

The Nasrid Kingdom of Granada between East and West

(Thirteenth to Fifteenth Centuries)

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Productive Activities and Material Culture

Alberto García Porras

1 Introduction¹

Other chapters in this volume have described fully some of the productive activities that were carried out in the Nasrid kingdom of Granada; most of them consisted of different forms of agriculture and animal husbandry. As in any other preindustrial society, the population was chiefly engaged in these two pursuits. Here, however, we will examine the work of artisans that led to the production of different kinds of objects, some meant for daily use and other more specialized ones having a variety of functions and social purposes.

For this study we have relied on two types of sources. Written texts offer only scattered and meager information, most of it in certain types of Arabic documents, with very little in chronicles. Geographical works sometimes note that certain regions produce or manufacture some types of goods, but their information is vague and concentrates on only the most representative products of the area. Perhaps the fullest data on urban production comes from collections of fatwas or legal opinions,² and above all from treatises or manuals about the *hisba*, the regulation of markets. Many of these have been translated, for instance those of Ibn ‘Abdūn and al-Saqāṭī of Málaga, though those of Ibn ‘Abd al-Ra’ūf of Cordova and the Nasrid al-Jarsifī still have no Spanish version. The latter is of special interest for us since it dates to the early fourteenth century; it exists in a now-antiquated French translation by R. Arié.³ These treatises reflect the usages and customs of the market (*sūq*),⁴ the artisans who participated in it, and the institutions that oversaw them.

Artisanal pursuits of all kinds were organized into guilds whose level of organization and cooperation is still the subject of controversy. As A. García Sanjuán has noted,⁵ from at least the fourteenth and fifteenth centuries there were cooperative institutions that we can consider “professional corporations.”

1 This essay is included in the framework of the Research Project “Industria y Comercio en al-Andalus: siglos XII–XV. INCOME” (A-HUM-040-UGR18/P18-FR-2046), funded by Junta de Andalucía.

2 Lagardère, *Histoire et société*, 184–202.

3 Arié, “Traduction française annotée.”

4 Chalmeta, *El zoco medieval*.

5 García Sanjuán, “La organización de los oficios.”

As a group they had a representative called an *alamín* (*al-amīn*), named by the *muhtasib* or inspector of markets from among the skilled artisans who were proprietors of workshops; his choice would be someone he trusted to help him guard against fraud. Two treatises are of particular interest for the period that concerns us. They speak of controlling weights and measures, supervising the development of each specialty, mediating disputes that arose within a guild, guaranteeing product quality, supervising activities relating to the activity, and helping to set prices.⁶ These manuals of *hisba* show that such cooperative organizations functioned during the Nasrid period and continued after the conquest of Granada. The city's capitulation agreement (*Capitulación de la toma e entrega de Granada*) lists the *alamines* of the various specialties and states: "The task of the *alamines* is to see and question, each in his own area, how each [artisan] performs his task; and if he should find that he does something improper he must call on the courts to punish him, and the courts cannot judge these [cases] without the *alamín*, and they should be representatives of the members of their specialty."⁷

Among the areas listed in the *Capitulación*, an important group of *alamines* represents producers of foodstuffs in general: spice merchants, purveyors of barley and flour, bakers, greengrocers, butchers, fishmongers, and poultry sellers. A second important area involved textiles: producers and weavers of silk, cotton, and linen, and sellers of old clothes.

2 Textile

The textile industry was, in fact, one of the most highly developed pursuits in the Middle Ages and in al-Andalus;⁸ the latter produced woolen, cotton, linen, and silk cloth. None of this has left much trace in the archaeological record. Wool was probably the fabric most used in daily dress (more than cotton and linen);⁹ it went into shirts, tunics, pantaloons, headscarves, and hooded cloaks. Ibn al-Khaṭīb described clothing in the Nasrid era: "The clothing most worn by all social classes and most common among them is of dyed woolen cloth, [worn] in winter. The quality of the fabric varies according to wealth and social

6 García Sanjuán, "La organización," 220.

7 "El oficio de los alamines: que han de ver é requerir, cada uno en su cargo, como usa cada uno de su oficio; e si hallare que hace alguna cosa que no deba, ha de requerir á la justicia para que lo castigue, y la justicia no puede juzgar sobre estos sin el alamin, y han de ser procuradores de los oficiales de su oficio": Chalmeta, *El zoco medieval*, 565.

