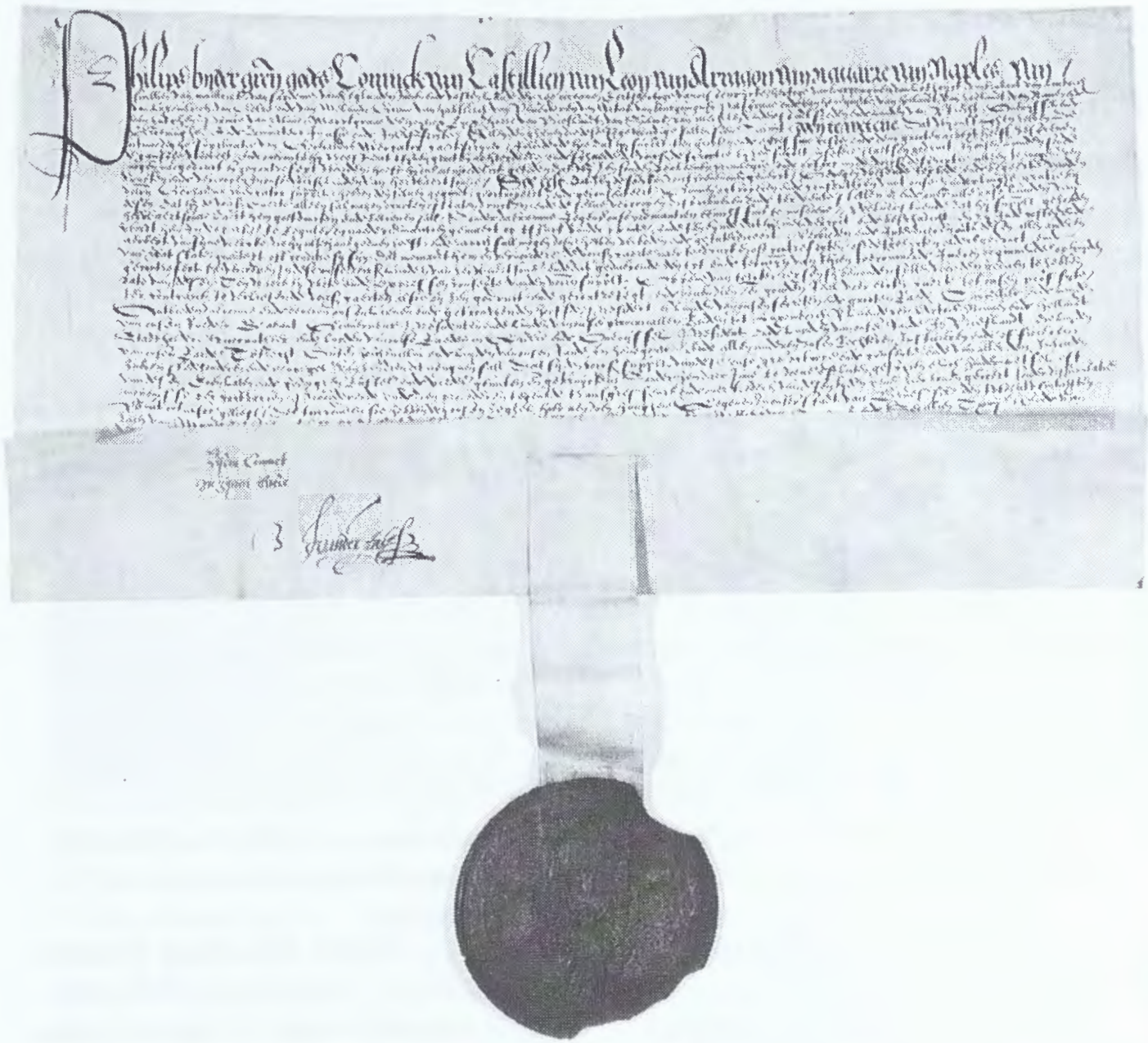
Finally, Mercator also published three non-cartographic works. His *Chronologia* of 1569 — a work that summarises the most important facts in the history of the world since the creation — was often sold via Plantin. Published in Cologne by the successors of Arnold Birckman (according to the address on the title page), this book was obtained and sold by Plantin from October 15th, 1568 forward, even though the colophon states that it had not been published until 1569. Mercator's *Evangelicae historiae quadripartita monas, sive harmonia quatuor evangelistarum* (Duisburg, 1592), a work on the life of Christ, was also occasionally sold by Jan Moretus I. The work *Literarum Latinarum, quas Italicas cursoriasque vocant, scribendarum ratio* (Antwerp, 1540, 1541, 1549, 1566 and 1567), a hand book on calligraphy, does not seem to appear in the accounts of the 'Officina Plantiniana'.

How did the trade between Plantin and Mercator transpire? Due to the great importance of the Frankfurt book fair for the book trade in the 16th and 17th centuries, Plantin and his son-in-law Jan Moretus I went regularly to this German city. Here, or along the way in Duisburg, they did their business with Mercator. Most shipments and payments were actually carried out by middlemen. In the archives, a few names can be found of those who saw to the shipments to Antwerp and who collected the money: Louis de Dieu, Jacob Geyskens, Christoffel Pelsens, and Hendrik Slatmakers, figures who are otherwise unknown. Mercator's brother-in-law, Willem Schellekens, who resided in Leuven, was also involved once in the supplying of paper to Mercator. From 1579 forward, it was Mercator's youngest son Rumold who acted in the interest of his father in Antwerp, and the name of Gerard Mercator would no longer appear in the Plantin archives. Until 1585, Rumold Mercator probably still regularly came to Antwerp, but after the fall of Antwerp in that year, all transactions seem to have taken place in Frankfurt. Despite the relatively intense dealings between the Antwerp printer and Gerard Mercator, only one letter exchanged between them is known. This letter, now preserved in the Staats-und Universitätsbibliothek in Bremen, dates from February 15th, 1569. Here Mercator asked for Plantin's help in ascertaining place names in France, a logical question for Plantin, given that France was his original homeland. It is certain that there must have been more letters exchanged between the two.

Another example of how Plantin helped Mercator can be seen in the obtaining of privileges for the publication of Mercator's maps. In the 16th century, anyone who wanted to publish a book or a map had to have the permission of the government to do so. This permission, the privilege, prohibited both the reprinting of the publication concerned by other printers, and offered, more or less, a monopoly for the printer, publisher, or author who had received the privilege. For the request for the privilege for the 1569 world map, as well as for the 1572 map of Europe, Mercator could count on the help of Christopher Plantin. These documents, written on costly parchment and bearing the royal seal of Philip II, are still preserved in the Plantin-Moretus Museum archives.

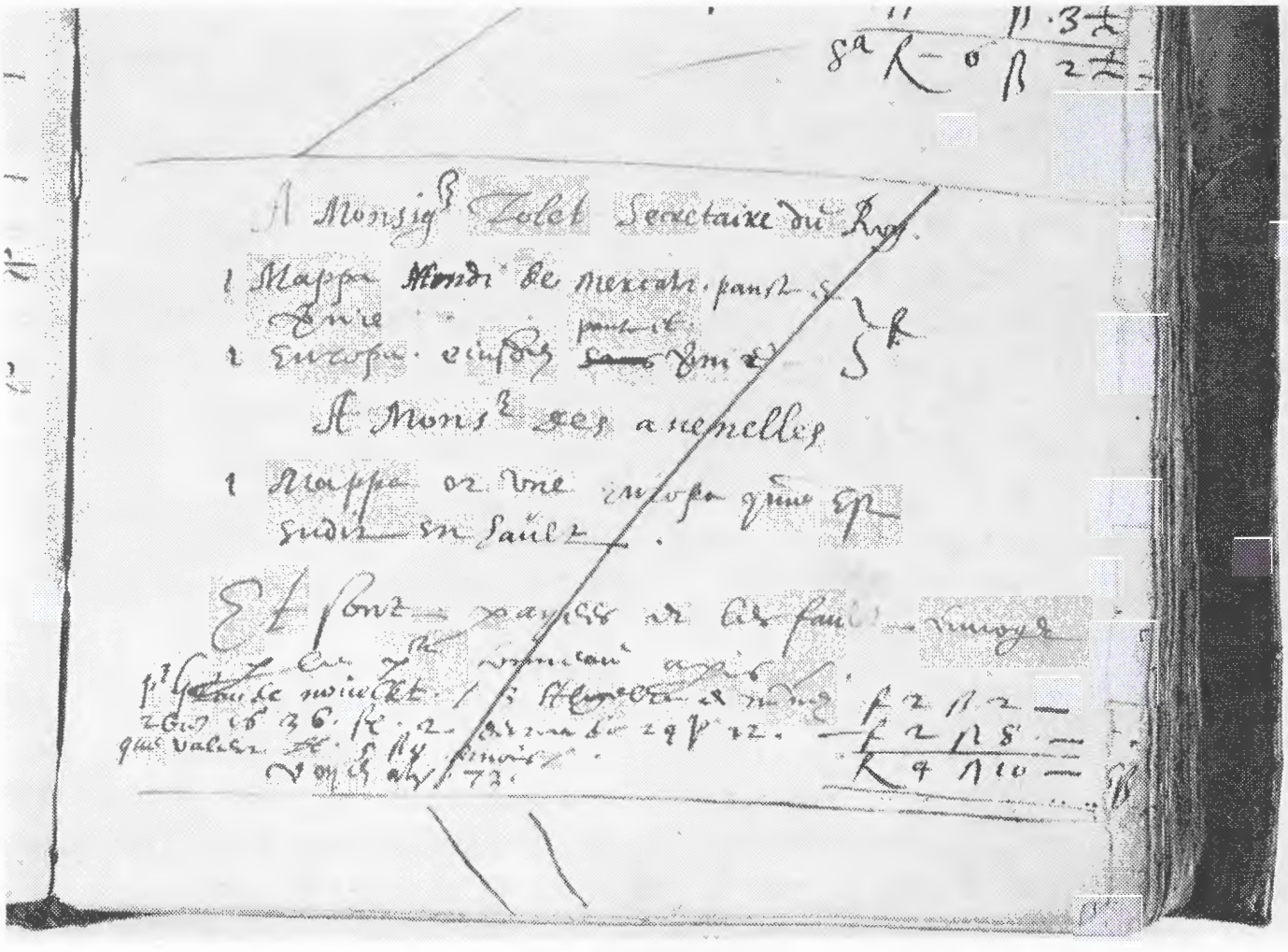
The privilege for the world map prohibited the reprinting of this map from 'Gerardus Mercator caertescrijver' in the Netherlands for a period of ten years. The privilege was signed by the secretary from the Secret Council, van der Aa, and is dated May 22nd, 1569. In Plantin's accounts we see that this secretary received a coloured exemplar of the world map in the following year. Lobbying is no 20th century discovery. Naturally, Plantin billed the costs of this gift to Mercator.

