

# THE LATE URBAN FORT OF THE BICO DA MURALHA, CONIMBRIGA (PORTUGAL)

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# ABSTRACT

Several recent excavations at the Lusitanian site of Conimbriga (central Portugal) have revealed consistent public and domestic investment during post-Roman phases. One of the better preserved Visigothic buildings is of a defensive nature, and took advantage of both the hilltop and the existing Late Roman wall.

KEYWORDS: Visigothic construction, Lusitania, local defence, urban space

# INTRODUCTION

The urban space labelled for centuries as alcxçova (Memórias Paroquiais 1758, 11/370, 2525-2528) or, in a less assertive manner, as Bico da Muralha, is located at the western limit of the platform on which ultimately Roman and Late Antique protective structures were constructed. The configuration of the site led to a sort of geostrategical determinism, focused, in a territorial meaning, on the

control of the valley. And in a strictly logical sense, it ended up defining the articulation of the entire defensive architecture, in a demonstrated sequence since the Early Empire – though the existence of an Iron Age layout on the same level curve seems verisimilar. The entire sector went through severe stratigraphic disturbances: a number of unregistered excavations invalidated many levels directly related to the wall. One can still

point out a suggestive yet poorly defined superposition of horizons, which precede the wall's foundation, revealed to a great extent through large amounts of rather incoherent materials from the earliest excavations. The identification of many Chalcolithic elements should be noted, all of them out of their original context and recovered in Imperial activity layers. The considerable series of Bell Beaker pottery stand out within the collection. Most local disturbances, already referred to two decades ago (Arruda 1990, 11), seem to be of a harsher nature than at the rest of the site; in fact, they are to be understood in a context of intense, successive and more involved re-occupations. The significant presence of a Phoenician component, with orientalising material (Correia 1993, 229-283), reflects the receptivity of a hilltop settlement with a firm Late Bronze development. On the other hand, the Bico also represents the most recent of all urban investments at Conimbriga, as a very late spatial contraction and thus a complement to the defensive enclosure. This last phase appears to be the less wellinterpreted one, being commonly regarded as contemporary with the Late Empire municipal endeavours.

# CHRONOLOGICAL MEANING

From a sheer urbanistic standpoint, the area is sectioned in an obvious defensive correspondence with the city wall, which had been formed in the fourth century, in turn through an artificial delimitation of the plateau. To interpret the receding nature of the Bico in a late Roman milieu also, one should consider it as some sort of military quarters, a difficult-to-conceive scenario in imperial Lusitania. Le Roux (1982, 392 and 400) referred to the troops located by the Notitia Dignitatum at Brigantium, Lucus, Iuliobriga and Veleia, although he described also the occurrence of a precocious de-militarization

amongst the Hispanic army. In fact, the documented existence of comitatenses detachments in oriental urban locations could have had some application in the Western provinces – at least if any credence is to be given to an unequivocal passage by Vegetius (De Man 2006a, 92). The Bico was in part superimposed on a zone of Early Empire waste deposits, dated through radiocarbon (SAC 2110; 1870+-45 BP). But even the most preliminary indicators have pointed towards a much later phase for the Bico, with the Roman wall, without significant changes to its composition, forming its northern segment. The contemporeanity of the eastern and southern parts appears indisputable, considering they both present a shared structural plexus, at their core level. Even so, a reconstruction of the latter resulted in an interruption of its upper section, culminating in the dislocation of the southeast angle. This junction reflects disarticulated intermediate addition, perhaps indicative of an attempt to insert a corner tower, posterior to the Bico's base but previous to the reconstruction of the upper ranges of the southern section. Such a purpose was a total failure, because the new element merely overlaid the existing wall, without ensuring its stability through a correct weight and thus structurally distribution, disaggregated in a somewhat predictable way, towards the outside. Both alignments reveal a different composition of their façades and dimensions, in addition to the fact that they owe their orientation to the city wall; the entire structure demonstrates an effort to imitate the Late Empire defenses. Most architectural deviations are due first of all to particularities of a technical instead of a conceptual nature. It is hard not to associate this type of settlement with a Late Roman military heritage, with many Hispanic variants, but presenting explicit differences when confronted with Byzantine and North

