

THE IMAGE OF SPAIN IN THE ANCIENT CARTOGRAPHY

La imagen de España en la cartografía antigua.

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RESUMEN: El autor resalta en su análisis que la cartografía es, al fin y a la postre, un adelanto de nuestro tiempo, muy distante de las concepciones del espacio que poseían los antiguos, cuya aprehensión del territorio discurría por unas fórmulas muy pragmáticas. La articulación a través de la red viaria, la ordenación catastral para posibilitar y regular su explotación y la implantación de nuevos asentamientos, cuyo ejemplo romano más claro serían las colonias, eran las bases esenciales de todo el ordenamiento territorial. No obstante, el autor pone también de relieve el insoslayable valor instrumental de los mapas sobre el mundo antiguo como medio de expresar nuestras percepciones e intereses sobre el mismo.

ABSTRACT: R. Talbert's analysis stands out that after all cartography is a modern advance, far away from the conceptions that ancients had about the space, whose understanding of the territory was mainly pragmatic. Road cadaster systems, created to regulate the exploitation of the territory, along with the founding of new settlements, as the typically Roman colonies, constituted the essential basis of the territorial order. Nevertheless, the author emphasizes the undeniable and instrumental value of modern maps of the classical world as a mean of expressing today's perceptions and interest on ancient world.

It is with some embarrassment, therefore, that I move to the subject of my presentation to you. Dr. Plácido asked me to discuss the image of Spain in a general context of ancient cartography. This was an excellent proposition, and I willingly consented to elaborate upon it. As I mean to demonstrate to you, I have indeed

made every effort to that end, but even at the outset I cannot hide my conclusion (which may inevitably seem disappointing) that really there is (or was) no cartographic image of Spain in classical antiquity.

Arguably, no map (in any modern sense of the term) was made of Spain until the mid 15th century, and none was printed until 1482. Ironically, all these early attempts seem to have been drawn in Italy (not in Spain), and in order to accompany texts of Ptolemy's *Geography*. The sources which their compilers worked from are obscure. Mediaeval portolan charts are the most obvious recourse for the coastlines; for the interior, it was probably a matter of resorting to descriptive texts by pilgrims and other travellers. Not for another century did the situation greatly improve. Despite a rash of efforts during the 1550s, it remains fair to claim that "*in all of them ... the interior of the peninsula was still little more than an idiosyncratic selection of half-known place-names and features.*"¹

Philip II had an excellent appreciation of the value of cartography to government, and he devoted substantial resources therefore to improve the mapping of Spain. His three main efforts merit our attention briefly, even if their results turn out below expectation - for instructive reasons. First, in the 1560s the King commissioned the Dutchman Anton van den Wyngaerde "*to paint [the] pictures of several of my principal cities (in Spain)*" - work which this artist continued until his death in 1571². But the King's plan to have these views engraved in the Netherlands was then frustrated by the outbreak of the Dutch Revolt, and no copies of the originals were ever made.

Second, at the suggestion of the royal chronicler Juan Paez de Castro, a questionnaire was drawn up to be sent to each village in Spain asking about its geography, history, economy, population, and 'antiquities'; but Paez died in 1570, and the questionnaire was never circulated. In 1574, however, another one was sent to settlements in the diocese of Coria, and then in 1575 to all communities in Castile. Replies duly came in, and some have survived (including that for Toledo, incidentally), but the striking point is that the government appears to have remained incapable, or unwilling, to make much use of this mass of information.

Thirdly, and likewise going back to the 1560s, Philip commissioned the surveyor and professor of mathematics, Pedro de Esquivel, to produce a complete map of the Iberian peninsula. Esquivel made an exceptionally thorough survey on the ground, but after his death in 1575 there appears to have been a hiatus of five years or more, until a team of cartographers finally began to create maps based on his data. This work in turn evidently petered out unfinished in the 1590s, and was then forgotten. There is no question that the 21 maps from it which happen to survive in the Escorial library (in varying stages of completeness) represent an astonishing achievement for the late 16th century. No other major state in western Europe had maps to match these, especially ones based on such detailed ground survey: indeed,

1. G. PARKER, "Maps and ministers: the Spanish Habsburgs", p. 126 in D. BUISSET (ed.), *Monarchs, Ministers and Maps: The Emergence of Cartography as a Tool of Government in Early Modern Europe* (Chicago, 1992), on which this section is based.