Also of interest are the privileges for the sale of Mercator's 1572 map of Europe in the Netherlands. Mercator had already published a map of Europe in 1554. In 1572, a new edition was brought out, printed with the same copper plates, which had been modified in only a few places. In the privilege, we read that Plantin had bought the plates from Mercator and had them improved. The following is quoted from the French text from the privilege: 'ayant achapté de Gerardus Mer-



Privilege granted to G. Mercator for the sale of his world map, 22nd May, 1569. [Plantin-Moretus Museum, Archive no.1179/103]

cator, ses plates et figures de la carte de la description de l'Europ... il a icelle carte faict augmenter en plusieurs endroictz'. Because this was so expensive, 'de tant que ceste oeuvre luy sera de grande costainge et despence', Plantin asked for a privilege for a fifteen year period. Due to this text, it has been assumed that Plantin indeed had printed and published the maps. From Plantin's accounts, however, it appears that there is no stitch of truth to the story. Mercator supplied and charged Plantin for each map of Europe. All of the costs of the request for the privileges were, without exception, charged to Mercator's accounts. Likely, the cartography had counted on Plantin's good relations with the government of the Netherlands in order to obtain a privilege for fifteen years. For the granting of this privilege, Plantin was aided by the Brussels book dealer Pierre de la Tombe. The latter was paid 12 fl. for this, which was later charged to Mercator. Moreover, the mem-



Record of the sale of two of Mercator's maps to the secretary of Philip II on 9th May, 1573 from the Journal for that year. [Plantin-Moretus Museum, Archive no. 51]

bers of the council also received two coloured maps of Europe as a gift.

In some works on Mercator, the existence of a map by Mercator entitled 'Peregrinatio Pauli' is assumed. The existence of this map, which should be a representation of the travels of the Apostle Paul, is based only upon the following reference on April 15th, 1572 in Plantin's daily log book: 'Domino Gerardo Mercatori par Louys de Dieu 4 rames du paper grand fl. 12. Pour l'impression de 20 mains de peregrinatio Pauli'.

On the map of Europe, there is a cartouche in the upper right corner containing text with just this title: 'Peregrinatio Pauli'. In this text, Mercator gives a concise account of all the trips that the apostle undertook. I propose that the reference in the Plantin archives alludes to the cartouche with the 'Peregrinatio Pauli' text, as it appears on the map of Europe. There are three travel accounts on this map: the previously mentioned journeys of Paul, plus one text with the travels of the apostle Peter ('Peregrinatio Petri') and one with the text with the journeys of Christ ('Peregrinatio Christi'). In the first edition of 1554, the text of the 'Peregrinatio Christi' was engraved into the copper plate itself. For the new edition of 1572, Mercator reworked this text in order to make this agree with his recently published discovery that Christ had preached for four years and not three. In the exemplars of this map [i.e. the 1572 map of Europe] preserved in Weimar and Perugia, the text is printed typographically, while on the

third known exemplar of the 1572 map of Europe (preserved in Basel), the text is engraved on to the copper plate itself. Similarly, it is possible that on some portion of the maps, the text of the 'Peregrinatio Pauli' was not engraved, but typographically set and printed by Plantin. This hypothesis may then justly explain the relevant reference in the Plantin account ledgers. An additional argument is that Abraham Ortelius does not refer to such a map of Mercator when he published his own map with journeys of St. Paul in his *Parergon*. While he scrupulously cites his sources in the accompanying text, no reference to Mercator can be found.

The existence of a large map of America can be demonstrated with more support. This map is also known only because it is mentioned in the journals and 'great books'. It is also mentioned explicitly as a map in the archive in which a list of the editions of the 'Officina Plantiniana' is given until 1593. Under the list 'Chartae geographicae diversae a diversis', one can read: 'America g[rand] Mercatoris bl. f. 15 st. 30'. Moreover, it appears that Plantin also worked on this map, because on August 2nd, 1582, Plantin charged Mercator 3 guilders for printing '264 titulos Americae'.

We also know from the Plantin archives that cheaper versions of Mercator's maps existed. These were printed from woodblocks by the Mechelen map publisher Bernaert vande Putte (1528?–1580). In 1570, he published the map of Europe and that of the British Isles; in 1574, the world map. Only a small fragment of vande Putte's world map is preserved in the library of the Royal Geographical Society in London. Here, we can see that he imitated Mercator's map in the smallest details. Noteworthy is that when vande Putte published his map, Mercator's privilege for the world map, which had been granted in 1569 for a ten year period, was still valid. The fact that Plantin sold both maps of vande Putte and Mercator suggests that there must have been an agreement between the two cartographers on this matter. That Plantin would dare to affront such an important client and supplier as Mercator is unthinkable.

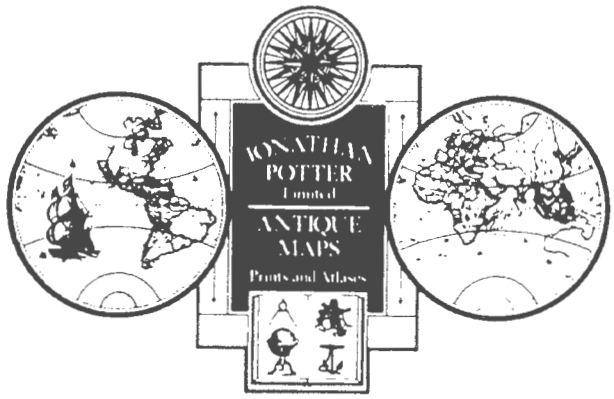
Finally, while Plantin purchased maps and globes from Mercator, the cartographer bought paper, pasteboard and books from Plantin. The balance of the trade was negative for Plantin. Of great interest are the books that Mercator obtained via Plantin. The cartographer had, actually, a rich library containing more than just books on cartography. Indeed, Mercator was primarily interested in philosophy. The books that are listed in the Plantin archives contain a broader range of subjects: from mathematics to history, from bible editions to medicine.

To conclude, we can propose that while the 'Officina Plantiniana' was only one channel for the distribution of Mercator's maps, globes, and atlases, it was an important one from which archival documents can provide us with an image of the distribution of the cartographer's works. Indeed, no other source offers such a great treasure of information on this as the Plantin archives. That the accounts of Plantin and his successors have been preserved is of invaluable importance in the realm of Mercator studies.

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How did Gerard Cremer or Gerard Mercator design his grid with increasing latitudes, called the 'Mercator Projection'?

All map lovers, amateurs or specialists, admire the excellence of the calligraphy in Mercator's maps and globes. This improved the readability of his maps and plans. He published, in 1540 in Louvain, his *Literarum Latinorum, quas italicos cursoriusque vocant scribendarum ratio* (The way to write Latin script, which is called italic or running hand), but he is known for more important improvements than this.

In biographies, you may read that Gerard Mercator utilised practical geometry (i.e., that he was a land surveyor) and that he constructed scientific instruments as a means of earning a living. He put this early training to good use, while solving theoretical problems in the fields, and combined it with sound common sense.

He was listed at Louvain University as 'pauperes ex castro' (a poor student from outside the walls) in 1529, where he had been introduced by Monachus (author of *De orbis situ ac discriptio* in 1528) who instructed him in cosmography, and he was taught mathematics and geometry by Gemma Frisius. We know that he applied himself assiduously to his studies, and benefited from reading the 1529 edition of *Euclides geometria a Johannes Voegeleir*.

After a two-year training in Antwerp as an engraver he went to work for Gemma Frisius in 1534. In 1533 Gemma Frisius had already published *The Cosmographia of Apianus*, to which he added his *Libellus de Locorum Describendorum Ratione*, which provided the geometrical basis for scientific cartography. This work has been discussed by many modern scholars, among them Antoine De Smet, honorary president of the Belgian National Center of the History of Science, Dr Kish of Chicago, and Professor Van Ortroy of Ghent, to name just a few. At the end of the book Frisius wrote: 'Sed si totam Europam, quis per hos modos describere velit commodissime hoc & certissime in sphaeric efficiet corpore : quod quum no sit vulgarium, hic missum facio' — So if you want to use this method for a large area, you should use the surface of a globe.

In 1534 Mercator was working for Frisius as a 'mechanicus', a maker of scientific instruments. The first terrestrial and celestial globes had been constructed in 1530 for or by Gemma Frisius, but no example has been preserved. The earliest to survive to modern times was one constructed by Gaspar Vanderheyden (Gaspar a Myrica from Mechelin or Malines) and Gerard Mercator in 1534. It was found and described in 1903 by Dr Ruge in Leipzig, but was later lost during the war. The inscription read: 'Gemma Frisius Medicus ac Mathematicus / ex varijs descripsit geographicorum observa / tionis, atque in hanc formam rediget : Gerardus Mercator Rupelmondus coelavit com Gaspare a Myrica'. The circumference of

this globe was 1.140 mm with a diameter of 36,3 cm (Van Ortroy, p.146).

A second celestial globe was found by Dr Ruge in Zerbst, also in 1903, in the Gymnasium Franciscanum, with a circumference of 1160 mm, diam. 36,9 cm. This too was signed by Mercator and Gaspar a Myrica. As Dr Elly Decker has pointed out (Scientific Instrument Society Bulletin 3/93, p.19) Mercator's celestial globe of 1551 used equatorial coordinates rather than ecliptic coordinates, based on the Alfonsine tables. All other globes use the ecliptic coordinate system. To transfer from ecliptic to equatorial coordinates, one can use the Astrolabium Catholicum or Universal Astrolabe. Another pupil of Frisius, Rojas, published a treatise on the Universal Astrolabe in 1550.It was Gemma Frisius, with whom Mercator was in constant touch, who had written the *Astrolabium Catholicum* in 1554, published by his son two years later.

