

SEVENTEENTH-CENTURY ITALIAN WORLD-ATLASES FROM MAGINI TO CORONELLI.

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ABSTRACT. This paper analyses the world-atlases produced in Italy from 1600 to 1700. It is generally thought that the production in Italy of atlases of geographical maps of all the continents marked time in the seventeenth century: the predominance of first the Dutch and then the French school of cartography seems to have obstructed the development of cartographic publishing even in those centres that in the previous century had given birth to a substantial and original production. This has led to slight consideration being accorded to some works that are in fact of interest for the history of publishing and also for that of cartography.

Created perhaps to fill gaps in the market due in some cases to moments of crisis afflicting the main Dutch and French publishers, or to delays in translating into Italian works for which there must have been a strong demand among the Italian public, these atlases have been for the most part neglected and set aside as mere copies of the foreign originals, with no new features. In this situation it is worth analysing not only the reprints of the *Teatro del Mondo* of Giuseppe Rosaccio but also the maps contained in Pietro Marchetti's *Epitome* of the *Theatrum* of Ortelius, several times reprinted at Venice, and those in the *Mercurio Geografico* of Gian Giacomo de Rossi. Of this last-named, in particular, the abundant activity as cartographic publisher has not yet been the subject of any systematic study. This paper is only preliminary to the more articulated work which I am doing on the geographical maps produced in the De Rossi printing-house in the XVII century.

1. General considerations on the production of atlases in the XVII century.

"Italian cartographic activity in the field of atlases has not yet attracted specific interest, either in Italy or elsewhere. In fact, in Italy the main researches of Almagià stop at the XVII century, and examine cartographic production regionally or by single authors. To understand how little this activity is considered abroad, suffice it to say that it is simply and totally ignored by Bagrow-Skelton ..." (1). Some twentyfive years later, unfortunately, this affirmation by Professor Baldacci has not yet been belied: no systematic studies have been completed in this field to date. I will not analyse here the reasons for this lack of interest which in my opinion are to be sought in a historiographic vision that sees in the Italian XVII century only a period

of decadence, as well as in the difficulties of various kinds involved in such research.

It is known that the development of cartography is an index of the political and economic vitality of those countries that produce it: in this way have been explained the rise, affirmation and succession one after another of the different cartographic "schools". Thus the "Golden Age" of Dutch cartography begins on the eve of the expansion of the Dutch East India Company and remains linked to the successes of the colonial power; thus the work of Mercator and Ortelius has been related to the Empire of Charles V; and thus, finally, the predominance of the French school of cartography, beginning in the second half of the XVII century, is rooted in the birth of a strong absolutist state, hingeing on mercantilist policies as well as, here too, on the thrust of expansion. It is therefore not surprising, considering the political fragmentation of Italy in the XVII century, that studies in the history of cartography have concentrated on chorography. It is, indeed, no accident that it is just towards the end of the Cinquecento that there appears the first atlas of Italy - Magini's - and that the first attempts are made to start a renewed regional cartography (for example, Borgonio's map of the Sardinian States, and all the similar production to which has been dedicated a mass of regional cartographic studies, no less fragmentary than ample).(2). The re-evaluation and the necessary prosecution in depth of historical research on this period cannot neglect an equally thorough study of its cartographic production. In this perspective is to be viewed the present paper, which does not aspire to be definitive, but simply to trace out the course of a research barely begun but already dense with problems.

This preamble also explains why it seemed to me interesting to deal with world-atlases; objects peculiar to, no less than significant of the material and mental development of their producers, for various reasons. In fact, as the construction of planispheres expresses, as well as the degree of knowledge, a conception of the spatial relationships among the different areas, so in the atlas the organizational criterion is equally significant, if not more so. In this regard, I should like to stress that, so far as I know, no study exists of the changes in the arrangement of the plates in the various editions of one and the same atlas: in this case researches like those of Koeman on the Dutch (3) and of Pastoureau on the French (4) atlases could be an excellent starting-point, simply to ascertain whether the changes in the order of the maps between one edition and another (not the replacement of plates by others, modernized and updated, which is a separate problem) can be attributed to other than casual reasons. I come now to the first problem that faced me, once I had defined my field of research. That is, what is to be understood by "atlas"? What we mean by atlas is clear: "a rationally organized collection of geographical maps, mostly small-scale, and co-ordinated with one another beforehand".(5). But can the same definition be applied to a product of the XVII century? All who have treated this topic have had to face the problem of definition; recently M.Pastoureau has defined her field of research as follows: "we have considered to be an atlas every book in which the maps (or the plans, the views, provided they be geographic) occupy more space than the text, or else constitute a homogeneous whole, of interest per se ...".(6)

What is the difference between the two definitions? The second, referring to atlases produced before 1700, makes it clear that an atlas is a book composed of a text and plates: in substance, an illustrated book, not a bare collection of geographical maps.