African solutions (Gutiérrez Lloret and Abad Casal 2002, 141). There is at least one related Lusitanian application: Mértola displays a comparable fort, but with several corner towers (Hourcade and Lopes 2001, 209). The lack of true defensive towers at the Conimbrigan structure reveals a definite technical preference, and the only factual rupture with the city wall's previous module. It seems acceptable that after an evaluation of costs and benefits, such an investment was considered too expensive; for some reason a tower system appeared to be a dispensable feature. In any case, the destruction of about ten metres of the city wall, adjacent to the Northeast corner, in an attempt to obstruct a direct passage by using the old battlement, should be attributed to this phase. As a secondary result, this large breach supplied building material for the ongoing construction. Indeed, many of the stone blocks used in the Bico definitely came from the Late Empire city wall, and one could make a rough estimate of how many reusable elements were obtained during demolition. The old outer blocks, covering the core, reveal a reasonable homogeneity in size and shape, and their moderate appearance in the new construction allows the conclusion that they were not nearly sufficient. A multiplicity of other local material was also made use of; much of the usable stone came from elsewhere inside Conimbriga.

Based on this problem, an area south of the Bico's entrance was excavated. Three distinctive occupational horizons became evident, the youngest of which was not relevant to the understanding of the structure. During the modern age (presumably), the place's configuration was used to support a small construction. Its reduced dimensions cannot indicate any other function than that of a small depository. At the moment of the structure's abadonment, it covered an ordered depot of semi-circular tiles. The identification

of a second horizon would be justifiable only through a stratigraphic position, but its material content is also a conclusive indicator. There is tangible proof of weaving activity on the site; one of the corresponding units contained an iron template terminal, in a reasonable state of preservation, in addition to a bone spindle and a loom-weight. Assuming the latest possible chronological hypothesis, the template terminal, as an isolated object, should not be prior to the fifth century yet ought to be understood in a medieval environment; there are nineteen parallels at Conimbriga (Alarcæo and Ponte 1982, 163-168), recovered in the forum's superficial or destruction layers. On the other hand, the levels associable to the construction of the fort point towards a cycle that was active at Conimbriga around the sixth century. An immediately subsequent and fully Visigothic occupation was identified, presenting only a very slight stratigraphic interruption and indicating continued domestic activity in a Late Antique context. It seems possible that the second horizon represents a terminal phase of this component, although it should be situated in a more developed time limit. The related pottery still reveals a Late Roman matrix, but also, without a doubt, a Visigothic chronology. An interesting form (fig. 1, nr. 2), although bringing to mind local Iron Age shapes, reveals definitely fifth or even sixth century characteristics, namely severe porosity yet associated to oxidised and still well-turned manufacture. Furthermore, the filling of the foundation trench was perforated by a silo replete with elements attributed to a horizon active at Conimbriga around the eighth century. The sandy ceramics, asymmetrical and produced at low and inconstant temperatures, are ascribed to a Conimbrigan phase previous to the reacquisition of those homogenous features that would become characteristic of the end of the following century, and essentially of the

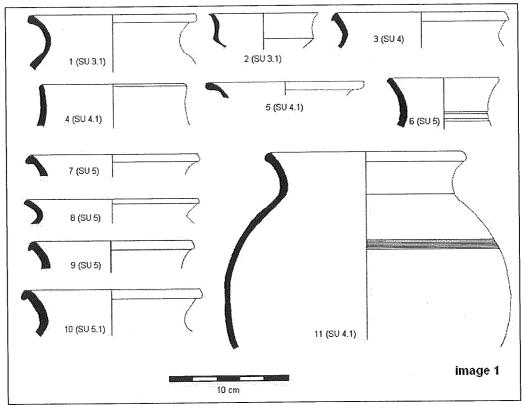


Fig. 1 Pottery in use during and immediately after the construction of the Bico da Muralha