By the time Mercator left Louvain for Duisburg in 1552, it is clear that he knew the principles of the Universal Astrolabe, which had been in use by Arab geographers for many centuries, and had been 'rediscovered' and published by Frisius. We also know that he built astrolabes himself, since three have been attributed to him by Professor Gerard L'E Turner (1994). The oldest is preserved in Brno and has as a monogram on the rim 'GMR'. Its diameter is 289 mm, which is exactly equal to one Louvain foot. The other two were made after 1552, one for the Medici in Florence and another now in Augsburg.

We have now established that Mercator worked as a surveyor, that he measured land and designed charts and maps, and that he made instruments. I now turn to the need for a good projection.

From earliest times navigators had sailed along coasts, and for this the portolan charts were quite adequate. With the expansion of trade routes once the Portuguese circumnavigated Africa and sailed to India and the Spanish crossed the Atlantic to bring gold and silver from the New World, better navigational aids became a necessity for survival and success.

Mercator had a knowledge of mathematics and geometry. He applied this knowledge to cosmography and cosmology, which he had learned from Gemma Frisius. But we know today that he had other material to hand, since Mr Penneman of St-Niklaas studied a manuscript transcript made by Dr Van Raemdonck of the 1604 auction catalogue of the library of Gerard Mercator and his son. Among the titles are not only books of philosophy, geography and cartography, but also the leading mathematical treatises of the time. Even if Mercator was not himself a 'brilliant mathematician', he had a close relationship with Gemma Frisius and also with Beausard, professor of mathematics at Louvain. His terrestrial globe of 1541 showed great improvement in navigational directions, as it included early loxodromic lines which had been first described by Pedro Nunez in his *Tratado de sphaera* (Lisbon, 1537), and improved in his *Opera* (Basel, 1556). In 1547 Gerard Mercator completed his research on the earth's magnetism, and placed the magnetic centre near, but not exactly on, the North Pole.

Time does not permit me to discuss the development of cartographic methods nor the evolution of projection systems, and I must leave discussion of the cordi-

form projections of Oroncius Fine that Mercator used in his 'Orbis Imago' map of 1538 and pass straight to what is known as the 'Mercator projection'. This requires that a navigator should sail to his destination crossing all the meridians at the same angle, on a line known as a loxodrome. Dr Müller-Reinhard based his theory of the development of loxodromes on proportional triangles, as discussed in the introduction to Ptolemy's 'Geographia'. H. Wagner developed a theory by which the loxodrome was taken from a globe and placed on a chart. B. Kyewski supplemented this argument (Archiv. Wissenschaftliche Geographe, 1951).

A milestone in the history of cartography was Mercator's world map of 1569: 'Nova et aucta orbis terrae descriptio ad usum navigatium'. We know from the history of mathematics that Mercator did not know the higher mathematics required to solve the equations of the loxodrome (d'Hollander, 1994). How then did he build his cylindrical projection with increasing latitudes?

Already in 1513 Erhard Etzaub had constructed a sundial on the principle of increasing latitudes (without meridians) using a cylindrical projection (a remarkable paper was presented by Dr Brigitte Englisch from Germany in the St. Niklaas June symposium on the history of surveying). In a few words, it is possible that Mercator used the following method (Fig. 1:

1st step: Draw a circle of the required diameter and divide it into the four quarters of 90°, with A at the top, C at the bottom, and B and D on left and right.
2nd step: Divide the two lower quadrants in 90° from B and D to C.
3rd step: Draw two lines through B and D, parallel to the line A-C. These are the meridians.
4th step: From A, draw A-B and A-D. The line D-B is the equator. Draw a line from A to 5° between B and C, and 5° between D and C till parallels in B and D. Join both intersections and you have a great circle at 5°. Continue lines on every 5°, and draw all the great circles which are of course parallel to the equator, and increase towards the poles. These are the increasing latitudes.

Mercator must have discovered this method by constructing geometrical and astronomical quadrants. The joint application of practical geometry and instrument construction is the basis for the grid with increasing latitudes described above. When it is drawn on a larger sheet of paper, the cartographer is then ready to prepare his map, using the 'Organum Directiorum', which has already been discussed elsewhere (Nauts, 1962).

As I promised, no mathematics, no formulae! I found confirmation of this theory in a treatise of 1584–85 by Lucas Jansz Waghenaer, *De Spiegel der Zeevaerdt*, where the 'graetboghen' instrument and the construction of the 'Pascaert' was fully described (Fig. 2).

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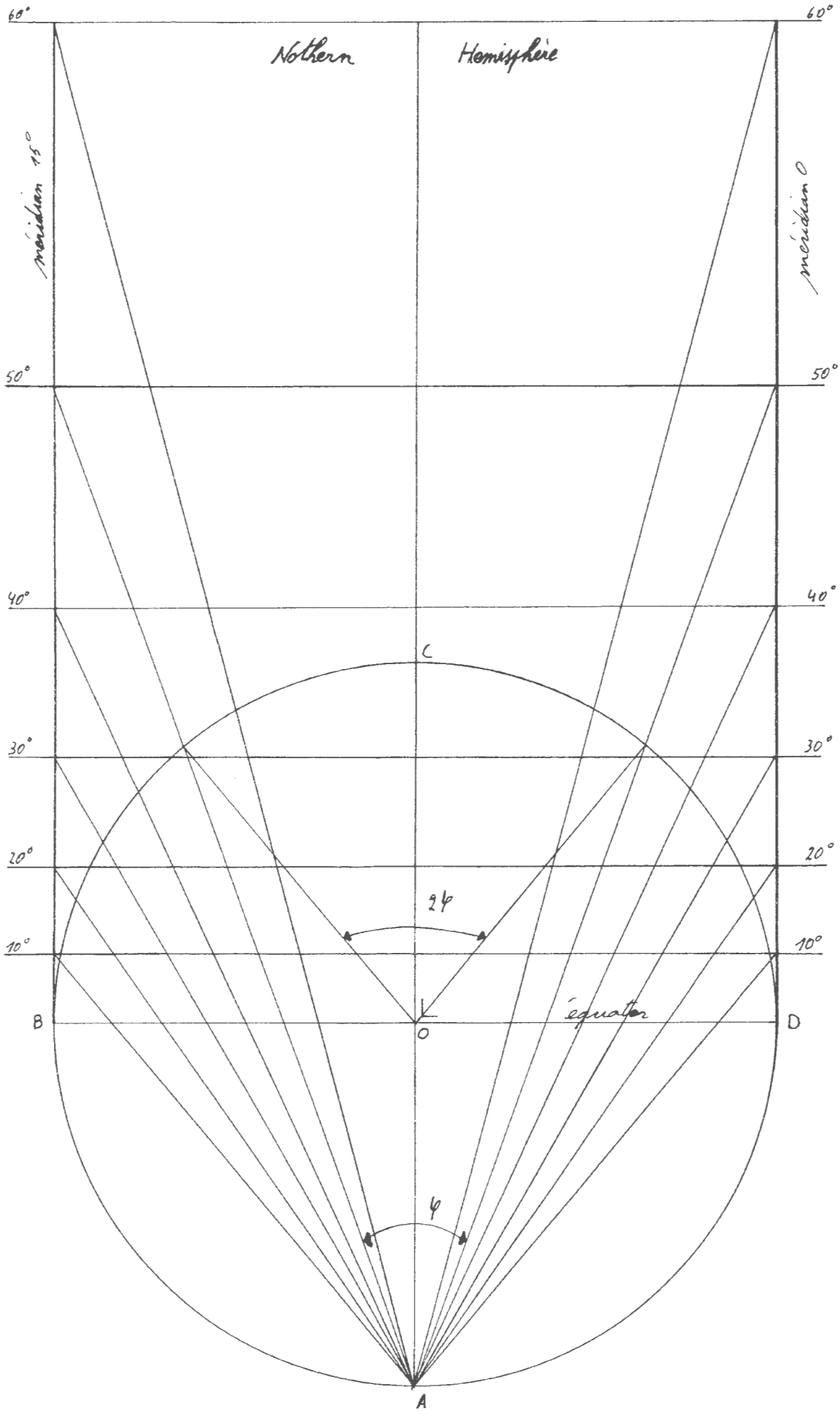


Fig. 1. Simplified diagram to show how Mercator may have drawn his projection.

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JAN DE GRAEVE
Brussels

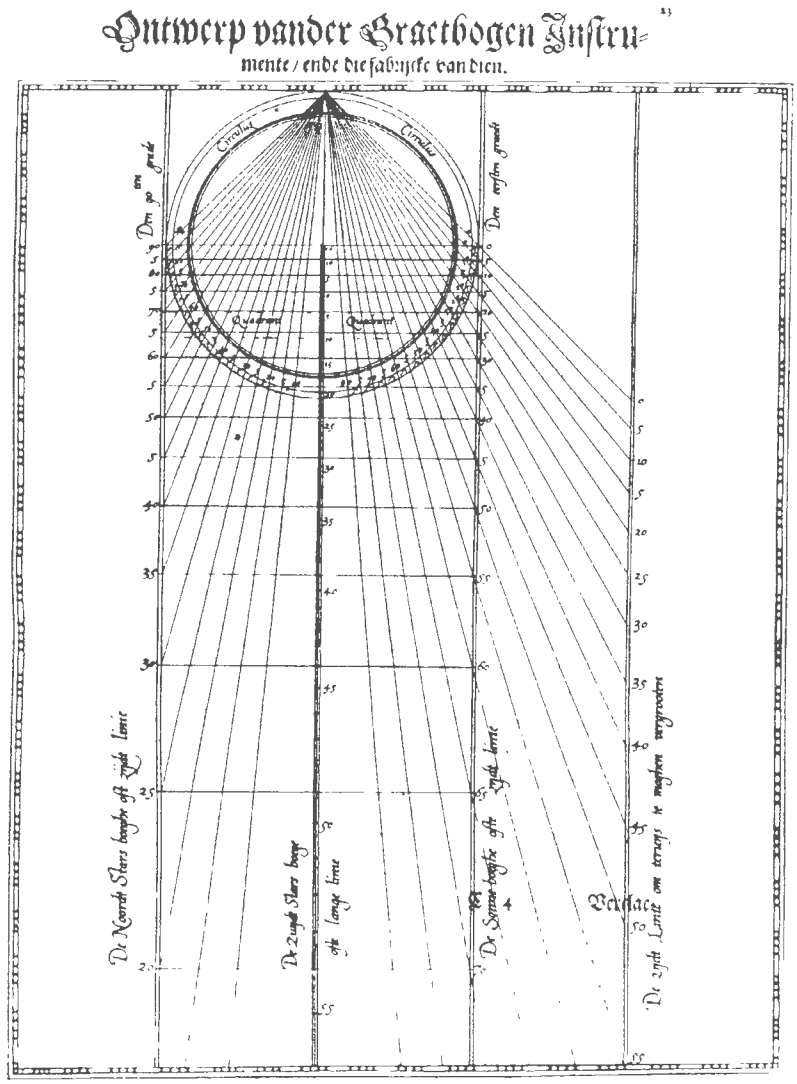


Fig. 2. The 'graetboghen' instrument and the construction of the 'Passcaert', from De Spiegel der Zeevaerdt by Lucas Jansz Waghenaer .