It has been pointed out that the name "atlas" for a systematically organized, homogeneous, bound collection of geographical maps becomes established only in the second half of the XVII century. Widespread previously is the term *Theatrum*, derived from the title of the work by Abraham Ortelius published at Antwerp in 1570: *Theatrum Orbis Terrarum*. The very volume by Mercator that was first defined "atlas" was, in the mind of its author, to be nothing other than "a majestic treatise of cosmography" on the creation, the origin and the history of created things.(7). Only after the thorough exploration of mathematics and astronomy, the subjects more strictly scientific in the modern sense, that is, after 1563, did Mercator modify his project as follows: a first part on the creation of the world, a second on astronomy and then geography (a description of the earth), then genealogy and political history and finally chronology. A trace of this plan remains in the arrangement of the volume printed from 1595 onwards. The title is not simply "atlas", but *Atlas, cosmographicae meditationes de fabrica mundi et de fabricati figura*. Before the cartographic plates comes the treatise "*De mundi creatione et fabrica liber*", followed by an "Introduction to universal geography, both modern and ancient". Each map is preceded by a table of the political sub-divisions of the territory mapped, followed by a verbal description giving all the information that it had not been possible to symbolize graphically.

On the other hand, the *Theatrum Orbis Terrarum* of Ortelius, as the stage on which unfold the destinies of humanity (8), has abandoned the introductory part on the creation, but keeps the description of single countries, written in the form of a narrative adapted from the sixteenth-century editions of the Geography of Ptolemy. So far as the geographic work of Ptolemy is concerned, we see in the XVI century an evolution which has not yet been studied completely. Even the translation of the title varies: the Greek *Geographiké hyphégésis* (literally, "Geographical guide"), sometimes becomes *Geographia* and sometimes *Cosmographia*, an uncertainty which is resolved in the prevalence of the former. In the most ancient text that we have, the Alexandrian geographer did not feel the need to define and clarify his concepts, as it were, ideologically: his era was in fact dominated by the stability and the solid certainties of the organization of the Roman Empire. That is, he had no need to affirm his religious identity, his cultural roots, because they were already clearly defined. It is not by chance that the written part, his eight books, are of a strictly technico-methodological nature: the first concerns the method of representation, the following six are only a list of co-ordinates with scanty information on the regional sub-divisions and the eighth - the most "political" - after having specified the duration of the longest day, gives a table of the 84 provinces into which the ecumene is divided. Of course, the form of the original is unknown, but from the most ancient codices it does not seem that the plates were preceded by written descriptions; the maps were already complete with all the elements considered necessary: to interpret them required no mediation. On the

other hand, we find a brief written description on the recto of the sheets bearing the plates in the printed (9) editions starting with that of Ulm of 1480 (10), and closer examination (11) shows that this text varies greatly from one edition to another, being enriched from time to time with information about the populations, their culture and religion and their characteristic products. So while the plates of Ptolemy are joined by an increasing number of updated maps, the text too is enriched by various treatises which complete the information and bring it up to date. Already the second Ulm edition printed in 1486 (still with the title *Cosmographia*) has a new chapter - the "*De locis ac mirabilibus mundi*" - and the Rome edition of 1508 (12) adds the chapter "*Nova Orbis Descriptio*" of Marco Beneventano. Underlining again the importance of the text, it is noteworthy that both Michele Serveto (13) and Sebastian Munster (14) - two personages known for their adherence to the Reformation (15) - published the "Geography" of Ptolemy, glossed and updated, inserting in it information about the distribution of the various Reformist centres, an act that led to a careful revision of their editions by the Roman Catholic hierarchy, which cancelled both the authors' names and the unwelcome sections.

This long digression has enabled me to draw attention to a problem of importance for the definition of the term "atlas": that of the relationship between the text and the maps. It is clear from the foregoing that even those works that have always been considered the first true atlases (Ortelius, Mercator) are still very close to the "Cosmographies", as is indicated by the fact that the title of "atlas" becomes general only long after their appearance. When did the distinction arise? I believe that this is a very important transition which can be explained only by an overall change of mentality. Cosmography, with its need of a text, is an integral part of the Renaissance humanistic conception of the complexity of knowledge which can be organized as a single whole, without specializations. The atlas, on the other hand, in the modern sense, is the sign that specialization, fragmentation and relativization are now established also in the field of geography.