2. PARKER, p. 129.

between them they cover almost half a million square kilometres at the impressive scale of 1:430,000 (somewhat larger than many defence departments today would use for their tactical planning!)³. Even so, the sobering fact remains that these maps were never used or exploited by the government which first commissioned them, and then lavished so much time and money on their preparation.

This failure to exploit the project's results is certainly a puzzle and disappointment. But it should not shake our firm conviction that Philip II grasped the immense potential of good maps, in the same way that other European rulers of the 16th century had come to do also. This is truly an era of 'map consciousness' to a degree never before found in Europe. The potential value of such materials was well understood by the authorities. Thus the Portuguese government *"more than once ordered the total destruction of certain categories of maps, and at all times prohibited the export of cartographic instruments or materials outside the kingdom"*. Note equally the reasons which Charles IX of France gave, when requiring that a map of his own kingdom presented to him by a Portuguese cartographer be immediately locked away: *"because"*, he said, *"maps are useful in war, enabling a foreign enemy to lead an army **without the aid of a guide who knows the country** across the terrain shown on the said maps, utilizing only a quadrant and compass"*⁴.

If we now return to classical antiquity, the basis of my conclusion is that then no such 'map consciousness' existed – even among the Romans, the imperial rulers among whom we might most readily expect to find it, and with whom we must by definition be primarily concerned in connection with Spain. From now on, I confess, I have more questions than answers; but perhaps you will forgive me that, because the questions are undeniably important ones, and at least some answers may emerge.

Of course we will ask first **why** were Romans not 'map conscious'. There are various avenues of approach to that large issue, and we can return to some of them in due course. But I do want to express straightaway the conviction that it cannot simply be a matter of the 'right' technology and equipment being 'missing'. We could well argue, for example, that Romans lacked a conveniently flexible and durable material on which to make maps – material such as our paper, or the silk that the ancient Chinese used for the purpose. Likewise we could point out that they had no method of reproduction (certainly not of printing), with which to make identical copies of any map that they drew. We could stress, too, that they

3. PARKER, pp. 130, 134. Each map measures about 30 X 45 cm. Note further D.C. GOODMAN, *Power and Penury: Government, Technology and Science in Philip II's Spain* (Cambridge, 1988), esp. chap. 2 sect. 3.

4. Both quotations from PARKER, p. 125; my italics.

had no compass, and no means of measuring either time, or substantial distances or altitudes, with unfailing accuracy whenever required. Moreover, even though they were capable of plotting latitude, fixing longitude was beyond them⁵.

Now formidable though this list of obstacles may be, in itself it cannot constitute an adequate explanation for the absence of 'map consciousness': much of what I've listed the ancient Chinese also lacked, and even by the end of the 16th century nobody could yet fix longitude accurately. Lack of suitable materials and techniques may well be felt to deepen the Romans' difficulty, but it seems to me that ultimately it's one of mindset above all.

This is perhaps the appropriate stage to introduce the next question which we are bound to raise if we are prepared to entertain the idea that the Romans were hardly 'map conscious': **if** that be so, then how **did** they conceptualize their surroundings? The question is one to which I'm not sure there can yet be a definitive answer, partly because (in my view) Romans' conceptions of space were so very different from those that we take almost for granted. From the perspective of an educated westerner in the late 20th century A.D., Romans ought to have felt 'lost' within the confines of their vast empire (not to mention the wider world beyond), because they lacked both the overview and the detailed grasp of it which today cartography readily offers us. The plain fact is, though, that this lack of grasp didn't upset them in the way that it might us. What the emperor in Rome visualized when he was informed that Parthian invaders were massing on the Euphrates, or that the Astures were showing signs of revolt, I am at a loss to say. What the mention of "Iberia" or "Europa" conjured up in his mind's eye is an equal mystery to me. What he evidently did not do, at least, when news came of the Parthians or Astures was to consult a map in the way that we or Philip II or Charles IX of France would immediately expect to.

The geographer Strabo, the author of our most extensive contemporary description of Spain, does suggest a well-known shape for the peninsula, "*like an ox-hide extending in length from west to east, its fore-parts toward the east, and in breadth from north to south*" (3.1.3). But the rest even of his description then unfolds in very different terms. His vision is at once both sweeping and selective. While he may mention numbers of cities and peoples in Spain, his interest is principally reserved for those that are stable and (even better) have become romanized. Likewise, cultivable land and navigable rivers draw his attention: thus Turdetania, its romanized people, its Baetis and other rivers, rouse his particular enthusiasm. Legends have become attached to some of its communities - such as visits by Odysseus - which associate them even more satisfyingly with 'civilization'⁶.