tenth century fast-wheel resurgence (De Man and Soares 2005). The possibility of later occupations, based on a medieval paramilitary logic, is not to be discarded; however, the conceptual origin of the work, later than the Late Empire enclosure, should be situated in a pre-Islamic chronology. definite renowned geo-strategic purpose of the Visigothic monarchy was translated right from the start into the maintenance of defensive cores along the main communication arteries (García Moreno 1987, 332-336). Such a planified military system had shaped itself through those important yet ambiguous articulations, of a federative nature, with the Roman forces of Tarraconensis, which manifested precisely after the Theodosian dynasty. However, the creation of the Bico da Muralha might perhaps to be understood in the context of the annulment of local autonomies by Leovigild (Collins 2004, 61), and associated with the terminus of the Suevic realm in 585. From a chronological point of view, there existed a phase at Conimbriga that was homologous to the establishment of nearby northern peninsular defensive sites, reoccupied between the fifth and eighth centuries (Gutiérrez Gonzàlez 2002, 21-23). Such a minor fortification network operated in a wider environment of territorial exploration, which exceeded the limits of strictly fiscal or military factors. In the end, it developed into the same type of the Leonese castros established at the Douro line during the ninth and tenth centuries (Gutiérrez Gonz×lez 2003, 92-93).

# ARCHITECTONICAL MEANING

The Bico da Muralha presents a series of discontinuities, some of which seem a probable result of contemporary construction. The localized reconstructions took place on an entity that, in its own origin, was already an irregular and heterogeneous product, thus producing an archaeo-architectural result replete with particular stratigraphic tendencies. One of them consists in the common characteristic of the walls forming new cavities (Carandini 1997, 76); after all, we look upon a continued process of subtraction and addition, whose result could be understood in a functional, symbolic and, of course, spatial ambit (Blanco Rotea et alii 2003, 20). The most compelling reason for the Bico's existence was manifested through its practical utility, and would not have been as ambiguous as the Late Roman wall; that is, simultaneously a defensive structure and ostentatious monument. In any case, the basis of such reasoning cannot be merely analytical, becoming subordinate to a post-processual trend in which the topic is centred more on questions of semiotics than of function. One should keep in mind that the determination of a fundamentally social origin for the construction of the Bico - and also the remnant, strictly self-preserving or defensive nature - reclaims a formalistic, so-to-say empirical, principle. However, following Brogiolo (1995, 32), one should point out the simplistic reduction of a merely depositional record, with previous and posterior relations, since a building is not only composed of strata, but also of forms. Public architecture surpasses those forms to be situated in the camp of symbology. To translate such values into a sociometric expression implies the handling of a considerable quantity of simply unverifiable unknowns, of demographic or, in a larger sense, economic character. But in spite of this, one will always distinguish a

certain degree of "meta-architecture" in the Bico da Muralha, in the sense that it represents the physical establishment of a power in a place where that power did not exist before. The foundations were not directly supported on the base rock, but merely superimposed on non-consolidated pre-Historical levels, a fact suggesting a reduced technical investment during the work because the calcareous level would have been uncomplicated to reach. The facing denotes an attempt, materialized only in part, to maintain the same principle of stabilizing lines in the façade that had formed settling planes in the urban wall. In the Bico, these planes acquired a considerable irregularity, or, as at the Southern section, a configuration in stair-step form (De Man 2005c). The wall of Recopolis displays analogous architectural solutions, with badly squared and faced ashlars, thus mixed with mortar, lacking the structure of real foundations (Palol 1991. 358). At the Castro del Cristo de San Esteban, these deficiencies are interpreted as indicators not just of a post-Roman chronology but also of a later technology (Nuño Gonzàlez and Dominguez Bolaños 2002, 116). However, the majority of palaeochristian architecture already tended to use this solution (De Man 2006b, 21). If the reutilizations per se do not constitute a new phenomenon, what intensifies during the Gothic period is the unconcern in camouflaging such elements. Hence the deep-rooted heterogeneity among Visigothic fortifications, which vary in dimension, technology and morphology; at Conimbriga's Bico da Muralha, as in other sites, a post-classical outline was always maintained. In a certain perspective, the cementation of the facing ended up representing an expansion of the core, and the use of twin walls, whose architectonic order begins from the inside, towards the exterior (Acocella 2000, 10-23), contrary to the respective construction process, appears in an