8 Lombard, *Les textiles*.

9 Arié, "Quelques remarques sur le costume."

position.”¹⁰ Wool was also used for ornamental fabrics in the home: it is clear that the floors of Nasrid houses were covered with carpets to make them more comfortable. According to some scholars, Christians were more likely to use woven fabrics and rugs to decorate their walls, so that more of them have been preserved.¹¹ The Arabic origin of the Spanish word for rug or carpet, *alfombra*, seems to confirm this supposition. The southeastern region of the Peninsula seems to have been especially suited for growing, spinning, and weaving linen: “Andalusi linen yielded a textile fiber much valued for its delicacy, length, strength, and flexibility; it produced a broad range of woven fabrics, from the lightest to the heaviest.”¹² Its lightness made it appropriate for summer clothing and for curtains in some rooms. Silk and cotton were also used in warm weather: “In summer they use linen, silk, cotton, fine goat-hair cloth, capes from North Africa, Tunisian veils, and very thin two-layered woolen cloaks; when you see them in the mosques on Fridays they resemble open blossoms on spacious meadows blown by gentle breezes.”¹³ Later visitors to Granada after the Christian conquest, Hieronymus Münzer and Andrea Navajero, also remarked on the residents’ singular mode of dress.

Silk was undoubtedly the crowning glory of the Granadan textile art, for two reasons. As an Islamic space in the West, the kingdom proved a relatively accessible and peaceful destination for merchants from the western Mediterranean who wished to purchase the fabric. Its cultivation left its mark on the entire landscape, since raising silkworms required abundant mulberry trees, grown especially in the southeastern Peninsula. The industry was introduced early and its importance was stressed by such writers as al-Rāzī¹⁴ and al-Bakrī.¹⁵ Al-Idrīsī notes that the Alpujarras region was one of the world’s greatest silk producers, and that in the largest port city of the time, Almería, eight hundred weaving shops made more than ten varieties of silk fabrics.¹⁶ While the silkworms were raised on farms planted with mulberry trees, the rest of the

10 Ibn al-Khaṭīb, *Historia*, 126–27.

11 Rosselló Bordoy, *El ajuar de las casa andalusíes*, 72.

12 “Le lin andalou donnait une fibre textile appréciée en fonction de sa finesse, de sa longueur, de sa résistance et de sa souplesse, permettant de tisser une gamme étendue de tissus, des plus délicats aux codes les plus solides”: Lagardère, *Campagnes et paysans*, 414–15, 436.

13 “En verano usan el lino, la seda, el algodón, el pelo fino de cabra, la capa de *Ifriqiya*, los velos tunecinos y los finísimos mantos dobles de lana, de tal modo que los contemplan los viernes en las mezquitas y te parecen flores abiertas en vegas espaciosas bajo aires templados”: Ibn al-Khaṭīb, *Historia*, 127.

14 Lévi-Provençal, “La Description de l’Espagne,” 68.

15 Al-Bakrī, *Geografía de España*, 24.

16 Al-Idrīsī, *Description de l’Afrique*, 239.

process (spinning, clipping, dyeing, weaving) must have taken place in cities. Production does not seem to have been concentrated in large workshops but to have been scattered among small ones in homes,¹⁷ as we learn from the *Repartimientos* (reapportionment ledgers) of Málaga¹⁸ and Almería.¹⁹ We assume that this kind of domestic labor, on family looms, must have produced other textiles and carpets made of linen, wool, and cotton. Archaeological digs have often turned up thimbles, pins, metal and bone needles, loom weights, spindles, and even scissors in private houses, and all of these should be studied further for a full picture of the workshops. Certain objects were specifically related to silk manufacture, like pieces of glass shaped like truncated cones that were used in the spinning process.²⁰ Such items have been found in the Alhambra (although without a precise archaeological context),²¹ in the city itself, and in the Cuarto Real de Santo Domingo, site of a palace of the Nasrid rulers.

We are not aware of any fulling mills in al-Andalus.²² There were specific sites designated for cutting, curing, and dyeing hides, and we know of tanneries inside the *madīna* in Málaga;²³ though that may seem unusual it was by no means exceptional. We know of at least two tanneries in Granada itself: the first on the banks of the Darro where it flowed through the city, in the *madīna*. The river provided the necessary water and carried away wastes. Notably, excavations next to the Alhóndiga Nueva or Corral del Carbón have revealed several basins that, by their finish, appear meant for different phases of leatherwork;²⁴ upstream, another was documented in Calle de la Colcha.²⁵ By no coincidence, this area belonged to the medieval neighborhoods called *al-Ṣabbāghīn* (of the dyers) and *al-Dabbāghīn* (of the tanners).²⁶ But there was another tannery in the Alhambra,²⁷ probably producing leather for the Nasrid monarchs and related to the revival of *ṭirāz*, luxury embroidered textiles. This leatherworking area was in the urban part of the palatine complex, to the southeast of the convent of San Francisco. Excavations there by L. Torres Balbás revealed a large area containing pools, basins, and hollows for cauldrons, all meant for tanning