A Diary of IMCoS in Antwerp

Friday 21st October

Arrived in the afternoon. Antwerp has a small airport so no jet travel— back to the propeller era—a nervous unfamiliar feeling although I am assured a modern aircraft. To the hotel and then to 't Elzenveld, opened in 1988 by Queen Fabiola as a cultural centre and described by the Antwerp Airport Magazine as follows:

'Established in the medieval St. Elizabeth's Hospital, located in the heart of Antwerp, this building is a haven of tranquillity with several beautiful inner gardens and closed off from the busy city surrounded by historic buildings. The congress centre can accommodate top-class seminars, meetings, workshops and all kinds of artistic events . . . the centre has thirty luxurious guest rooms in the former presbytery and in the monastery.'

An international symposium, a map fair and a number of enthusiastic map collectors most definitely comprised an "artistic event".

Wandered round the fair before attending a welcoming reception by the Deputy Mayor of the City of Antwerp, Mr G. Bergers. The Mayor's welcoming address was followed by words from Shakespeare, or rather from Professor Latré, a Shakespearean and Chaucerean scholar, who told us that the map is Shakespeare's favourite metaphor for the face of one's soul, 'the map of my microcosm' (Corialanus). A second quote 'I see as in a map the end of all' did not ring true with me. I was just beginning, and it was time for wine and canapes as old acquaintances were renewed.

Saturday 22nd

A full morning with six speeches in a beautiful old beamed lecture theatre. The District Commissioner for Sint-Niklaas and Dendermonde, Mr Karel Dassen welcomed us to Flanders in the year, 1994, which has been proclaimed 'the Mercator year', to mark the fourth centennial of Mercator's death. He outlined the activities which have formed part of this special year.

Early in 1994 the cartographic museum at St-Niklaas was inaugurated, with the Mercator collection as its focus, containing not only original atlases but also two original Mercator globes—earth (1541) and a celestial globe (1551). We learned of the intention to establish this museum as Flanders meeting point for cartography, and early next year the museum—in co-operation with the National Institute of Geography and several other scientific establishments—will be enlarged. The museum is part of tomorrow's itinerary.

The second half of 'the Mercator year' has been dedicated to international projects such as a Mini Festival of Lassus-Mercator within the Festival of Flanders framework, the publishing of the Mercator book by the Mercator Find-Paribas and of course our own International Symposium.

Our welcome was followed by a message from our President, Dr Helen Wallis, read by her emissary Tony Campbell, expressing her regret that for medical reasons she was unable to be with us, but indicating her pleasure that, in association with our Symposium, the Map Fair was a first for Belgium.

On to the first speaker, Dr Henk van der Heijden, whose aim was to introduce us to the Exhibition at Leuven 'Unity on Paper'



Speakers and Organisers at the Symposium (from the left): Itzhak Sperling, Rodney Shirley, Eliane Sperling, Karel Dassen, Dr Henk van der Heijden, Prof. Jan De Graeve, Prof. Xavier Van der Poel, Philippe Swolfs, and Bart Minnen.

which we would see the following day. We followed a cartographic and historic journey of the Low Countries starting with maps of the 17 separate provinces through the separation of the northern and southern and onwards towards the culmination of the exhibition—every different representation of the Leo Belgicus maps.

To set the cartography of the 16th century in context, Professor Xavier Van de Poel then gave us an idea of changing world views in Mercator's time. New viewpoints (e.g. the earth is not the centre of the universe) were giving a very different picture of the world theatre, and academics and craftsmen could no longer live in separate worlds. Their attitudes and methods began to converge. Mercator combined the skills of scientist and craftsman, innovating to meet the needs of merchants and other wealthy noblemen and travellers, who demanded 'modern' maps and globes to support their quests.

After coffee our theme changed and Mr Bart Minnen described a unique collection of 16th century 'cadastral' maps of Brabant. A land registry of all the properties within the Duchy of Aarschot was established between 1596 and 1601. From a series of maps we envisaged its estates, coloured according to the type of tax due, and we gained a picture of the medieval life of villages, castles and abbeys, with all upright elements in the landscape represented—stork's nests on important village houses—toll houses—even a glimpse of dungeons and gallows.

Our next speaker, Mr Dirk Imhof from the Plantin-Moretus Museum, talked of the cartographic material printed by

Plantin in Antwerp in the 16th century. Plantin, a book-binder before he became a printer and publisher, owned one of the most important printing houses of the 16th century, publishing 2,500 works including a Royal Bible, published in 1668-73. He was also a book dealer, selling works of other publishers and became an important supplier of war maps. We learned how, starting in 1558, he purchased 80 globes and 884 wall maps from Mercator and nearly monopolised the trade in maps in the Netherlands. His network extended throughout Europe. This was by way of introduction to our afternoon visit to the Museum, rich in material on the purchase and distribution of Mercator's maps and on the interdependence of the two men, since Mercator purchased large quantities of his raw materials from Plantin.

Our final speaker, Professor Jan de Graeve, came from the world of scientific instruments rather than cartography. His was the task of putting himself into the mind of Mercator all those years ago and understanding how, as a man who practised practical geometry, he had designed his grid with increasing latitudes called the 'Mercator projection'.

A very full morning with the promise of much of interest to be seen over the next 36 hours. Time for a beer and an omelette en route to the Plantin Museum. The lay-out of the ground floor, with its many treasures, can be seen in the design on the facing page.

On the first floor the importance of Antwerp as a printing centre was all around—Plantin portraits, showcases of Plantin's life and works and especially for us, a wealth of Atlases on view—Jansson *Verbium totiis Belgii* 1657, Blau Atlas 1662 Latin Edition, de Wit Atlas 1680 and then on to Ortelius *Theatrum Orbis Terrarum* 1570 and *Theatro de la Terra Universal* 1612. Then the pièce de resistance for me—Ptolemy's *Cosmographia* 1612—page after page in beautiful condition with clarity of line and colour. After this anything else will seem ordinary.

The 'ordinary' proved to be two ancient bibles. In the first place, the 36 line Gutenberg Bible circa 1461 given by Luther to the Augustine Friars in Antwerp, said to be the first complete bible, three volumes of which were on display. Secondly the Biblia Polyglotta written in 5 languages and published by Plantin in 1568–72. Other book treasures on the first floor ranged from the first drawing of a potato (ordered for Clusius in 1588), to some 16th century financial accounts—the Ledger of Balthasar I of Moretus—recording the same items, such as assets and liabilities, as we do today!

In the Geography Room were wall maps, including one of Flanders by Mercator in 1540 and two globes heaven and earth by van Langeren. A spinet adorned the drawing room together with a cabinet of pretty Chinese porcelain. More rooms, more books and—good heavens—a four poster bed. I felt tired enough to use it after so much concentration but no, on to the top floor of the house to the foundry.

Why place a foundry on the top floor? The floor was made of stone, unlike the lower floors, and so less of a fire risk. Here the types were cast. We saw punches, matrices (copper blocks), moulds and smelting furnaces. It is hard to imagine that the museum possesses about 20,000 matrices and 5,000 punches representing amongst others Roman, Italic, Gothic,

THE PLANTIN-MORETUS MUSEUM

Tucked in the corner of a square, an old building on three floors with a beautiful courtyard in the Brabant Gothic style in the centre. So much to see in this museum - memories of the ground floor:

The Great Drawing Room:

Exhibition of dissidents' books

Portrait of Ortelius

The words of William Tyndale (who translated the bible into English) "ERE MANY YEARS I WILL CAUSE A BOY THAT DRIVETH THE PLOUGH SHALL KNOW MORE OF THE SCRIPTURE THAN THOU DOST"

Room of the Drawings and Manuscripts:

Beautiful paintings including an allegorical representation of Plantin's motto "Labore et Constantia"

The 17th Century Bookshop!

A list of prohibited books

The Inner Court:

A superb view of the south and west facades, the oldest parts of the Plantin house, with busts of Plantin, Jan Moretus I Jan Moretus II and Lipsius

The Drawing Room of the Wall Tapestries:

Tapestries of Audenarde and 17th century patrician drawing room furniture

The history of writing:

Wall paintings, hieroglyphics, lettering systems, materials, instruments, manuscripts

The Room of the Correctors:

Home of two specialists - correctors of facts and correctors of typesetting mistakes - with examples of corrected works on display

Room of Justius Lipsius:

Hung in guadamacil, 16th century Spanish gilt leather from Cordoba

Type Room:

Wall to wall shelves of typefaces - 90 different ones - some in their original packing! Setting of the Hippocratic Oath in Greek. Settings of music

Printing Plant:

Five printing presses dating from 17th & 18th centuries, which printed 100 sheets an hour. A 20th century demonstration!

Greek, Hebrew, Samaritan, Ethiopian, Syrian letters. Set up by the Moretuses at the beginning of the 17th century it is a unique model of an old type foundry. After this it only remained to return to earth—or rather the ground floor— and a well deserved glass of beer in a local hostelry.