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obvious manner as reminiscent of the Roman world. After all, its logic deviates only slightly from the technology that used a system of large blocks in an alternating façade, since many of the urban walls of the fourth and fifth centuries made use of such a header and stretcher technique. Curiously, this is not the case at Conimbriga, one of the only well-dated monuments (first two decades of the fourth century; vide De Man 2006d), whose opus vittatum-like disposition and very moderate recourse of spolia might indicate that, by opposition, a large part of the enclosures considered as tetrarchic are, indeed, quite later. But this reasoning is not that linear and we shall return to the question in another text. Therefore, a flexible, polyvalent heterogeneous material composes backbone of the Bico's Visigothic wall, that is, a cement aggregating a sequence of fragmented elements. This wall matrix was emphasized during the Late Antique period, starting in the final phases of the Empire and reaching the emiral epoch. However, in the later parts of the Bico, the difference between core and external facing often becomes confused, given that a greater recurrence to mortar, linked to the inherent heterogeneity of building blocks, created an indefinite transition zone. Another particularity relates to the quadrangular and outer "tower", at first sight comparable to those of the external wall. The most curious aspect is the verification of its purpose as merely structural, serving, after all, as a tower-like counterfort. Once the wall's weakness became evident, the decision was made to build this support, beginning on a firm mortar base, at a higher stage. Excavation allowed the recognition that it was conceived after the beginning of the building process, integrated afterwards and concluded at the same time. The structure was propped against the unfinished wall, until an intermediate level, from where both constructions were terminated and aggregated with the same core.

#### THE FACING

In spite of the clear contemporaneousness of both the eastern and southern segments, there are interesting differences in the respective facings. The southern sector reveals severe deterioration, and was in addition further traumatized by previous interventions. One of the many localized repairs, in a strictly etymological sense, is of opus spicatum, given that the model is reminiscent of a spike. For the moment, it looks difficult to interpret it as a degeneration or bad assimilation of the fishspine typology, especially because it would be a sole example in the entire site. However, current re-evaluations do, in fact, indicate Islamic presences unambiguous Conimbriga, and could be related to this section. Even with the abundant application of mortar it became necessary to operate with differently shaped stone, serving as templates and ensuring the framework range. It seems curious (or perhaps not, considering the chronological equivalence) to discover that one of the better hispano-visigothic parallels is located at the opposite side of the peninsula; Puig Rom displays absolutely identical patterns (Palol 1991, 360). The large stone blocks are found without distinction at the internal and external facing, and alternate with lesser ashlars, some of which were placed precisely in an oblique manner, and in well-defined couses. A distinct variant of this construction form survived in the popular architecture, acquiring an ethnographic value, even if it seems prudent to discard a linear connection with the sixth century: the walls with pinned coping from Alvæo natural park (Casella 2003, 160), constructed on an irregular stone base, present interesting common traces that could, indirectly, report to the ones from Conimbriga.