17 López de Coca Castañer, "La seda en el reino de Granada," 35–37.

18 Bejarano, *La industria de la seda*, 14.

19 Segura, *El libro de Repartimiento de Almería*, 144.

20 Giannichedda, "Lo scavo di Santa Maria in Passione."

21 Marinetto Sánchez, *El vidrio en la Alhambra*, 15.

22 Córdoba de la Llave, "Los batanes hidráulicos," 600–01.

23 García Ruiz, *Málaga en 1487*.

24 Malpica Cuello, "El río Darro y la ciudad medieval."

25 Rodríguez Aguilera, *Granada arqueológica*, 155.

26 Seco de Lucena Paredes, *La Granada nazarí del siglo xv*.

27 Torres Balbás, "Tenería en el Secano de la Alhambra."

or dyeing hides. Perhaps it was this sector that turned out the prestigious silk garments rich in embroidery with geometric designs (including interlacings, stars, and vegetal motifs), as well as banners, all in vivid colors.²⁸ Though Arab authors are full of praise for the finished silk fabrics produced in Granada, many of which have survived, it seems that foreign merchants were more interested in buying skeins of raw silk and promoting its production.²⁹

3 Wood

Another important group of artisans were the woodworkers, who reached high levels of technical skill in Nasrid Granada; we do not know what area of the city they occupied. The *Capitulaciones* mention cabinetmakers and carpenters, and their work occasionally produced domestic furnishings. But Andalusí and Nasrid houses contained very little furniture, and because of the medium's fragility few examples survive; modest dwellings relied on mats and cushions on the floor. There may have been some chairs and tables in palaces: illuminated manuscripts such as the *Cantigas* of Alphonse the Wise seem to show Muslims sitting on seats of some kind and next to some type of table. But the only surviving example of such furniture is the *jamuga* or scissor chair in the Alhambra Museum, thought to date from the Nasrid period.³⁰ Excavations have also yielded none of the boxes or chests in which families stored their goods: there must have been wooden chests, some made with expert joinery (*taracea*)³¹ or appliquéd with polychromed interlaced strips (*ataujerado*),³² as well as baskets woven of various materials. We do know of niches in masonry walls, sometimes finished with simple shelves or closed with doors made of joined wood pieces.³³

A large proportion of carpentry work was devoted to elements of Nasrid architecture. Entrance doors to houses could be elaborate, with skilfully fitted boards and strips of *ataujerado* as decoration.³⁴ There were carved lintels,³⁵

28 Partearroyo Lacaba, "Tejidos nazaríes."

29 Fábregas García, "La seda en el reino nazarí."

30 Bermúdez López, *Arte islámico en Granada*, 436.

31 Bermúdez López, *Arte islámico*, 454.

32 Bermúdez López, *Arte islámico*, 462–65.

33 Bermúdez López, *Arte islámico*, 379–80.

34 Bermúdez López, *Arte islámico*, 391–92; Marinetto Sánchez, "Puertas de la casa."

35 Bermúdez López, *Arte islámico*, 394–400.

jalousies to screen the interior from prying eyes,³⁶ and balcony railings.³⁷ Structural elements included beams, downspouts, eaves, and hinges,³⁸ and the crowning achievement of Nasrid woodworking: ceilings and roof framing.³⁹

4 Builders

These architectural features would also be shared with another group of artisans, the blacksmiths, who made wrought-iron grills and many types of tools. We know only that they lived in an area of Granada known as al-Ramla,⁴⁰ where there was a mosque of *al-Ḥaddādīn*, the ironworkers. Recent excavations in the Alhambra, using geochemical analysis, have uncovered an area in the Secano that contains a high level of metal residues, especially copper, around a structure meant for smelting;⁴¹ since the research is not complete we do not know if it produced large objects or small decorative ones. The only metal items to survive are some nails, strips applied to wooden doors, and what is thought to be a tool for rammed-earth construction.⁴²

In all it was a wide range of artisans who participated in construction in some way. Those actually responsible for building were architects and masons, who lived all over Nasrid territory, in cities and outside them. In the course of their duties on building sites they worked closely with carpenters, blacksmiths, bricklayers, and tilesetters. Though we have no precise information for the Nasrid period we know that earlier, under the Umayyads, public works were well organized in a descending hierarchy: every state project had a chief of works (*ṣāḥib al-abniya*), a construction foreman (*ṣāḥib al-bunyān*), inspectors of the finished work (*naẓīru l-bunyān*), and overseers of the masons (*‘urafā’ al-bannā’*) who performed the actual labor.⁴³ This high degree of organization and specialization allowed Muslim builders to complete complex projects in relatively short periods of time⁴⁴ – always, as Ibn ‘Abdūn informs us,⁴⁵ under