Furthermore, the relationship between the text and the cartographic drawing implies another question of by no means secondary importance, that of printing and publishing. Lafreri, with his collections, (16) grandiose in the novelty of the idea, yet shows us the limitations of Roman publishing in the Cinquecento. And of Italian publishing in general, since after the sack of Rome and after the plague of 1575 in Venice, Roman publishing is the most advanced in the peninsula (17). It is very often said that this limitation consisted in the fact that Lafreri's collections were not bound and therefore not organized and homogeneous (18), that is, that they did not yet constitute atlases (19). I believe, on the other hand, that the limitation, for the era of their appearance, was precisely the lack of an accompanying text, no matter how brief and synthetic. This limitation was also technical: Lafreri was a publisher, not of books, but of engraved prints: his trade was based on engravers, copper plates, and a typographical technique making no use of the movable type employed to print books. His maps, however accurate (even if not always up-to-date), the work of authors among the best in the world at that time, are perhaps too advanced, leave too much to individual freedom of

interpretation. They do not provide of themselves a system of immediate comprehension. The novelty of Ortelius in the *Theatrum* lies in his having added to the maps, homogeneous and organized, a written description, a secure, immediately understandable, system of reference. It is not fortuitous that the different editions were translated into various languages and that their success resulted from the translations. But to do this requires a greater investment: copper-plate printing is not enough, the publisher's work becomes more complex and so more costly. The publisher has multiple functions: as well as being the owner of the printing house (20), he must be an expert cartographer, geographer, mathematician and astronomer; he must know the geographical and cosmographical texts; he must organize all the material produced by other authors; sometimes he will also be an expert engraver. This is the case of Ortelius, of Mercator (who was also a calligrapher), of Willem Blaeu, of De Jode, of Visscher and of Janszoon: that is, of all the great names of Dutch publishing and - not by chance - cartography. As stated above, all these works are, from the publishing point of view, illustrated books, and as such they constitute a real novelty in that they are the first in which the publisher has to use engraving alongside movable type. "The art of engraving had been known for a long time, since the XV century ... and since then attempts had been made to apply the procedure to book-illustration; without great success, because a technical obstacle prevented the printing of books by this means: while it was possible to put woodcuts and the typographical composition into the forme together, ink them both and print text and figure together, on the other hand it was necessary to print the text and the engraved copper plate separately. A delicate task if one wished to have exact impagination ..." (21). This operation is easier with maps because it is not necessary to print them on the same page as the text. This makes it possible to find, right from the first printed edition of the *Cosmographia* of Ptolemy - the Bologna edition of 1477, printed by Domenico de' Lapi - the maps (separate from the text, obviously) engraved on copper (22). For the same reason, it is no accident that the *Theatrum* of Ortelius appeared at Antwerp, the publishing centre from which came the "decisive impulse" to illustrate books with engravings made with the burin. (23). The historiography of atlases cannot ignore the history of the book as a product of publishing. The modern fragmentation of fields of research, which has led historians of the book to "shunt aside" the analysis of the publishing of atlases considered (in the modern way) as collections of maps, has likewise led those that treat only the history of cartography to the incomprehension (and so to a severely unfavourable evaluation) of the "giantism" of such works as the *Geografia* of Blaeu, which become more and more monumental from one edition to the next. Their appearance, however, coincides with the moment of maximum richness and widest diffusion of this kind of book. "...In the written culture of baroque Europe there existed a "quid medium". And it was represented by that "paper monumentality" composed of books of epigraphic texts, of collections of engraved plates ... which constitute a precise characteristic of European publications in the XVII-XVIII centuries. They were, obviously, works of great luxury, and their presence, becoming ever greater during the two centuries, finished by creating a

type of book quite different from that of the Renaissance tradition in being consecrated to a totally spectacular visual use of writing, to a very close relationship between graphic and figurative signs, to impressive page-sizes, and to unusual arrangements of the text and of the illustrations; and therefore also to a liturgy of conservation, exhibition, functions in some sort unprecedented ..." (24). Certainly the monumentality of the work required a heavy outlay and, above all, rich buyers who could make their own a product which augmented in size for reasons rather of prestige than of scientific accuracy. The consequent enlargement of the publishing house, in addition to requiring an ever sharper distinction between publisher and author (with an increasing loss of control of the work by the latter) resulted in the cost of producing new copper plates, market demand and public taste prevailing over scientific quality. This is what happened in Holland in the second half of the XVII century.