One should keep in mind that the disjoining of a wall in individual actions results from a subjective rationalization, compelling us to consider construction

periods. In this vein, Caballero Zoreda (2003, 53) defends a chrono-typological strategy, based on the principle that such a conception does not necessarily coincide with the purely stratigraphic sequences, given the complex correspondence between vertical horizontal strata (Carandini 1997, 193). In fact, the typological evolution of part of the Bico seems not to evince the same rhythm as the respective depositional periodicity associated with its base. This apparent discrepancy results from a disconnection between coeval architectural archaeological levels, or at least from the impossibility to define such a relationship. It is because of that reason that we have emphasized the topic of architectonic phases that combine several stratigraphic units, hence creating an evolving pattern of construction, more easily comprehensible than the mere summation of actions. In this perspective, notice the lower row of figure 2, which forms a base contemporary to the construction of the Bico. The facing exhibits a very deteriorated condition, including collapses that even perforated the structure. The section to the left side reveals an attempt to maintain a reasonable horizontality, with recourse to well-squared blocks, but appears to reflect a posterior phase to the one that

opted for a diagonal character. The superimposition of elements becomes evident; the left section, with considerably less us of a cement, is supported by the right one, which would hardly be kept together without mortar.

On the other hand, the relationships patent in figure 3 reveal a much more complex architectonic chaining. No less than four construction periods stand out, if we are willing to attribute the entire extension of the base to the same chronology, associated with that of the previous example. A subsequent episode becomes quite visible in the arched double row that culminates at the base. composed of elements with many different textures. It is on the junction between this level and the base that a new line was set, through which a horizontal levelling was sought again. Arguments allowing a conjecture on the construction interval between these three phases are scanty; in theory they could be ascribed to a same project yet in that case one should admit there existed no coherent arrangements. Civil requisition for this kind of project had legal precedents in the Theodosian Code (De Man 2005a, 105-115), and the above-mentioned lack of investment in the foundations suggests strongly that the labour was imposed on the

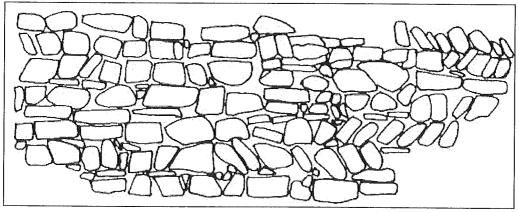


Fig. 2. Sixth century architectural patterns at the Bico

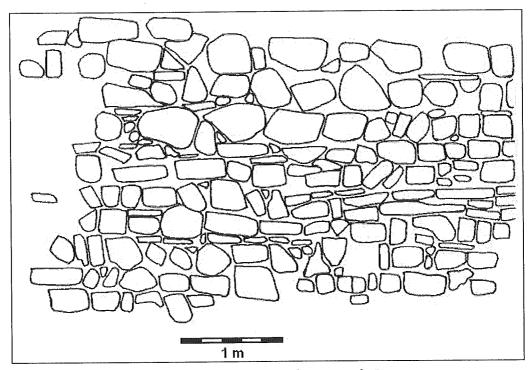


Fig. 3. Sixth century architectural patterns at the Bico

local population, with neither permanent nor specialized orientation. And the architectural articulation might reflect a reality in which, after the construction of the base, one group started and finished its public obligation (on the right side) before another one initiated its part of the work. The final construction seems to be a later recovery of the facing's top, already without proximity to the original phases.

The analysis of a planimetric record permits the determination of formal asymmetries. However, the nature of such inequality could be the result of a difference in the construction material. In the case of the Bico da Muralha, the volumetric and interfacial elements display a great constancy of material — only limestone with marginal construction ceramic present, nearly always fragmented tiles, disposed of in the facing for minor and not structural reasons. So, the

mortar itself must be seen as the only relevant stratigraphic element, amidst a typical late configuration, uniting unequal blocks. It is evident that the tendency toward reutilization in the walls reflects a serious retrocession in the extraction of stone. A loss of economic value of the exploration of large blocks cannot be denied, but it appears as a result of rational choices, towards a more malleable and organic construction. Be that as it may, there existed a noticeable decline in the passage from the fourth century defensive architecture to the Visigothic one, whose cause oscillates between levels of skill and of intention. The tie between the Bico and the defensive city wall is manifest, however comparisons of value make little sense because both constructions emerged not only from different technical premises; they varied also in their fundamental strategic purpose.