To Strabo much of the rest of Iberia is pitiful and repellant by contrast, filled with insignificant tribes whose very names it is painful to record (a distaste shared

5. For these, and other such points, see my "Rome's empire and beyond: the spatial aspect", *Cahiers des Etudes Anciennes* 26. 1990. pp. 215-223.

6. N. MACKIE, "Urban munificence and the growth of urban consciousness in Roman Spain", p. 180 in T. BLAGG and M. MILLETT (eds.), *The Early Roman Empire in the West* (Oxford, 1990).

by the Pliny the Elder, too, in his description - although lists of subdued peoples are always impressive to their conquerors⁷. Great tracts of mountain and forest breed lawless, unproductive people, who prey upon their neighbours; moreover their sheer remoteness at the edge of the inhabited world, not to mention the inhospitable climate, hinder efforts to civilize them. Strabo's disclaimer for being unsure of how many divisions of Celtiberia there were can stand for his entire account of Iberia: *"In this instance it is impossible to offer an accurate account, because of the changes that have occurred and the bad reputation of the places. For it is only in the case of the well-known and reputable regions that the migrations, the divisions of the country, the changes in the names, and everything else of that kind, are well known. Indeed, our ears are filled with these things by many, and particularly by the Greeks, who have come to be the most talkative of all men. But as for all the peoples that are barbarian and remote, as well as small in territory and split up, the records about them are neither reliable nor numerous; and as for all the peoples, of course, that are far away from the Greeks, our ignorance is still greater"* (3.4.19).

Regardless of whether Strabo's secondhand account of Spain is trustworthy or not, to us its striking characteristic is surely its selectivity: certain features of the landscape catch his attention, others do not. The selection is by no means necessarily the one that we might make; notably absent is the comprehensive vision which we take for granted in the making of maps. While there is no proving the point, my sense is that Strabo's perception here does mirror the typical Roman vision of landscape. In the first instance, to gain a coherent grasp, Romans must be reasonably well established in an accessible landscape. There is nothing for them in impenetrable mountain and forest, and the sheer variety of different peoples there, with their bizarre names, simply compounds the sense of disorientation and bewilderment. By contrast, not the least point in favour of Strabo's romanized natives of Baetica is the fact that they have rendered themselves homogeneous and thus more comprehensible.

Romans came establish themselves in the landscape, I suggest, by three main means, all of them interrelated and all well developed by Strabo's day. The three are very well known to us of course, but we perhaps too rapidly overlook the key point that together they both give the landscape a fresh shape and mould Romans' view of it.

The first is construction of roads. To all intents and purposes, let us remember, the long-distance main road is a Roman innovation in Western civilization. Initially these roads forge direct links between Rome and the communities related to her. There then follows their extension to link those communities to each other. That development is crucial, because the roads thus created thereby define segments of territory. Once a whole road network is formed, it becomes natural to view landscape as a series of geometric spaces that lead on one to another and are accessible by these built roads.

7. Strabo 3.3.7; Plin. *NH* 3.28.

Hence, too, emerges the one form of map that seems to have gained any wide usage in classical antiquity, the **itinerarium** or road map. By definition this is a Roman innovation, still very much in use today (in North America at least) as the "Triptik". From a cartographic perspective, it is a map stripped down to its absolute bare essentials. It will simply show the traveller his route, with the names of the towns he must pass through, and (if more details are offered) the distances between these places and amenities like lodgings which are likely to be found in them. What such an itinerary does not furnish is any insight into the landscape which the traveller will pass through. But that, clearly, would call for cartography proper (not just, say, a few straight lines and symbols), and all its attendant complications. Moreover it would clutter the map with information that the traveller doesn't in fact need to make his way along the road from A to B. The shape and character of the landscape are of no interest to him in their own right, after all: they are merely country that must be traversed to reach a destination. In its simplest form an itinerary can just be written as a list rather than drawn, which is of course what we find on the famous Vicarello Goblets which list in four columns the staging-points on the journey from Gades to Rome and the mileage between each⁸. As you know, the part of the Peutinger Table showing Spain is lost, but Konrad Miller and others found little difficulty in making a conjectural version from the Antonine Itinerary and other relevant lists, as well as finds of milestones⁹.