It is in France, where a flourishing print trade brought in its train an organization of publishing different from the Dutch, that there will be produced the first really modern atlas of the world: *Les cartes générales de toutes les parties du Monde*, the work of Nicolas Sanson of Abbeville, printed at Paris in 1658 by Pierre Mariette. Although it is true that this atlas, too, was born as a simple collection of maps (like those of Lafreri), it presented many new features. Firstly, the publisher was not a printer, but one of the most prestigious print-sellers of his time: we see, that is, a reversal of trend (the return to copper-plate engraving), which explains the absence of an accompanying text. Then there is the precise desire to make an atlas, to which bears witness the royal decree of 7 April, 1668, in which we read: "His Majesty, having received numerous complaints about those who on the pretext of the privilege that has been granted to some geographer or map-dealer ... raise difficulties in the way of selling the said maps singly, wishing to oblige persons to purchase the entire book ... this damages the public and in particular the officers of the Army, some of whom, not being able to purchase the aforementioned entire books cannot have even the particular maps they need ..." (25). Finally, there is a clear distinction between the publisher-dealer and the author: the map-maker, or rather, the Geographer-in-Ordinary to the King, associates himself with a publisher, with whom he may make agreements of various kinds; extremely interesting in this context is the tormented story of the relationships of Nicolas Sanson of Abbeville with Tavernier, and subsequently with the Mariettes. (26). These factors, together with the particular historical period in which "the establishment of the royal authority under Louis XIV created the conditions in which an independent French map industry could develop as a "productive unit" comparable with the great Dutch industry centred in Amsterdam." (27), led to the birth, as said before, of a publishing product which corresponds well to our present-day conception of an atlas and which was not only to become established throughout Europe but also to be imitated both in its general lay-out and in its style of drawing the single maps. Thus, at the end of the XVII century we see the definitive specialization and apportionment of competences: the geographers are more and more involved in mathematico-astronomical questions, in scientific determinations of triangulation, etc.. The Dutch school of

cartography also having declined, the atlas becomes a publishing product independent of the will of the geographer. Significant in this regard are some letters from Cantelli to Muratori, in which the geographer from Parma complains about his relationship with the de Rossis: "The Rossis of Rome are so little liberal to me that with great difficulty they give me for each of my originals some ten or so copies I have only one left which, squared by me, serves for the preparation of the other maps ...".(28).

2. The Italian production.

What, and how many, were the world-atlases printed in Italy during the XVII century? On the basis of all the foregoing considerations, in order to answer this question, I have thought it appropriate to follow a plan of work which is ambitious, certainly, but which seems to me the only correct approach. That is, I have begun by taking a census of all the works printed in Italy during the XVII century having for subject a description of the world and being in some variable degree furnished with maps. Even if this mass of work is only in its initial stages (29) and so has many gaps, it has enabled me to make a chronological list (30) (obviously provisional) of the works in their various editions, indicating the publisher and the place of publication.

The first finding to emerge is the continuity of publication, whether of reprints, translations or original works, throughout the XVII century; this in spite of the fact that in the last decade of the Cinquecento more works were published per year while in the following century the intervals are much longer: it would seem, for example, that no general geographical works were printed in Italy between 1629 and 1639. Further, while in the first half of the XVII century Venice is responsible for the lion's share, in the second half the centres of publication become more varied, and if Rome appears only twice it is, however, to be noted that it is for the printing of new and original works: (*Hercules Siculus* by Nicolosi and the *Mercurio Geografico* of G. de Rossi). Finally, research on the publishers might lead to a better understanding of the place occupied by geographical works within their production: whether they specialized, what their motives were and whether they were craftsmen's workshops or true printing houses publishing other illustrated books too. Regarding the quality of the various titles, it must be admitted that they are mostly reprints of works from the end of the previous century (like the *Teatro del Cielo e della Terra* of Giuseppe Rosaccio, a work of popular cosmography, with its few maps not always attached) or translations of transalpine publications, often made by copying or re-using the same copper plates which had passed from one publisher to another by ways still undiscovered. These observations can only be provisional in this early stage of the research, but it is worth drawing attention to four Italian-printed works which from different angles reflect an original contribution to the XVII century evolution of the concept of an atlas.

Firstly, *Il teatro del mondo di Abraamo Ortelio nel quale distintamente si dimostrano in tavole tutte le provincie, regni Ridotto dalla forma grande in questa piccola ... da P.M. Marchetti, in Brescia at the Compagnia Bresciana, 1598*. This is the first edition in Italian and

printed in Italy of the so-called *Epitome* of the *Theatrum* of Ortelius, and it appears a few years after the first "original" translation, printed by Plantin at Antwerp in 1593 with plates engraved by Filips Galle. It is to be noted that the "Marchetti Epitome", as this work is sometimes known, is the second Italian version, albeit in summary, of the text of Ortelius, whereas the unabridged text of the *Theatrum* went through 12 editions in Latin, 4 in German, 4 in French, 3 in Spanish, 2 in Dutch and only 2 in Italian, of which the first was printed at Antwerp in 1608 by J.B.Vrients.(31). It is curious that Filippo Pigafetta, the translator of this edition, should have written to Ortelius in 1591: "... Exemplaria Theatri tui nulla veneunt Romae, vel ob importandi difficultatem vel quia forsitan vulgo isti homines studio Geographiae minus capiantur ..." (32): perhaps such a lack explains the appearance of the edition of the Compagnia Bresciana. Moreover, more than fifty years separate the Brescia edition of 1598 from the reprint made at Venice by G.M.Turrini in 1655; in the following fifty years, however, down to 1697, the work was to be re-issued no fewer than six times (33), and this is undoubtedly a fact that deserves investigation.