Having revived, on to an Exhibition at the Library of the University of Antwerp where we met members of the Royal Geographical Society of Antwerp (KAGA). A welcoming speech by Professor Dr van Halten, then the President of the KAGA, Mr de la Faye, told us about its activities past and present—it had previously patronised expeditions, for example to South Pole, and had been addressed by illustrious speakers—for example Captain Scott, Sir John Hunt and Walter Shearer, pilot of the Mercury, Gemini and Apollo spacecraft.It has recently founded a Mercator Ortelius Prize for Geography awarded every two years to a student of distinction in Belgium. Atlases on display included a Blau Atlas in 12 volumes, *Le grand atlas, ou Cosmographie blaviane, en la quelle est exactement descritte la terre, le mer et le ciel—1663*.

Now dead on my feet; thank goodness only a short walk to the hotel. Then an even shorter walk from my hotel to the boat for the gala dinner. The compactness of Antwerp was proving a real attraction.

Drinks followed by dinner while the 'Flandria' steamed upriver to Rupelmonde and then downstream of Antwerp before returning us to 'port'. The pleasant company of friends and new acquaintances together with a menu of assiette nordique/filet de porc au four au miel at au romarin/vacherin glaci aux fruits de la passion rounded the day off to perfection.

Sunday 23rd

Could have done with a lie-in, but not a chance. A brisk walk to 't Elzenveld for the coach and a wonderful day in prospect. We were split in two groups which followed the same itinerary but in a different order. Group B, which included me, travelled first to the Mercator Museum in St. Niklaas.

First we learned of the restoration of a Mercator IATO (Italian Atlas to Order) Atlas of 1532–1568. Containing 93 maps and 4 sheets of text this was donated to the Royal Historical Society in 1862. The atlas had water damage, mould and heavy wear and tear and has now been lovingly conserved and restored for the town council of St. Niklaas. Pictures of the restoration process were on display. Naturally every sheet was documented before removal from the Atlas for treatment. We learned some amazing statistics about the restoration. For example the map of Flanders was glued to hardboard. It took 20 hours to remove it by first using a scalpel and then steaming. In all, the work took 1,500 hours and all maps are now either boxed in specially designed acid free boxes or on special mounts on the wall. The four walls of one room contain some of its finest pages.

Next the second section of the Museum. Having been spellbound by the IATO Atlas, I was not particularly moved by the very large maps on display here. However I came under a second Mercator spell when I saw the two Mercator globes of 1541, heaven and earth, in their original stands. Having a diameter of 52 cm they



Back to Mercator, as he looks down on admirers from his lofty position in Rupelmonde.

have been cleaned at a cost of BF5 million and now give a real feel of what they were like in the 16th century showing their subtle autumnal colours of red green brown and gold. The celestial globe showed amongst others Pegasus, Perseus, Aries, Taurus, Orion. The earthly globe portrayed the world as it was then known to man. This was an occasion when I really did not want to leave, as there is too much of a yellow hue in the postcards to provide a realistic memory. I shall definitely be back—readers who were not with us—you must not miss this museum if you are in Belgium. It has plans for expansion so there should be more treats next time.

After this visit we travelled to Rupelmonde, past the site of Mercator's birth, to lunch courtesy of Rupelmonde Town Council. This was in a small 'castle' almost surrounded by a moat and reminiscent of a French chateau had it not been built of brick rather than white stone. In the afternoon on to Leuven to visit the Exhibition entitled 'Unity represented on Paper'. A mixture of maps, paintings and manuscripts told the history of the low countries from 1369. What else was represented on paper in addition to many maps?

From the period prior to the separation of the 17 provinces in 1648 we saw the seals of office of Maria of Burgundy, Duchess of Brabant and proclamations whereby she granted privileges to certain cities. From the period immediately following, paintings by Bonnecroy of Antwerp (1657) and of Amsterdam (c. 1650) provided powerful visual stimuli. I was













making a historical journey to the fall of Antwerp, the period of the 12 year truce, the war of the Spanish succession, the war of the Austrian succession and beyond.

I became increasingly aware that my lack of historical knowledge was seriously undermining my ability to appreciate the importance of all the material before me. The exhibition provided the political, religious and dynastic background necessary, but there was so much to absorb in a short space of time. The intrusion of war was inescapable and not without reason is Belgium sometimes referred to as 'the cock pit of Europe'! Cartographic reference points were here in abundance. A hand drawn Atlas of 1568-73 containing originally 28 maps by Christian 's Grooten was an example of mapping prior to printing; a giant map of the Netherlands (1608) by Willem Blau measuring 2 metres by 1.5 metres was one whose size demanded attention; maps from schoolbooks drawn by monks for children reminded one of the source of teaching at the time. The visual attraction of the final section of the exhibition, the Leo Belgicus maps was inescapable—my eye drawn to those bordered with cartouches of the cities contained therein. It was with those images fixed in my mind that I left the exhibition.

A comfortable journey back to Antwerp and a relaxing evening in the company of more friends. I felt sad that I had to return to England in the morning and would miss the day in Bruges.

JENNY HARVEY

Monday 24th

Into the coaches once more, everyone so eager that we were delayed by no last minute stragglers. Soon in Bruges, where three guides were waiting to give us a guided tour of much of old Bruges, not specifically related to maps, but it gave us a very good idea of the background and times of the people whose work we have been admiring this weekend.

We reassembled at one of the embarking points of the canal boats, and enjoyed the comfort of gliding peacefully beside many of the buildings we had just seen from the road, emphasising the use of the waterways as arteries of the town. At this time of the year it was not too crowded, though it is plainly now one of Belgium's leading tourist centres.

The afternoon was kept free for a longer look at whatever appealed most. Two places were specially marked on the maps we had been equipped with. Marc Van de Wiele's Gallery in Sint-Salvatorkerkhof was thrown open to us, and those who visited were warmly welcomed. And, for those who still felt they had a little room for good Belgian food, Warwick Leadlay and his son Jerome had laid on a magnificent spread in their antique Gallery in Scheepsdalelaan. It was a friendly ending to a great weekend.

All participants will join in expressing our thanks to those who spent many months preparing and planning this symposium: our representative Itzhak Sperling and his wife Eliane worked hard along with Philippe Swolfs to give us what has been described as one of the best series of symposium papers; Anne Le Brun of Destrée Organisation who organised us all, Mr Dassen, Chairman of V.Z.W. Mercator 1994, members of KAGA and UFSIA, Rupelmonde Town Council, and all those whose names do

not appear but who put in many hours of work . It was a memorable weekend, and we all learned a vast amount, as well as having a wonderful time.

SG

Our Travel Grant winner writes:

Receiving a grant from IMCoS is an honour and I feel very proud as a recipient of the 'Young Members' Travel Grants. I would like to especially thank the President and Committee of IMCoS as well as the International Chairman, the Cyprus Committee and participants for their care and warmth. I would also like to thank all the participants for their consideration and the attention they showed me during the 13th International Symposium in Antwerp.

My knowledge about cartography is limited and as a beginner in the field, I always try to learn about maps, from the International Symposia as well as from the various articles published in the IMCoS Journal. Other sources that I use include books and other publications concerning cartography and particularly maps of Cyprus.

The fact that I was mostly made aware of at the last symposium is how Mercator is considered to be the 'father' of all cartographers. Being the most famous Cosmographer next to Ptolemy, a great scholar and a talented technician, his work is exceptional and as time passes by, people are becoming more aware of the qualities that this man had.

Mercator was a tough man—a perfectionist who delivered maps that were not maps alone. They were pieces of information that till today give us food for thought. They make us think of how people who love what they do, can be committed enough to produce time-honoured work. Even at that time his work was considered exceptional and he was working on a masterful basis. He had business ties with other well known printers and publishers such as Christopher Plantin and this helped considerably in the result.

Mercator constructed globes and mathematical instruments, surveyed lands and drew maps that he engraved on fine copper plates as he was a qualified copper engraver as well.

The most important thing that makes Mercator so special is how he managed to change the whole perspective and image of cartography. Some of the most noticeable pieces of his work are the map of Europe in 1554 and the famous map of the World in 1569. Between 1585 and 1595 Mercator prepared the publication of his Atlas in three stages. A collection of maps from all over the world had not existed before. The word 'Atlas' was used for the first time to describe this 'bundle of maps'. As Dr Gunther Schilder said in his closing speech at the symposium, '. . . this book made it easier for man to carry the weight of the world . . .'

For a man who never travelled, his map work is considered quite accurate, and bearing in mind that he never visited the places he illustrated his descriptions were fairly correct. The fact that he was a good co-ordinator comes out in his work, since travellers reported back to him as he was sketching and trying, successfully if I may add, to produce what it was he thought they were describing.

Unfortunately the great Flemish mapmaker never made a map of Cyprus, the domain that I am interested in. As A. and J.A. Stylianou describe in their book *The History of Cartography of Cyprus* (Cyprus Research Centre, Nicosia, 1980, p. 82), Mercator never made a map of Cyprus, the last map in the Atlas being that of 'Candia cum Insulis aliquot circa Graeciam'. The map of Cyprus which is usually passed under his name to collectors, was actually introduced into the Atlas by Jodocus Hondius, the successor to the business.

MICHAEL N. EFREM

Sixteenth-Century Tempests and the Brave New World
Maps and Mapp'ry in Shakespeare

Is this 'a man or a fish' [holding up the Arden paperback of Shakespeare's *Tempest*]? The figure depicted here is that of Caliban, who in the 'List of Actors' is called 'a savage and deformed Slave'. Caliban is a 'native' of the island on which Prospero and his daughter Miranda now live. This island is, in terms of the play, somewhere between Milan and Africa. But in terms of Shakespeare's late sixteenth or early seventeenth century sources for the play, it might just as well be an island in the Caribbean — the Bermudas for instance, where in 1609 some Englishmen were shipwrecked. Caliban then becomes a 'Caribban' or inhabitant of the Caribbean islands. Shakespeare had at his disposal a millennium of fictional works plus at least a century (the 16th) of more 'scientific' accounts (complete with maps) concerning remote islands and their inhabitants.

The question whether Caliban is a man or a fish is raised by Trinculo (*Tempest* II,ii,25), a jester from a group of people who have just been shipwrecked on the island of Caliban and Prospero. For him, there is little doubt about the answer: Caliban is just an anagram for cannibal; the creature is a monster and should be subdued. Caliban might be useful, Trinculo reflects, in a town like London, where one could charge the mob for the spectacular sight of a 'Man from Ind', an Indian from the West or East Indies, from America or Asia. Caliban stands in a long tradition of monsters in the Old Testament, in ancient Greek and Latin texts, and in medieval accounts of miraculous journeys like Mandeville's *Travels*. One still finds these monsters drawn or painted in the corner of 16th century maps. In Shakespeare's play, the native gives the most convincing evidence of belonging to the brave new world of renaissance civilisation: he speaks English.