The second means by which Roman civilization imprinted itself on the landscape is centuriation. Such division of the land was indeed made for legal and agricultural reasons, to assign ownership, to assess tax liability, and so on. But it also acted as much more than that. It represented Roman organization of the landscape in a Roman way. It can be no accident that some of the most extensive and enduring instances of surviving centuriated landscape occur in territory only won by Rome after bitter struggle - Campania, for example, Cisalpine Gaul, Carthaginian North Africa. Centuriation, therefore, can fulfil the need to punish and repress: to repeat Nicholas Purcell's memorable phrase, it is "*a spectacular display of the conqueror's power*"¹⁰, especially in terrain not altogether amenable to it, where it nonetheless is laid out regardless - and deliberately so. Moreover centuriation by definition brings permanently to the landscape which is affected Roman units of measurement, Roman law, Roman methods of management. Given Rome's struggle to conquer much of Spain, the extent of centuriation in the peninsula becomes a question of major importance on which we must hope for further enlightenment.

8. See, for example, O.A.W. DILKE, *Greek and Roman Maps* (London, 1985), pp. 122-24; and more generally J.B. HARLEY and D. WOODWARD (eds.), *The History of Cartography* vol. 1 (Chicago, 1987), chap. 14.

9. See, for example, K. MILLER, *Die Peutingersche Tafel oder Weltkarte des Castorius* (Stuttgart, 1916), pp. 7-8 and Tafel III.

10. "The creation of provincial landscape: the Roman impact on Cisalpine Gaul", p. 16 in BLAGG and MILLETT, *The Early Roman Empire in the West*, to which this section owes much. No less important is his review of C. NICOLET, *L'Inventaire du Monde: Géographie et Politique aux Origines de l'Empire Romain* (Paris, 1988), *JRS* 80. 1990. pp. 178-82.

The find of what appears to be a fragment of a bronze **forma** naming the River Ana and the Lacimurgenses is an exciting pointer in this direction¹¹.

It is easy to see that centuriation and the planning of principal roads are linked: the sheer straightness of such roads over long stretches once again visibly and permanently recalls the conqueror's power over the landscape. Equally integrated into this network are the navigable rivers. Rivers, like roads, help to define territory and, where navigable, assist communications: hence Strabo's preoccupation with them, as well as the entirely appropriate appearance of the River Ana on the **forma** fragment.

Likewise integrated with centuriation and the planning of principal roads is the third means by which control was gained of the landscape, namely the establishment of new settlements, especially Roman **coloniae**. The roads linked these, and their inhabitants worked the centuriated land. Most important of all are those settlements at the nodal points where main roads meet -- thus in Spain at Caesaraugusta and Emerita, for instance, at Hispalis and Corduba.

Needless to add, the architecture and amenities of such urban centres in their turn made a forceful statement about Roman values, organization, and control. What is easily overlooked, however, is that the wider landscape, too, came to be marked by a variety of Roman monuments which gained significance not least as points of reference and definition. I have in mind a whole range from milestones to bridges, arches, altars, trophies, pillars, and lighthouses. The milestones from Baetis to Gades proclaimed that Augustus built the road, and described it as going not from Baetis to Corduba to Gades, but "*from Baetis and the Ianus Augustus [at Corduba] to the Ocean*"¹², with the implication therefore that Roman power does indeed extend to the edge of the inhabited world. The lighthouses at Gades and [Flavium] Brigantium act in part to mark 'terminal points'. Pompey's trophies of 72 B.C. were dramatically placed where the Via Domitia crosses the Pyrenees, the defining mountain chain which divided Iberia from Gaul. For Strabo, characteristically, the one feature worth mentioning in passing about the Roman colony of Celsa was its stone bridge across the Ebro - like all such bridges, a marvel and an affirmation that Rome had opened up and defined country that once had been impenetrable and formless (3.4.10). As Aelius Aristides summed it up to Antoninus Pius:

"You have surveyed the entire inhabited world, spanned rivers with bridges of every kind, cut down mountains to open traffic-routes, filled the deserts with hostels, and civilized it all with system and order" (To Rome 101).

If all this reflects an accurate appreciation of the Romans' organization and grasp of the landscape of their world, it is natural to ask why they did not then

11. See P. SÁEZ FERNÁNDEZ, "Estudio sobre una inscripción catastral colindante con Lacimurga", *Habis* 21. 1990. pp. 205-27.

12. *ILS* 102.

see the potential value of a good map. The inescapable fact that they evidently did not may seem all the more baffling when we recognize that they had indeed mastered many basic mapmaking techniques in their itineraries, and even more so in their surveys for centuriation and roadbuilding. In addition, bronze copies of all survey documents were to be sent to Rome, so that in theory at least 'maps' of this type for large parts of the empire were assembled there. But they were demanded more for safekeeping by the gods and for a validation of the arrangements which they reflected, not to serve as a database available for "the government" to consult. Retrieval and exploitation of stored data were never a notable part of Roman administrative practice.