The second work in order of time that presents a new feature for the history of world-atlases produced in Italy in the XVII century is *Dell'Ercole e studio geografico di Gio. Battista Nicolosi Dottore di Sacra Teologia ... In Roma, nella stamperia di Vitale Mascardi, 1660*, in two volumes, the first of which contains the text and the second the plates. Unfortunately, how far the plates are original work by Nicolosi is a question not yet specifically addressed, and Baldacci (34), though mentioning them, gives them only a few lines. It is, in any case, a general treatise on geography, furnished with maps, rather than an atlas in the modern sense. This work too was reprinted, but only once and with the text translated into Latin. (35).

Finally there are the two most important works: the *Mercurio Geografico* published at Rome by Gio. Giacomo de Rossi between 1685 and 1688, and the *Atlante veneto* of Vincenzo Coronelli, published at Venice in 1690-92. Thus, very few years separate the publication of the two most significant atlases published in Italy during the XVII century, but the difference between the two works is enormous. Without making judgements or comparisons, it can be said that these atlases are representative of the two conceptions discussed at length in the first part of this paper. Coronelli's *Atlante veneto* which is still composed of a superabundant text is a monumental work seemingly modelled on the Dutch atlases, even though its author lived for a long time in Paris; the *Mercurio geografico*, on the other hand, is inspired by the *Cartes générales ...* of Sanson and has no accompanying text. A more detailed examination of its genesis, modifications and diffusion, as well as, obviously, a strictly cartographic detailed analysis, will constitute my work in preparation on the *Mercurio geografico* which, as expounded above, I find to be the first modern world-atlas published in Italy, even though it has not hitherto been deemed worthy of a specific study.(36).

NOTES.

(1) O. Baldacci, *Introduzione ad una mostra di atlanti antichi*, in: Atti del XX° Congresso Geografico Italiano. Roma 29 Marzo - 3 Aprile 1967. Roma, 1969, vol. I°, p.247.

(2) For an exhaustive, though dated, bibliography, cf. E.Manzi, *Storia della cartografia* in: Associazione dei geografi italiani, Convegno quaderno C.N.R. sullo stato della ricerca geografica in Italia 1960/1980. Varese, 31 Marzo/2 Aprile 1980, Varese 1980, Vol.2°, pp.150-155.

(3) C. Koeman, *Atlantes Neederlandici. Bibliography of terrestrial, maritime and celestial atlases and pilot books, published in the Netherlands up to 1880*, 5 vols. Amsterdam, 1967-71.

(4) M. Pastoureau, *Les Atlas Imprimés en France avant 1700*, in *Imago Mundi* 32 (1980), and M. Pastoureau, *Les Atlas Français. XVIe-XVIIIe siècles. Répertoire bibliographique et étude par ...* Paris, 1984.

(5) Definition taken from O. Baldacci, op. cit., p.220.

(6) M. Pastoureau, *Les Atlas Imprimés ...* cit., p.46.

(7) This intention is explicitly declared by Mercator in his *Praefatio in Atlantem* which accompanies the work.

(8) In the dedication to the reader (at f.4v. of the *Theatrum Orbis terrarum*, published "apud Copennum Diesth, Antverpiae, 1570") Ortelius says that knowledge of geography is necessary for the understanding of historical events, and this explains the title of Theatre, that is, the scene on which the destinies of humanity are represented. The influence is manifest of Strabo's *Geografia*, first translated into Latin in 1469 and printed from 1516 onwards; cf. A.Diller, *The textual tradition of Strabo's Geography*, Amsterdam, 1975. Also the "rediscovery" of Strabo's geographical work and his influence on the geographical conceptions of the Renaissance merit a detailed study which I cannot undertake here.

(9) Already in some manuscript codices - like the Ms.lat.463 (of ca.1466) in the Biblioteca Estense e Universitaria di Modena, the work of Nicolaus Germanus, and the parchment codex preserved in the Biblioteca Medicea Laurenziana in Florence (30.3, datable between 1466 and 1488) - the plates are introduced on the recto of the first sheet by a descriptive text drawn from the short annotations contained in books 2°/7°.

(10) In the copies I have examined (one in the Biblioteca Civica Bonetta in Pavia and one in the Biblioteca Nazionale Braidense in Milan), the very brief text is drawn from the books 2°/7° of Ptolemy and reports the regional sub-divisions of the areas mapped and the chief cities with their distances from Alexandria. It is therefore not by chance that the

description, brief though it was, was omitted from the "modern" maps of Spain, France, Palestine and the Nordic countries.

(11) Neither in this case does any collation between the various texts exist, nor any study of the subject. My affirmations are therefore based on a work barely begun in which I have compared the texts of the following editions: Ulm 1482, Rome 1507, Venice 1511 and Strasbourg 1513. Much remains to be done.

(12) That containing the famous planisphere of Johannes Ruysch (to tell the truth, already present in some copies of the edition of the previous year), in which the New World is shown for the first time in a printed text enjoying a certain circulation (the first printed planisphere is the Contarini-Rosselli of 1506, which, however, is an isolated sheet to the slight diffusion of which testifies the unique character of the copy conserved in the British Museum).