Ultimately, Caliban becomes a mirror to judge our own nature. In comparison with him, the jester Trinculo is worse than a sensual beast. And even worse than Trinculo is Antonio, the usurping Duke of Milan. He is endowed with Reason, a *zoon logon echoon*, by which Aristotle meant that men like Antonio have the capacity of the logos, the ability both to reason and speak a language (preferably English). Nevertheless, Antonio is a Renaissance man who falls very deep because he reaches far too high. The title of Duke of Milan has always been above his station. By way of contrast, Prospero's daughter Miranda will one day deservedly become the queen of Naples. Her name and her behaviour make us 'wonder' about the nobility of our race. Are we, in Hamlet's words, 'infinite in faculties' and therefore close to the angels? Or is Hamlet right when he ultimately despises what we also are, the 'quintessence of dust'? Read but 'the map of my microcosm,' suggests Menenius in *Coriolanus* (II.1.62). By this curious phrase he means his face, the lines of which give answers to all your questions about his inner self. Similarly, in *Twelfth Night*, it is said about the Puritan Malvolio's face that it is 'in more lines than is in the new map' (III.ii.79). The word 'map' becomes a metaphor for the landscape of the soul.

When 16th century sailors or travellers in general read Mercator's maps to discover new lands, they are therefore faced not only with the task of finding a correct orientation, in geographical terms, in new territories. They are out on an inward journey. Confronted with the other or Other in an alien culture, the challenge is to define the alien's identity and to redefine their own. In the 16th century men and women still have fabulous medieval visions of otherworldliness. They are now called upon to populate the Renaissance island of self-knowledge and self-reliance.

This new process of discovery was sometimes painful. Those who used to project images upon unexplored territories now find their world mapped out by Mercator, who as it were projected a global vision upon a blank and flat surface that used to leave room for fantasy and speculation. Philip II of Spain would find out to his dismay that the mathematics of meetings at sea were beyond his grasp. The ships from Spain and the Low Countries that were to meet in the 'English' Channel did not meet at all, and the Armada of the greatest colonising empire of those days was shamefully defeated in 1588 by the English merchant fleet and by the Protestant wind God sent to help the English. Philip's English was certainly not good enough. Neither was his planning in his study in the Escurial: 'They call this bed-work, mapp'ry, closet-war,' Ulysses says in *Troilius and Cressida* (II.iii.205). Not everyone in the renaissance of the South was a da Vinci and therefore capable of combining theoretical visions with a practical success. Nor was everyone in the North of Europe a Mercator for that matter.

As Stephen Greenblatt's recent book on *Renaissance Self-Fashioning* points out, having to be a self-made man was a dangerous business, and required a great deal of knowledge of one's own limits. 'You know neither me, yourselves, nor any things,' says Menenius (in *Coriolanus*) in answer to his own question about the map of his face. How does one map one's life out in the 16th century?

Where should we renaissance people draw the line? Where to draw the line is a question Mercator may have put in a sense that was often more than literal. On globes you can travel on indefinitely. On their projection on maps this seems more problematic: 'I see the ruin of my House,' says that other Queen Elizabeth, wife of King Edward IV in *Richard III* — 'I see, as in a map, the end of all' (II.iv.44–49). There is, I am afraid a limit to the price one can pay for a map on display in the fair of this world. It is only the *voyage* to our selves that is endless. Both we and the world have their limitations. Prospero has not only been expelled from Milan; he has also been driven out of the Garden of Eden.

It seems to me that the sixteenth century was more aware of macrocosmic and microcosmic limitations and ambiguities than some later periods in our history. The 18th century English colonist Robinson Crusoe puts his foot much more literally and confidently on the neck of Friday than Prospero does on the neck of Caliban. And the late 19th century writer Rudyard Kipling has few moral qualms about the 'white man's burden' to cultivate the world as though it were an English backyard.

What I hold in my hand is neither a man nor a fish, but a book, the kind of object that in the 16th century became man's most powerful weapon in the discovery of himself and the world. And when Mercator had several pages of maps bound together into a book, he called it an Atlas. It is the kind of book that makes it easier to carry the weight of the world upon your shoulders.

GUIDO LATRÉ
K.U. Leuven

MAPS AND SOCIETY

The next three talks, at the Warburg Institute, London, 5.00 pm, are:

Dec. 8. **Prof. John Williams**: Beatus and Isidore: Mapping the Apostolic Mission

Jan 19. **John Leopold**: Finding East and West: The Art of Establishing Longitude

Feb 16. **Prof. Walter Goffart**: Breaking the Ortelian Mould: The Vogue for Atlases of Universal History, 1747–1830

International News & Events

1995 14th International Symposium
with California Map Society
San Francisco, USA
8–11 October
Contact: Alfred W. Newman
1414 Mariposa St, Vallejo
CA 94590
Tel: (707) 642 9091

1996 15th International Symposium
Riga, Latvia
6–9 October
Contact: Dr Janis Strauchmanis
Tallinas 83–40, LV-1009
Tel: 371 2 29 05 72
Fax: 371 2 22 50 39

1997 16th International Symposium
Budapest, Hungary
26–29 September
Contact: Dr Zsolt Török
Dept of Geography
Eötvos University
Ludovika 2, 1083 Budapest
Tel: 36 1 134 2785

California, 1995

Planning for our symposium in San Francisco next year is now well advanced, and a tentative programme has been prepared by Al Newman and his committee. All the events will take place at Marines Memorial Association Hotel, 609 Sutter St (except as noted below).

Sunday Oct. 8
Registration 9 am–5 pm
Map Fair noon–5 pm
Reception in the evening

Monday Oct. 9
Map Fair and Auction Preview 9 am–5 pm
Visits to museums & exhibitions
Map Auction 7.15–9.00 pm

Tuesday Oct 10
Symposium 9.00 am–noon
Visit to University of California at Berkeley and tour of Bancroft library in the afternoon

Wednesday Oct 11
Symposium 9.30 am–noon
Visit to Stanford—Green Library and on to Sutro Library in the afternoon
Symposium Banquet 8.00 pm

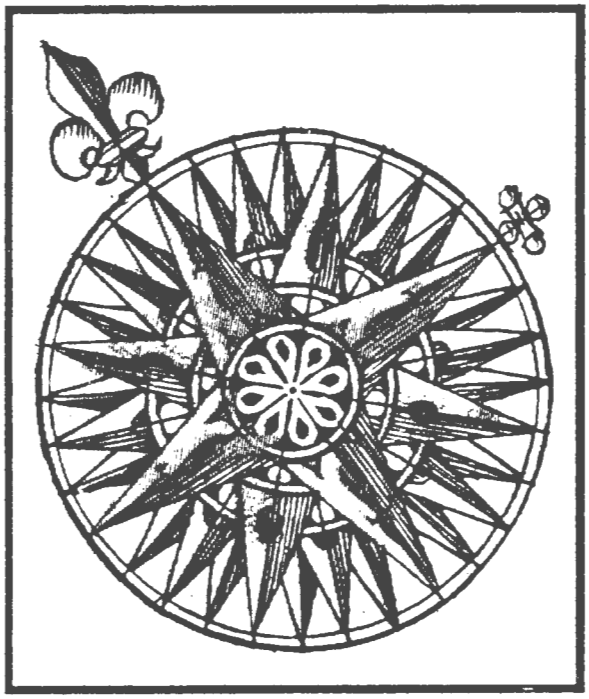
Post-symposium tours may be arranged, depending on demand, to:
Napa Valley
Yosemite
Southern California

The registration form will be sent to members early in the New Year, and will include details of symposium fees, and the programme for post-symposium tours. Rooms will be available at the Marines Memorial at the special rate of $90 single, and $95 double per night, plus tax.

Al writes that early October in San Francisco is 'traditionally one of our best weather periods, usually without rain, and relatively warm and clear. Yesterday's temperature was 54° low and 83° high.'

It may be possible for participants to stay as house guests with members of the Californian Map Society during the visit to Southern California. More on this later.

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From Washington

Charles Burroughs reports that an Index to articles in *The Portulan*, journal or the Washington Map Society, has been prepared, and back numbers may be purchased from him at 686 College Parkway, Rockville, MD 20850.

The Washington Map Society announces the second annual Walter W. Ristow Prize, open to full or part-time students. Contact Nancy Goddin Miller, 406 St. Lawrence Drive, Silver Spring, MD 20901 for further details. The deadline for submission of entries is 15 March 1995.

From Ottawa

Iain C. Taylor, Chief Geographer, Natural Resources Canada, 615 Booth Street, Room 650, Ottawa, ON K1A 0EP has supplied information on the Commemorative Offer for the National Atlas of Canada, to celebrate Canada's 125th anniversary. 78 maps from the 5th edition are available at $145 (regular price $725), and 26 maps from the 4th edition at $20 (regular price $90). Contact him for further information.

From Germany

Oswald Dreyer-Eimbcke reports that Duisburg is commemorating the 400th anniversary of Gerard Mercator's death with several events. Mercator lived there from 1552 till his death in 1594. An exhibition under the title 'Persecuted, Respected, Universal—Gerhard Mercator, Europe and the World' opened on 4th September, and will run till 31st January 1995, at the Kultur- und Stadthistorisches Museum.

Letter to the Editor

Bagnacavallo
25/09/1994

Sirs

With regard to the article 'Rare Italian Woodcut Maps of the Sixteenth Century' by Rodney W. Shirley (*IMCoS Journal*, no. 58) and about the description of the map 'La presa di Tunes', I have to point out that 'Capitano Andrea Dorio', or better Andrea Doria, was not Venetian, but from Genoa, as was most of the fleet that took part in that expedition. The coat of arms of Genoa is a cross, the coat of arms of Venice bears the lion of St. Mark.

Andrea Doria (1466/1560) was the best Italian admiral of his times. Often allied with Emperor Charles V or with King Francis I of France, he tried, as far as possible, to keep the independence of the Republic of Genoa, in the most troubled period of Italian history.