# TOWARDS A BIGGER PICTURE: DISCUSSION AND CONCLUSIONS

Archaeological research with reference to Conimbriga has been very much conditioned by excessive focusing on Early Empire architectural programmes. A still ongoing radiocarbon dating project, supported by the Instituto Tecnológico e Nuclear and the Instituto Português de Arqueologia, was developed in 2004 by A. M. Soares and A. De Man. (Some dates are available in De Man 2006b, as well as on the ITN and IPA websites; other were also presented at several recent meetings) It is essential to point out the correspondence between the construction of

the Bico da Muralha, as a limited moment in time, and the dynamics of wider phases, previous or later (see construction interval at figure 4). The recent confirmation of large post-classical and early medieval occupations at Conimbriga (De Man 2004, 2005b, 2006b; De Man and Soares 2004, 2005a), as well as other interventions by J. Ruivo, V. H. Correia and J. Quiroga et alii (publication forthcoming), contextualize the Bico da Muralha as an integrated urban feature, instead of a sheer eccentric, badly defined defensive construction. It becomes quite clear that the internal coherence of pre-Islamic Conimbriga, in spite of its transformed Late

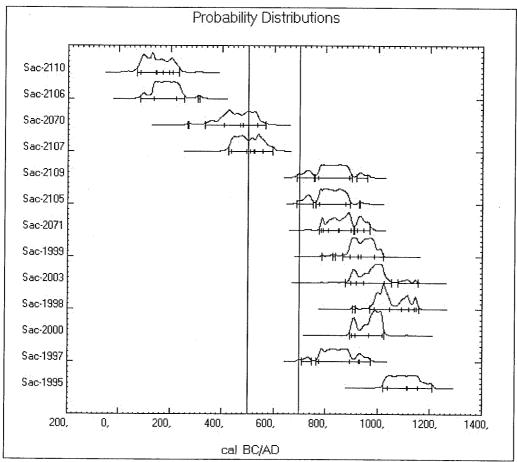


Fig. 4. Estimated construction interval and dating of nearby domestic activity

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Roman structure, cannot be understood as part of a theoretical *end of civilization*, but rather proofs a strong revival after a short fifth century vacillation, common to many smaller Lusitanian cities.

Many of the 1970's notions on Late Roman Conimbriga used to focus a number of historical elements to conceive "life after the Barbarians". For instance, archaeological research was implicitly based on the idea that the site could not have maintained a reasonable degree of social complexity after the fifth century. Such an approach was supported by a selected piece of bishop Chronicon: Hydatius' Misled during peacetime, Conimbriga was taken; the houses and part of the wall were demolished, the inhabitants captured and deported: the city and the region turned into a desert (vide Tranoy 1974). The phrase, however, is an example of pure rhetoric exaggeration, based on a factual assault in the year 468, with a less catastrophic outcome. Many other references, some of them even from the same source, demonstrate a continuity of coherent settlement after the Suevic attacks. Conimbriga kept its obvious fiscal importance to the first Barbaric invaders, and the transference of the bishopric to nearby Aeminium did not occur until shortly before the third Toledo Council, when Possidonius

signed as Emin[i]ensis ecclesiae episcopus (Vives 1963). The Council was held in 589, supervision of king Recared, corresponding precisely to the estimated construction period for the Bico da Muralha. To put the issue differently, the time frame of the bishop seat transference to Aeminium correlates to the building of the urban fort and consequent deployment of a garrison. In this perspective, the Bico appears not as a regional, fiscal fortification under Leovigild but rather as a local, administrative centre under his son Recared. In any case, whether the fort existed or not before the coronation of Recared, the bishop's departure would have caused a sudden void in city administration, resolved through a permanent military presence. Lusitanian episcopal authority during Visigothic times has often been taken for granted and invoked as a somewhat abstract reality, according to legal evidence, or to occasional epigraphic data such as the lost but much quoted inscription of Emerita mentioning bishop Zenon (Moreno de Vargas 1633 [2001]). Thus Conimbriga's Bico might very well represent one of the better preserved end results of a late sixth century power shift, in which the ecclesiastical promotion of Aeminium led to a secularization of daily governance at Conimbriga.