(13) *Claudii Ptolemaei Alexandrini geographicae enarrationes libri octo ... Lugduni. Ex officina Melchioris et Gasparis Trechsel fratrum. MDXXXV.*

(14) *Geographia universalis, vetus et nova complectens Claudii Ptolemaei ... Basileae apud Henricum Petrum mense -artio anno 1540.*

(15) The "editio princeps", edited by Erasmus, had been published at Basel in 1533, but without the maps.

(16) *Geografia. Tavole moderne di geografia de la maggior parte del mondo di diversi autori raccolte e messe secondo l'ordine di Tolomeo con disegni di molte città et fortezze di diverse provintie stampate in rame con studio et diligentia in Roma:* these are the words on the frontispieces of some of the collections of Lafreri. Collections, not collection, since the copies preserved differ in both the number of plates and the subjects represented.

(17) Cf. F.Borroni Salvadori, *Carte, Piante e stampe storiche delle raccolte lafreriane della Biblioteca Nazionale di Firenze*, Rome, 1980, p.VII.

(18) Further, it should not be forgotten that Lafreri's collections were not the only ones of their kind published in Italy (even if they are the oldest - but exact dating is not possible); among the others should be remembered that made at Venice, ascribed to Camocio.

(19) L.Bagrow - R.Skelton, *History of Cartography*, London, 1964, p.179: "These were the antecedents of the atlas ...in the modern sense of a systematic and comprehensive collection of maps of uniform size".

(20) Or have a solid printing house behind him: Plantin of Antwerp will be the publisher of the successive editions of the *Theatrum*.

(21) L.Febvre, H.J.Martin, *L'apparition du livre*, Paris, Albin Michel, 1958 (Italian translation by A.Petrucci, Bari, Laterza, 1985) p.116.

(22) Certainly the problem does not yet arise of using both techniques on the same side of the sheet.

(23) cf. L. Febvre, H.J. Martin, op. cit., p.117: "The decisive impulse came from Antwerp ... where Jerome Cock, a big dealer in prints, had a shop ... Plantin, in daily contact with Cock and the artists who worked in his shop, first adopted the custom of having some of his books illustrated with copper-plate engravings ... In 1566 he published the *Vivae imagines partium corporis* of Vasalio and Valverda ...". From this point of view it becomes still more significant that, as already mentioned, it was none other than Plantin who printed all the editions of Ortelius, translated into different languages.

(24) A. Petrucci, *La scrittura tra ideologia e rappresentazione*, in *Storia dell'arte italiana. Parte terza* edited by Federico Zeri, Volume 2°. Turin, 1980, p.50.

(25) Bibl. nat., Paris, Impr.Inv.F.21258(51) and Ms.fr.21733, fol.57-58: the quotation is in M. Pastoureau, *Les Atlas Francais ...* cit., p.388.

(26) cf. M. Pastoureau, *Le Atlas Imprimés ...* cit., pp.61-63.

(27) R.A. Skelton, *Decorative printed maps of 15th to 18th centuries*, London, Staples Press, 1952, p.67.

(28) Letter from G.G. Cantelli to L.A. Muratori of 1st September, 1688, conserved at the Biblioteca Estense e Universitaria di Modena, in L. Vischi, *Nuovi documenti intorno a Giacomo Cantelli* in: *Atti e memorie delle R.R. Deputazioni di storia patria per le provincie Modenesi e Parmensi*, serie III, vol.IV. Parte I, Modena, 1886, p.177.

(29) So far I have conducted my enquiry on the catalogues of some libraries (the Library of Congress, Washington D.C., the British Library, London, the Greenwich Maritime Museum, the Bibliothèque Nationale, Paris, the Biblioteca Apostolica Vaticana, the Biblioteca Naz. Braidense, Milan, the Biblioteca Augusta, Perugia, the Biblioteca Naz. Universitaria, Pavia, the Biblioteca Naz. Universitaria and the Biblioteca ex Reale, Turin, the Biblioteca Marucelliana, Florence, the Civica Biblioteca Berio and the Biblioteca Naz. Universitaria, Genoa); on exhibition catalogues (*Atlases on parade. Five centuries of map books*, Baltimore, Peabody Institute Library, 1964; *Imagining the New World. Columbian iconography*, New York, Ist. della Encicl. Treccani, 1991; M. La Corte, *Catalogo di raccolte fattizie e di Atlanti dei secoli XVI-XVII*, in: *Atti del XX° Congresso Geografico Italiano*, Rome, Soc. Geogr. Ital., 1969; *The World Encompassed*, Baltimore, 1952 ...); and on cartobibliographies like the six volumes of the *Atlantes neerlandici* of Koeman, *Les Atlas Francais. XVIIe-XVIIIe siècles* of M. Pastoureau, *The mapping of the world*, by R.W. Shirley, London, The Holland Press, 1984. I realise that this census is still very incomplete, but I believe that it can already be considered quite significant.