Another interesting annotation is 'Marchese del Vasto Capitano': Alfonso d'Avalos (1502/1544), Marquis del Vasto and di Pescara, Neapolitan of Spanish extraction and valiant general of Emperor Charles V, was the commander of the Spanish troops. He died fighting against the French, while he was governor of Milan.

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31 January 1995

Informal Evening at the Farmer's Club, 3 Whitehall Court, London SW1A 2EL (nearest tube stations: Embankment or Charing Cross), at 6.00 pm.

Members may bring guests, and introduce them to IMCoS. It is especially hoped that they may like to bring along young friends, as it is a very informal gathering, and no knowledge of maps is necessary, only a liking for them!

Members may bring a map which they themselves find interesting, or about which they seek information, and be prepared to talk on it for about five minutes. The meeting will be chaired by Rodney Shirley. Light refreshments will be available at a small charge. It is helpful if those planning to come would phone Harry Pearce on 081-769 5041, so that we can estimate numbers.

29th April 1995

A visit has been arranged to **Sheffield City Archives**, to see the Fairbanks collection of maps. The Fairbanks family provided three generations of surveyors and map makers between 1688 and 1848, active in Sheffield and its surroundings, and elsewhere in Britain. Though the wealth of material (more than 4600 plans and maps, and more than 1000 surveyors' books) is far more than we can hope to comprehend in one visit, we will obtain an introduction to an important archive in British surveying history. In addition to plans for railways in various parts of England, turnpike roads in neighbouring counties, and enclosure maps of Derbyshire and Yorkshire, there are maps of parishes, townships, cities and manors in various parts of England. [This detailed information comes from the newly published *Historians' Guide to Early British Maps*, ed. Helen Wallis with Anita McConnell, to be reviewed here shortly.]

More detailed information is included on the registration form, which should be sent to the Secretary before 15th April.

24th June 1995

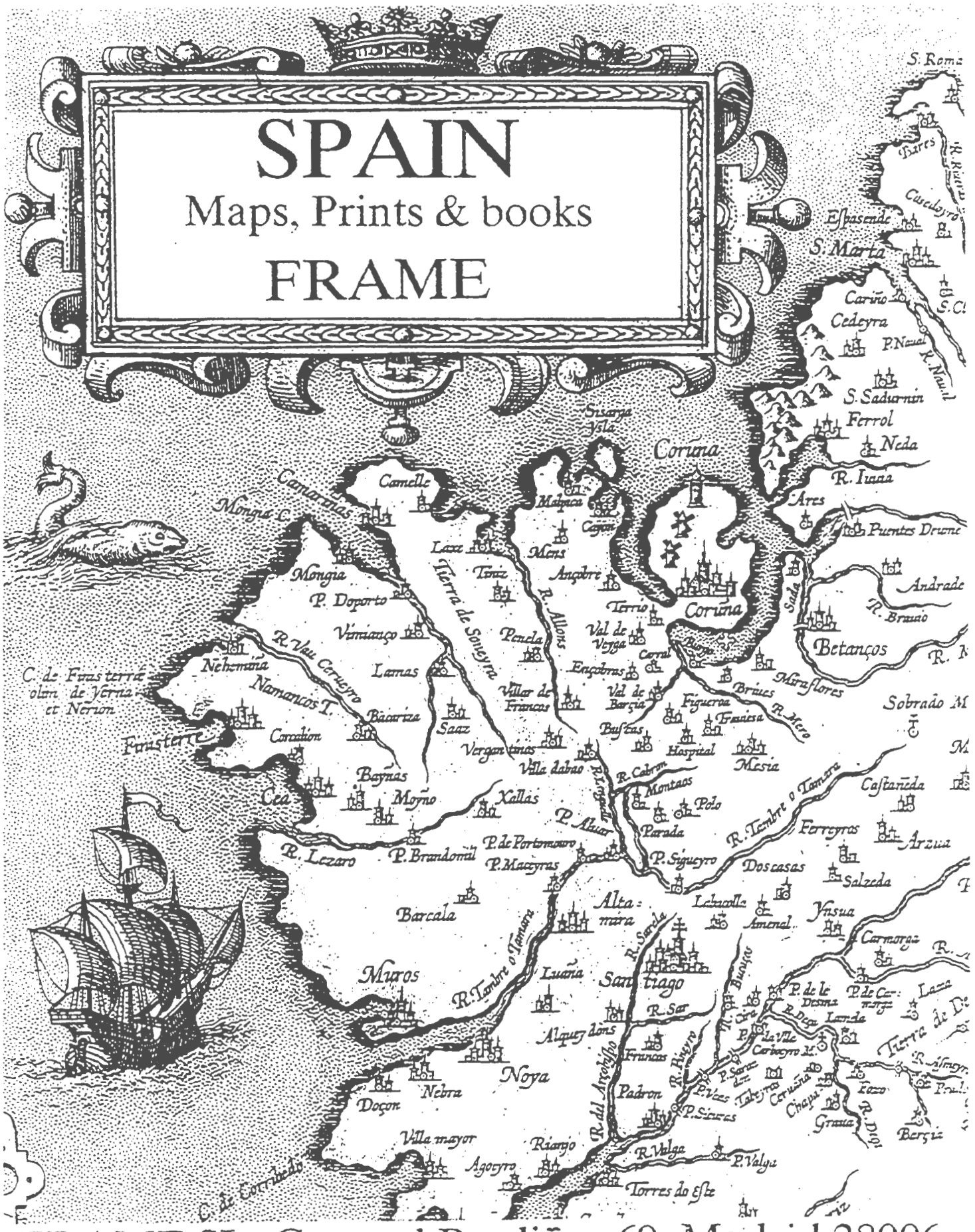
The **Annual Dinner** will be held at the Royal Over-Seas League, London SW1A 1LR. The pre-dinner speaker will be Admiral G.S. Ritchie, celebrating the bicentennary of the Admiralty Hydrographic Office with a talk entitled 'The First Hundred Years'. More detailed information is included on the registration form which should be sent to the Secretary before 1st June (or 15th April if the visit to Sheffield is also included).

25th June 1995

The **IMCoS Map Fair** will be held at the New Connaught Rooms, Holborn, London. Open at 10.00 am to IMCoS members, 10.30 to the public.

In Edinburgh

The Royal Society of Edinburgh and the National Library of Scotland are organising a symposium, 'Charting the Scottish Seas 1500–2000' on Saturday 18 February 1995. Registration forms (to be submitted not later than 18 Jan)are available from The Royal Society of Edinburgh, 22, 24 George St, Edinburgh. The fee of £25 covers coffee, buffet lunch and tea.



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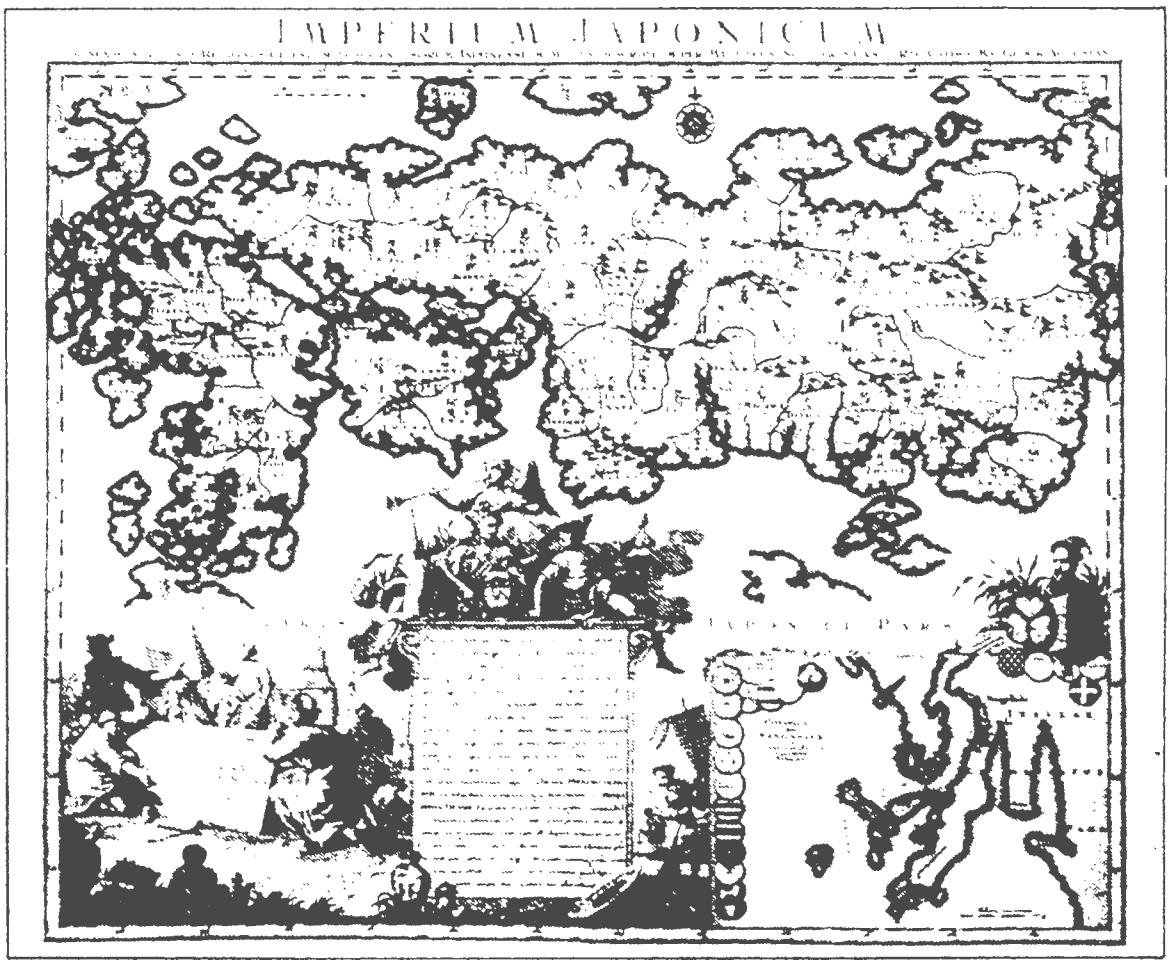
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Mapping Mt. Everest

In the Summer 1994 issue of the IMCoS Journal David Bannister contributed an interesting article, 'How to be 20 Feet Taller in 135 Years', describing how the height of Mt. Everest had been determined; first in the 1850s and then in 1992.