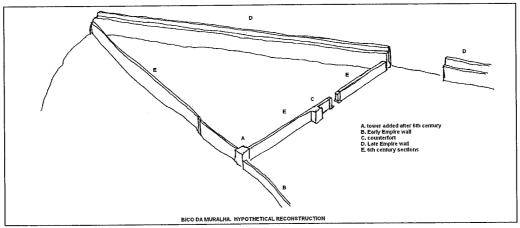


Fig. 5. Bico da Muralha. Hypothetical reconstruction

# REFERENCES

- Acocella, A. (2000) Wall Stratigraphy, Materia 31, Federico Motta Editore, Milano
- Alarcæo, A. and Ponte, S. (1982) O tempereiro e a antiguidade do tear horizontal de pedais, *Conimbriga* XXI, Instituto de Arqueologia, Coimbra
- Arruda, A. M. (1990) *Trabalhos arqueológicos em Conimbriga, Relat½rio da campanha 2 (89)*, Arquivo do Instituto Português de Arqueologia S 251, 6C/104, vol. 1, 11
- Blanco Rotea, R., Ma•ana Borrazxs, P. and Ayxn Vila, X (2003) Archaeology of Architecture: theory, methodology and analysis from Landscape Archaeology, *Archaeotecture*, *Archaeology of Architecture*, BAR International Series 1175, Oxford, 17-39
- Brogiolo, G. P. (1995) Arqueolog£a estratigràfica y restauración, *Informes de la Construcción* 46, nº 435, Instituto Eduardo Torroja, CSIC, Madrid, 31-36
- Caballero Zoreda, L. (2003) Archaeological analysis and intervention in historical buildings, Archaeology of Architecture, BAR International Series 1175, Oxford, 41-60
- Carandini, A. (1997) Historias en la Tierra, Manual de excavación arqueológica, Crítica, Grijalbo Mondadori, Barcelona
- Casella, G. (2003) Gram×ticas de Pedra, Levantamentos de tipologias de construção murària, CRAT,
  Porto
- Collins, R. (2204) Visigothic Spain, 409 711, Blackwell Publishing, Oxford
- Correia, V. H. (1993) Os materiais pré-romanos de Conimbriga e a presença fenícia no Baixo Vale do Mondego, *Os Fenícios no Território Português*, Estudos Orientais IV, Universidade Nova de Lisboa Instituto Oriental, Lisboa
- De Man, A. (2004) Algumas considerações em torno da cerâmica comum tardia conimbrigense, *Revista Portuguesa de Arqueologia* 7-2, Instituto Português de Arqueologia, Lisboa, 459-472
- De Man, A. (2005a) As defesas urbanas tardias, entre Vegécio e Maurício, *Boletim de Estudos Clàssicos* 43, Associação Portuguesa de Estudos Clàssicos, Coimbra, 105-115
- De Man, A. (2005b) Sobre a cristianização de um *forum*, *Al-Madan*, série II, nº 13 versæo electr<sup>1</sup>/2nica, Centro de Arqueologia de Almada, Almada
- De Man, A. (2005c) A muralha tardia de Conimbriga, *Murallas de Cidades Romanas no Occidente do Imperio Lucus Augusti como Paradigma*, Congreso Internacional Conmemorativo do V Aniversario da Declaración da Muralla de Lugo como Patrimonio da Humanidade, Museo Provincial de Lugo / Deputación Provincial de Lugo, 27.11.2005 (in press)
- De Man, A. (2006a) Vegécio, Tratado de Ciência Militar, Edições Sílabo, Lisboa
- De Man, A. (2006b) Conimbriga do Baixo Império à Idade Média, Edições Sílabo, Lisboa
- De Man, A. (2006c) Transformação metalùrgica na casa de Cantaber, III Simpósio sobre Mineração e Metalurgia Históricas no Sudoeste Europeu, Actas, Sociedad Española para la Defensa del Patrimonio Geológico y Minero / IPPAR, Faculdade de Engenharia da Universidade do Porto, Porto, 2006, 141-152