Rome, after all, had no "government" in a modern sense, and subjects' expectations of their rulers were quite different from ours. The emperor's role was largely a 'reactive' one, and he was often out of Rome. Neither he, nor the likewise mainly peripatetic officials appointed by him, were responsible for the day-to-day administration of the countless communities which made up his empire. Rather, each community was a sovereign state with local autonomy, and was treated as such. To that extent, the emperor had no need for a map of his empire, nor did local leaders because they were intimately acquainted with their own surroundings in any case. If their detailed geographical knowledge extended no further, that too was appropriate: no community was free to pursue ambitions against its neighbours, and the formal relationship of each was to Rome alone.

To us, of course, the map seems an obviously efficient, economical, and comprehensive way of representing landscape. We so much take this for granted that we tend to forget how sophisticated a product it is, both to create and to interpret. We overlook the immense variety of different ways that civilizations have developed of recording spatial data¹³. As I outlined earlier, Philip II's experience in attempting to map Spain is an instructive reminder of just how much data - physical and cultural - in fact needs to be assembled before the actual making of the map can begin. And even then a large team of collaborators will be needed to assess and organize the data for placing it on the map. Decisions must be taken, too, about the intended purpose of the map. No map can be a completely 'general purpose' creation, much less a completely objective one: each has to reflect a whole set of interrelated decisions about scale, size, projection, content, purpose, range of users, and so forth. To be sure, **we** are accustomed to certain norms in these respects, but in reality they have taken centuries to develop¹⁴.

The same applies to the conventions of presentation. To represent changing altitudes by different tints or by contour lines, or both, may strike us today as so natural and comprehensible as not to merit any comment, but we should recall

13. As now superbly demonstrated by *The History of Cartography* (in progress).

14. See, for example, D. WOOD, *The Power of Maps* (New York, 1992), and M. MONMONIER, *Mapping It Out: Expository Cartography for the Humanities and Social Sciences* (Chicago, 1993).

that both are conventions which were only developed in the 19th century (by which time there was also the capability to measure altitude accurately)¹⁵.

Altogether a good, comprehensive map is an extremely sophisticated creation - something very challenging both to produce **and** to interpret. And by definition the more complex it is, the more awkward it becomes to make copies (albeit not impossible); the less useful, moreover, those copies will be if not executed with sufficient accuracy. Copying of a complex map, let us recall, remained an exceptional challenge until little more than a century ago at best, even with the invention of printing. The costly, laborious skill of copperplate engraving remained the preferred method even long after the development of lithography early in the 19th century. And only a modest number of copies could be taken from such an engraving because all linework suffered from the intense weight of the press. The incorporation of colour into a map was no less of a problem: this was done manually by 'colourists' until well into the second half of the 19th century¹⁶.

Studies by geographers and social scientists indicate that today, even in countries where the general level of education is high, a sizeable proportion of the population would prefer to be guided by verbal directions rather than a map when driving to an unfamiliar destination outside their home area¹⁷. If that does not surprise us, we should hardly be puzzled either by the absence of cartographic grasp or awareness in ancient Roman society, where such advanced education as there was centred almost entirely around the spoken and written word, to the exclusion of mathematics and the sciences. This is not to overlook the fact that Greek and Roman civilization did produce scientists with remarkable cartographic grasp and awareness -- Marinus and Ptolemy at once come to mind. Possibly these two did not make maps themselves, but there is no question that they could be made from their work.

What is much more significant for our purposes, however, is the fact that the wider potential of the work of a Marinus or Ptolemy was never realized even by educated contemporaries in public life. Literature held pride of place in their culture, not science or mathematics. Geography certainly had a notable place there too, but it was geography approached from a literary standpoint. Perhaps in consequence of that, there was no widespread concern to find out 'the truth' about the physical world, or to explore it much further. By the time of the Roman Empire, if not earlier too, the boundaries of the known were recognized, and arguably there was even some pleasure taken in preserving a degree of mystery about its edges and what lay beyond¹⁸. Among those areas on the edge, Spain - bordering

15. See H.M. WALLIS and A.H. ROBINSON (eds.), *Cartographical Innovations: an International Handbook of Mapping Terms to 1900* (Tring, 1987).