The original map he referred to showing Everest for the first time (illustrated on the facing page) is indeed the one made in 1858 by Lieutenant-Colonel Andrew Scott Waugh, Surveyor-General of India, but it was actually made for quite a different purpose. Detailed calculations showing that Mt. Everest was the highest mountain in the world, at 29,002 feet, had been communicated by Waugh nearly two years earlier, in March 1856.

Waugh's map was prepared because a dispute had arisen after a claim by a certain Mr Hodgson who sought, in a paper in the Journal of the Royal Asiatic Society, to amalgamate Mt. Everest with another uncertainly located mountain called Deodanga. This is the other mountain cited in the title to the map. A sledgehammer of a report was prepared by Waugh (which may be read in the Journal of the Royal Geographical Society for 11 January 1858) completely refuting Hodgson's claims, and re-affirming the true position of Mt. Everest.

Waugh's map is interesting because it sets out the triangulation pattern across north-east India which had been used for sightings of no less than 27 Himalayan peaks of which Mt. Everest is number XV. All the observations had to be made from India as entry into Nepal was then strictly forbidden, and Nepal remained closed to foreigners for a further 90 years.

Most of the other peaks numbered on the map are today identified under more familiar names. Kanchenjunga is one of the few peaks named as such, with a calculated height of 28,156 ft, and the high peak number XIII on the map close to Everest is now known as Makalu, height 27,799 ft. In the case of Everest, no fewer than seven sightings were made, ranging from Dumdangi in the east to Jirol, 150 miles (as the crow flies) to the west. The closest observation point was still over 100 miles from Everest itself.

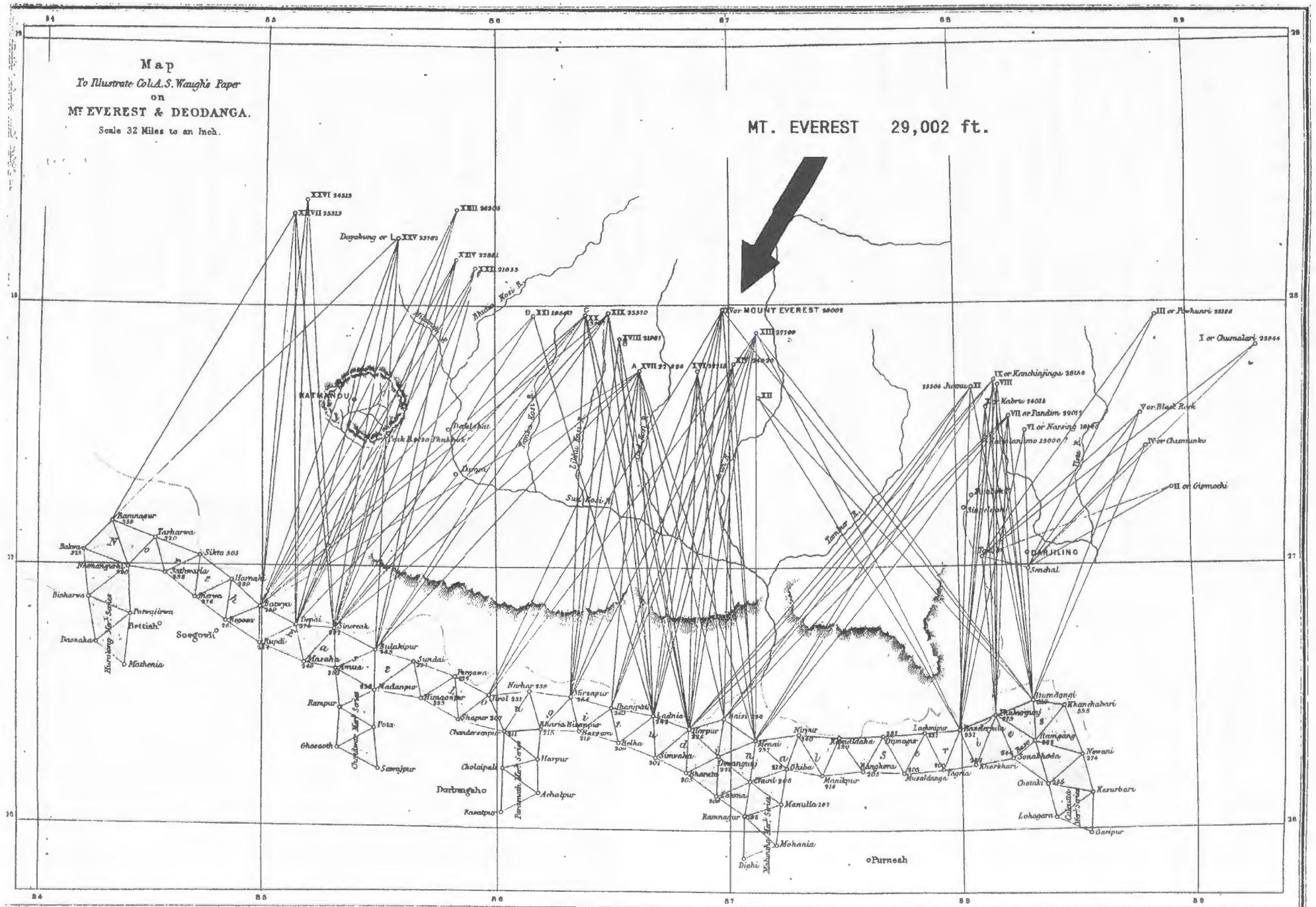
In the light of all the difficulties, the 1850s survey yielded a set of remarkably accurate results. Despite much more advanced surveying equipment, as David Bannister points out, a revision of only 20 feet (from 29,002 ft in 1856 to 29,022 ft in 1992) is a minimal correction indeed.

Accounts of the Himalayan survey were on occasions summarised in reports published in the Journal of the Royal Geographical Society and make fascinating reading. Waugh's map is a reminder of the great achievements of the near-past.

RODNEY W. SHIRLEY

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Map
To Illustrate Col.d.S. Waugh's Paper
on
Mt EVEREST & DEODANGA.
Scale 32 Miles to an Inch.
MT. EVEREST 29,002 ft.
Published for the Royal Geographical Society. London 1858.
Edw.d Weller. Lithog.r Duke St.t Bloomsbury

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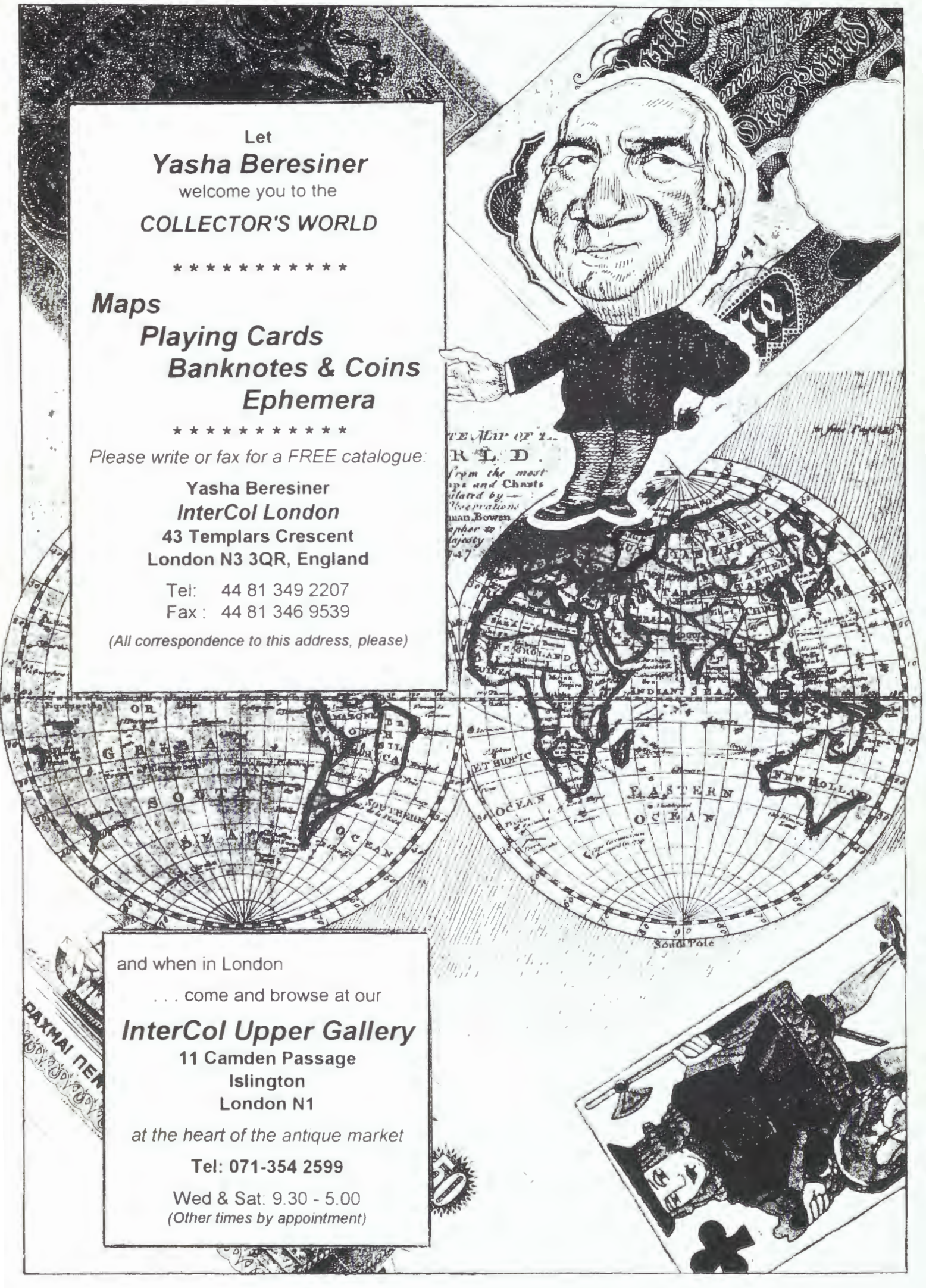
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