(30) Appendix I, subjoined to this paper.

(31) On the various editions of the *Theatrum* of Ortelius, cf. C. Koeman, *Atlantes ... cit., Theatrum Orbis Terrarum, vol.III*.

(32) The quotation is from: G.L. Bertolini, *Su l'edizione italiana dell'Ortelio* in AA.VV., *Scritti di Geografia e di storia della Geografia concernenti l'Italia pubblicati in onore di Giuseppe Dalla Vedova*, Florence, Ricci, 1908, p.297.

(33) In 1667 at Venice by S. Branca, in 1679 and 1683 again at Venice but by S. Curti, in 1684 at Venice again by Bregna and in 1697 two editions by D. Lovisa. I have not yet collated these editions.

(34) O. Baldacci, *Introduzione ad una mostra*. 1969, p.251.

(35) *Hercules Siculus sive studium Geographicum auctore Ianne Baptista Nicolosio Hyblensi Sacerdote, et sacrae Theologiae doctore ...*, Romae, Typis Michaelis Herculis, MDCLXX.

(36) O. Baldacci, op.cit., p.249, says: "Neither the first nor the second volume" (of the *Mercurio*) "constitutes a labour of particular scientific or publishing value, compared with analogous contemporary works. The whole is modestly co-ordinated, but quite clearly executed, imitating the cartographic style of the French school ... taken altogether the atlas leaves much to be desired, especially because it was already in great part old at the moment of its birth.". Judgements of this kind appear hasty if not based on a detailed analysis such as, to my knowledge, has never been made.

Appendix 1

1572	Venezia	Simone Galignani	Porcacchi Tommaso	L'Isole più famose del mondo..
1573	Venezia		Anania,Lorenzo d'	L'Universale Fabrica del mondo
1573	Napoli	G.Cacchj dell'Aquila	Anania,Lorenzo d'	L'Universale Fabrica del mondo
1576	Venezia	Iacopo Vidali	Anania,Lorenzo d'	L'Universale Fabrica del mondo
1576	Venezia	Simone Galignani	Porcacchi Tommaso	L'Isole più famose del mondo..
1582	Venezia	Muschio Andrea	Anania,Lorenzo d'	L'Universale Fabrica del mondo
1582	Venezia	Gratiosus Perchacini	Barocci, Francesco	De Cosmographia in quatuor libros distributa
1586	Venezia	Brigonei Pietr'Antonio	Porcacchi Tommaso	L'Isole più famose del mondo
1590	Venezia		Porcacchi Tommaso	L'Isole più famose del mondo
1590	Venezia	Heredi S.Galignani	Porcacchi Tommaso	L'Isole più famose del Mondo
1590	Firenze		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1592	Treviso		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1592	Brescia	Vincenzo Sabbio	Rosaccio, Giuseppe	Teatro del Cielo e della terra
1594	Firenze	Alle Scalee di Badia	Rosaccio Giuseppe	Teatro del Cielo e della terra
1594	Treviso		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1594	Bologna		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1595	Firenze	Tosi Francesco	Rosaccio, Giuseppe	Il mondo e sue parti
1595	Venezia		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1595	Verona	F.dalle Donne,Vargnano	Rosaccio, Giuseppe	Il mondo e sue parti..
1596	Venezia	Muschio Andrea	Anania,Lorenzo d'	L'Universale Fabrica del mondo, ovvero cosmograf
1596	Venezia	Eredi Sim.Galignani	Magini/Tolomeo	Geographicae universae tum veteris tum novae
1596	Brescia	Vincenzo Sabbio	Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1596	Verona		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1597	Venezia	Giov.e Gior.Galignani	Magini/Tolomeo	Geographicae universae tum veteris tum novae
1597			Rosaccio Giuseppe	Universale descrizione di tutto il mondo
1597	Venezia		Rosaccio, Giuseppe	Teatro del Cielo e della Terra