16. See D. WOODWARD (ed.), *Five Centuries of Map Printing* (Chicago, 1975), chap. 3.

17. B.B. PETCHENIK, "Facts or values: basic methodological issues in research for educational mapping", *Cartographica* 22. 1985. pp. 34-35.

18. Note now J.S. ROMM, *The Edges of the Earth in Ancient Thought: Geography, Exploration and Fiction* (Princeton, 1992).

Ocean - was of course one of the best known and most accessible, but even here Strabo chooses to maintain a conscious sense of mystery about the outer boundaries. Certainly he claims more than once that "geographers have no business pondering what lies beyond our *oikoumene* (the part of the world **we** inhabit, in other words)" (e.g. 2.5.34).

If you accept my claim that map consciousness as we conceive it was in effect absent from the classical world, you might well go on to enquire whether modern attempts to map it, as the *Tabula Imperii Romani* and my own A.P.A. *Atlas of the Greek and Roman World* projects are doing, is misplaced effort. While the question is certainly a reasonable one, the answer to it has to be an emphatic 'no': no, it is not misplaced effort for us to map the classical world in ways that relate to our perceptions and interests. True, we may not be able to recreate the perceptions of contemporaries. But equally we cannot escape from our own vision, and it would be folly for us to ignore or reject the means of recording it that we have at our disposal, especially now that modern technology has made these so precise and so versatile.

Sound appreciation of the physical and cultural landscape through good maps can only enhance awareness of the classical world on the part of all who study it. To those of us assembled here today, the claim seems so obvious as to be hardly worth making, but absence of concern for the mapping of the classical world has been so widespread since the end of the 19th century that we really do need to bring the potential value of good cartography back to the attention of many of our colleagues in the field.

As you know, from the 1920s to the 1960s the *Tabula Imperii Romani* was the only major project to make a substantial contribution to the mapping of the classical world. Since then it has been joined by others in related fields, most notably the *Tabula Imperii Byzantini*, and the *Tübinger Atlas des Vorderen Orients* now nearing completion¹⁹. But it still has a major role to fill (especially in the West) because map coverage of the classical world remains so uneven. For that reason the first of the new Spanish sheets issued last year (K-29), which we are here to celebrate, is exceptionally welcome. We congratulate its compilers, and look forward eagerly to the appearance of the adjoining sheets that are due to follow²⁰.

Among those of us who do value cartography, the expansion of requirements during the past century is a notable, and continuing, trend. Some means of distinguishing sites of the Early Empire from those of the Late Empire is now looked for, for example. Equally, the alteration of a modern base map to restore the ancient

19. On all these projects, and others, see my "Mapping the classical world: major atlases and map series 1872-1990", *Journal of Roman Archaeology* 5. 1992. pp. 5-38.

20. See further in general F.J. SÁNCHEZ-PALENCIA et al., "La Tabula Imperii Romani su estado actual en España", *Archivo Español de Arqueología* 63. 1990. pp. 358-66.

landscape of its territory has become a prime concern (thus shifting coastlines, and restoring contours where a modern reservoir or urban sprawl have blotted out the physical landscape). Elementary, you may say today: but in fact such concerns hardly feature, if at all, in the planning reports for the *Tabula* in the 1920s and 30s.

Looking to the future, I am sure that one criticism which we shall incur from scholars with an interest in Spain is maintenance of the 1:1,000,000 scale on the part of the *Tabula* team, and choice of the same for the A.P.A. Atlas. To some degree, however, the criticism becomes almost a compliment on the part of such scholars - who will be pressing for larger-scale maps on the basis of what they have gained from our smaller ones. We ourselves in turn, using 1:1,000,000, look back to how Kiepert in the 1890s limited himself to 1:2,000,000 or 2,500,000 for most of Spain, and even for Baetica just 1:1,200,000. Once the value of a good map is seen, it's natural to want larger, and yet, larger scales. To some extent that desire can now be met by the computerization of maps - another emerging development that we need to try and exploit - because of course the computer and its database will allow scale to be changed with unprecedented ease. Once again, however, it's perhaps appropriate to recall that any computerized map can only be as good as the quantity and quality of data put into it.

In one sense all this brings us a long way from the image of Spain in the context of ancient cartography, though in another the gap is maybe shorter than it might seem. Whatever exactly the ancient vision of the landscape was, it was not ours. To deepen our own understanding of it, however, we must gain the best possible grasp of that landscape by our own means, namely by making good maps as we understand them. This is sure to bring us many benefits, and above all it has to be an essential step in the search for the ancient vision. All of us - archaeologists, cartographers, epigraphers, historians, numismatists - have much to contribute.