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De Man, A. (2006d) Late Urban Defences of the Lower Mondego: the cases of Conimbriga e Aeminium", 20th International Congress of Roman Frontier Studies, Universidad de Le½n, 4-11.09. 2006 (in press).

- De Man, A. and Soares, A. M. (2004) Datações por radiocarbono de estratos tardios de Conimbriga, colóquio *Património e Investigação*, Museu Monográfico de Conimbriga, Conimbriga
- De Man, A. and Soares, A. M. (2005) Caracterização e datação pelo radiocarbono de horizontes tardios de Conimbriga, *IV Simposio Internacional de Mérida*, Instituto de Arqueologia de Mérida / Consejo Superior de Investigaciones Científicas / Consorcio de la Ciudad Monumental de Mérida, 04.11.2005 (in press).
- García Moreno, L. (1987) La arqueología y la Historia militar visigoda en la Península Ibérica, II Congreso de Arqueología Medieval Española, tomo II: Comunicaciones, Asociación Española de Arqueología Medieval, Madrid
- Gutiérrez Gonzàlez, J. A. (2002) La fortificación pré-feudal en el Norte peninsular: castros y recintos campesinos en la Alta Edad Media, *Mil Anos de Fortificações na Península Ibérica e no Magreb (500 1500)*, Edições Colibri, Palmela
- Gutiérrez Gonzàlez, J. A. (2003) La implantación feudal y las fortificaciones en los orígenes del reino de León, *La Fortificación Medieval en la Península Ibérica*, Fundación Santa María la Real, Palencia
- Gutiérrez Lloret, S. and Abad Casal, L. (2002) Fortificaciones urbanas altomedievales del Tolmo de Minateda, *Mil Anos de Fortificações na Península Ibérica e no Magreb (500 1500)*, Edições Colibri, Palmela
- Hourcade, D. and Lopes, V. (2001) A Muralha Pré-Romana de Mértola, *Al-Madan*, Série II, nº 10, Centro de Arqueologia de Almada, Almada
- Le Roux, P. (1982) L'Armée Romaine et l'Organisation des Provinces Ibériques d'Auguste à l'Invasion de 409, Diffusion de Boccard, Paris
- Memórias Paroquiais (1758) vol. 11, nº 370, p. 2525 a 2528, Torre do Tombo Instituto dos Arquivos Nacionais, Dicionàrio geogràfico de Portugal, tomo 11, C 4
- Moreno de Vargas, B. (1633) *Historia de la Ciudad de Merida*, Decima reedición (2001), Biblioteca Municipal "Juan Pablo Forner", Merida
- Nuño Gonzàlez, J. and Dominguez Bolaños, A. (2002) Aspectos militares del castro del Cristo de San Esteban, en Muelas del Pan (Zamora), un asentamiento en la frontera suevo-visigoda, *Mil Anos de Fortificações na Península Ibérica e no Magreb (500 1500)*, Edições Colibri, Palmela
- Palol, P. (1991) Arte y Arqueología, *Historia de España III, España Visigoda, La monarquía, la cultura, las artes*, Espasa Calpe, Madrid
- Tranoy, A. (1974) Hydace, Chronique, Sources Chrétiennes, Les Éditions du CERF, Paris
- Vives, J. (1963) *Concilios visigoticos e hispano-romanos*, Consejo Superior de Investigaciones Científicas, Barcelona / Madrid