1598	Venezia	Giov.e Gior.Galignani	Magini/Tolomeo	Geographicae universae tum veteris tum novae
1598	Venezia		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1598	Venezia	Eredi Melchior Sessa	RosaccioG./Tolomeo	Geografia di Tolomeo nuovamente ampliata da..
1598	Brescia	La Compagnia Bresciana	Ortelio/Marchetti	Il theatro del mondo di Abraamo Ortelio nel qua
1599	Firenze	F.Tosi	Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1599	Venezia		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1599	Venezia	Eredi Melchior Sessa	RosaccioG./Tolomeo	Geografia di Tolomeo nuovamente ampliata da..
1600	Siena	Florini Matteo	Arnoldi,Arnoldo de	Descrizione universale della terra...
1602	Brescia	Coaino Presegno	Robacioli Francesco	Teatro del Cielo e della terra
1602		Orlando(i)Giovanni	Salamanca Antonio	Carta del mondo doppia cord.di Mercatore 1538
1603	Bologna		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1604	Treviso	E.Deuchino	Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1604	Venezia		Porcacchi Tommaso	L'Isole più famose del mondo..
1605	Venezia	Eredi S.Galignani	Porcacchi Tommaso	L'Isole più famose del mondo
1608	Brescia	La Compagnia Bresciana	Ortelio/Marchetti	Il theatro del mondo di Abraamo Ortelio nel qua
1609	Milano		Torniello Augustino	Annales Sacri et Profani
1610	Milano		Torniello Augustino	Annales Sacri et Profani
1610c.	Firenze		Rosaccio Giuseppe	Discorso...Firenze
1613	(Anversa)		Pisani Ottavio	Globus terrestris Planisphericum
1615	Viterbo	Stamperia de'discepoli	Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1617	Venezia		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1620	Venezia	P.ef. Galignani	Porcacchi Tommaso	L'Isole più famose del mondo..
1621	Venezia	P.ef. Galignani	Magini/Tolomeo	Geographicae universae tum veteris tum novae
1629	Venezia		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1639	Venezia	Scolari Stefano	Geelkercken/Hondius	Orbis terrarum descriptio...
1640	Venezia	Lovisa Domenico	Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1642	Treviso	G.Righettini	Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1643	Bologna	Feronii j.Baptiste	Riccioli/Cavazza	Geographicae Crucis Fabrica et usus..

1646	Firenze	Onofri	Dudley	Dell'Arcano del mare
1647			Rosaccio Giuseppe	Universale descrizione di tutto il mondo
1647	Siena	Florini Matteo	Arnoldi,Arnoldo de	Descrizione universale della terra...
1655	Venezia	Turrini	Ortelio/Marchetti	Il theatro del mondo di Abraamo Ortelio nel qua
1657		Remondini	Rosaccio Giuseppe	Universale descrizione di tutto il mondo
1660	Siena	Florini Matteo	Arnoldi,Arnoldo de	Descrizione universale della terra...
1660	Roma	Mascardi (e Nicolosi)	Nicolosi,G.Battista	Dell'Hercole e studio Geografico di..
1661	Firenze	Cocchini	Dudley	Dell'Arcano del mare
1665	Venezia?	Scolari Stefano?	Blaeu/anonimo	Nova Totius Terrarum sive Nova orbis Tabula
1666	Treviso	Righetti	Rosaccio,Giuseppe	Teatro del Cielo e della Terra
1667	Venezia	Banca scipione	Ortelio/Marchetti	Il theatro del mondo di Abraamo Ortelio nel qua
1669		Petrucci Pietro	Arnoldi,Arnoldo de	Descrizione universale della terra...
1670-71	Roma	Ercole Michele	Nicolosi G.Battista	Hercules Siculus sive Studium Geographicum
1674			Bartoli Daniello (Fe)	Geographia Moraliibus et Politicis
1676	Bologna	Longhi Giuseppe	Greuter Matteo	carta d'Italia
1679	Venezia	Curti Stefano	Ortelio/Marchetti	Il theatro del mondo di Abraamo Ortelio nel qua
1679	Treviso		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1683	Venezia	Curti Stefano	Ortelio/Marchetti	Il theatro del mondo di Abraamo Ortelio nel qua
1684	Venezia	Il Brigna	Ortelio/Marchetti	Il theatro del mondo di Abraamo Ortelio nel qua
1686	Treviso		Rosaccio, Giuseppe	Teatro del Cielo e della Terra
1686	Venezia		Porcacchi Tommaso	L'Isole più famose del mondo
1688	Bologna		Moretti G./Rosaccio	Teatro del mondo
1685-88	Roma	De Rossi	Sanson,Cantelli	Mercurio Geografico
1688c.	Bologna	Longhi Giuseppe	De Wit	Carta del Mondo
1690	Venezia	Padovani Domenico	Coronelli Vincenzo	Atlante Veneto
1690	Roma	Nicolò A.Tinassi	Francesco Deseine	Tavole di Geografia,antica, moderna,ecclesiasti
1697	Venezia	Domenico Lovise	Ortelio/Marchetti	Il theatro del mondo di Abraamo Ortelio nel qua
1699	Padova	Canali G.Battista		Mappamondo o vero Carta Generale..

1700	Napoli	Petrini Paolo	Atlante partenopeo
1701	Padova	Canali G.Battista	Mappamondo o vero Carta Generale..
1713	Venezia	Porcacchi Tommaso	L'Isole più famose del mondo..
1724	Venezia	Ortelio/Marchetti	Il theatro del mondo di Abraamo Ortelio nel qua
1724	Bologna	Rosaccio, Giuseppe	Teatro del Cielo e della Terra