36 Bermúdez López, *Arte islámico*, 361–62.

37 Bermúdez López, *Arte islámico*, 327–28.

38 Bermúdez López, *Arte islámico*, 373–74; Torres Balbás, “Aleros nazaríes.”

39 López Pertíñez, *La carpintería*.

40 Seco de Lucena Paredes, *La Granada nazarí*, 163–64.

41 García Porras, Welham, and Duckworth, *Informe preliminar de la intervención*.

42 González León, “Los metales.”

43 Ocaña, “Arquitectos y mano de obra,” 58–59.

44 Cómez Ramos, *Los constructores de la España medieval*, 38.

45 Lévi-Provençal and García Gómez, *Sevilla a comienzos del siglo XII*, 112–14.

the watchful eye of the *muhtasib*, the inspector who ensured that the walls were of the proper thickness, the materials were of good quality, and so on.⁴⁶

Almost all the Nasrids' construction techniques were inherited from earlier times: for instance the stonework that was developed in civil architecture from the ninth to the eleventh centuries, which we find as structural reinforcement in such Nasrid buildings as frontier castles.

In the final years of al-Andalus one of the commonest building techniques was *mampostería*, masonry of stone blocks held together with mortar. Some scholars have noted that in the middle Nasrid period the rulers encouraged its use with a systematic program for strengthening forts on the frontiers of Granada as well as in the capital and other cities.⁴⁷ It normally took the form of courses of blocks separated by smaller stones or rubble. The style was not universal, and underwent some alterations at a late date;⁴⁸ there are many questions about its origin, value, and meaning. Early on it was thought that this type of stonework in Granadan fortresses imitated defensive structures already in use among the Christians,⁴⁹ but it later became known that it had been employed earlier in Islamic states of North Africa.⁵⁰ Torres Balbás, in 1951, already explained the function of this type of stone wall: with the advent of artillery as a mode of attack, *mampostería* proved more resistant than the plaster or rammed-earth walls (*tapial*) of earlier times.⁵¹ In addition to their defensive function, stone walls conveyed a symbolic message of solidity to potential attackers: as a form of propaganda they projected the power of their patron or owner. From that point onward, Nasrid constructions employed stone both within and outside the cities. In Granada we see it in both the Alhambra and the Generalife, as well as in other contemporary buildings.

Where rammed earth was used instead of stone the *mampostería* technique was not being abandoned, rather the contrary. Rammed earth continued to be an important method but included a new type, *calicostrado*, fortified on both sides with a plaster mix of sand and lime. It appears in residential architecture, for instance in the Generalife and the Cuarto Real de Santo Domingo, as well as in the walls of Nasrid cities or topping off stone walls in frontier castles. We find many cases of mixed building methods that combine rammed-earth and stone walls, with brick as a reinforcement.

46 Cómez Ramos, "Los constructores de la ciudad medieval," 260.

47 Acién Almansa, "Sobre los tugūr"; Malpica Cuello, "Entre la Arqueología y la Historia."

48 García Porras, "Nasrid Frontier Fortresses."

49 Terrasse, *Les forteresses*.

50 Acién Almansa, "La fortaleza de Amergo."

51 Torres Balbás, *Arte Almohade*.

From the twelfth century onward there is increasing use of brick in Granadan domestic architecture. It was produced in Granada in such quantities that one of the city gates was named Bāb al-Ṭawwābīn, of the Brickmakers; it was near the ceramic- and brick-making area as well as the market where those items were sold.⁵² We also know of smaller centers for brick production both inside and outside the city but under its influence: there was one (then called an *al-madraba*) in Náujar, on a royal estate near Granada.⁵³ In the countryside there were the appropriate clay soils and water from the irrigation system, making an exurban location necessary. The fact that this brickyard belonged to the Nasrid royal family suggests that the rulers exercised a degree of control over artisanal activities, even beyond providing the materials for works they commissioned. The sultans possessed large properties on which expensive projects were undertaken. Archaeologists have found in the garden of the Cuarto Real de Santo Domingo different kinds of construction materials including bricks, ceramic pieces for paving, wooden stair edges, etc., similar to those documented in the Alhambra.⁵⁴

5 Tiles and Domestic Ceramics

Ceramics were an essential element of building in al-Andalus in general and the Nasrid kingdom of Granada in particular. The interior walls of Nasrid homes were decorated with glazed or enamelled tiles in vivid colors, produced in dedicated workshops. Two types were employed on walls and floors: *aliceres*, pieces carved on their surface in different geometric shapes but a single color, and combinations of these into beautiful, complex panels called *alicatados*. These tiles began to be produced in al-Andalus around the second half of the twelfth century, under the Almohads, and reached their peak under the Nasrids of Granada.⁵⁵ At two different periods they showed a different range of colors, the first called “cold” and the second called “warm” because of its honeyed or light-brown tone.⁵⁶

In addition to the *alicatados* there were the *azulejo* type of tile: square, triangular, or in other shapes, not carved on their surface, used alone or eventually as part of more complex compositions. They first appeared under the caliphate

52 Jiménez Roldán, “Una aproximación al comercio,” 166.

53 El Amrani and Aznar Pérez, *Actuación arqueológica*.

54 García Porras and Martín Ramos, “La cerámica arquitectónica.”

55 Zozaya, “Alicatados y azulejos.”

56 Martínez Caviró, *Cerámica hispanomusulmana. Andalusí y mudéjar*, 95.

and became abundant in Almohad times.⁵⁷ A variety of techniques were used in their manufacture, especially under the Nasrids. A complex method was the so-called *cuerda seca* relief, though others had a smooth enamelled surface. The best collection of *cuerda seca* tiles can be seen in the Puerta del Vino in the Alhambra,⁵⁸ and others with relief decorate the Puerta de la Justicia (1348). They are characteristic of monumental, rather than domestic, architecture.

The commonest Nasrid *azulejos* are the ones with a smooth vitreous surface; they were fired with a monochrome glaze or enamel in blue, green, white, “honeyed,” or black, much like the *aliceres* . The two varieties were similar in their glazing, color, and functional and decorative uses. We can hypothesize, therefore, a chronological development of *azulejos* also (with “cold” and “warm” types), beginning under the Almohads.⁵⁹ They were present in the Nasrid kingdom from its origins.⁶⁰

The most beautiful monochrome *azulejos* made in Granada were decorated with gold. In the Qubba of the Cuarto Real de Santo Domingo, an edifice considered a precursor of Nasrid architecture, such gilded tiles are prominent on the inner surface of the entrance arch; the technique is found on domestic utensils in al-Andalus from the twelfth century. This particular band of tiles boasts an especially delicate motif: twining plants with small palm fronds and pods, reminiscent of Almohad art and found later on the large jars (*jarrones*) from the Alhambra, which we will discuss below. One of the most spectacular examples is the “Fortuny” *azulejo* , a rectangular wall panel meant for one of the palaces in Granada. Because of its large size, it is a technical marvel. Its motifs include *atauriques* and vegetal forms beside others of clear Nasrid provenance, such as birds and wolves, a shield, and strips of Naskhi calligraphy. The texts allow us to date it to the reign of Yūsuf III, 1407–1417.⁶¹

At this late date it was common to combine blue and gold in *azulejos* , as in one similar to the “Fortuny” now in the Museo Arqueológico Nacional in Madrid⁶² or the smaller set placed in the San Bartolomé chapel in the Hospital de Agudos in Cordova. Here we find a series of human (probably allegorical) figures surrounded by a lobed blue border.⁶³

57 Martínez Caviro, “La cerámica hispanomusulmana,” 94–95.

58 Salameh, “Estudio de los elementos decorativos,” 135.

59 Valor Piechotta, “Algunos ejemplos de cerámica,” 192; Coll Conesa, “Talleres, técnicas y evolución,” 50–55.

60 Torres Balbás, “Aleros nazaries,” 176.

61 Martínez Caviro, “El arte nazari,” 154–55.

62 Galván, “En torno al gran azulejo.”

63 Torres Balbás, “De cerámica hispano-musulmana,” 419–20; Martínez Caviro, *Cerámica hispanomusulmana* , 114–15.

We have only a few examples of Nasrid *azulejos* decorated in blue and gold. To those already described we may add a few floor tiles now in the Instituto de Valencia de Don Juan, and others probably from an identical pavement in the Hispanic Society of America and the Alhambra Museum.⁶⁴ The floor must have been located in the Salón de Comares, where there are still some tiles of the same type in their original positions; on the basis of their location and decorative motifs they may be dated to the mid-fourteenth century. A variant on this type is the *alizar* or *mamperlán*, a ceramic piece used at the edges of stairs or on lower parts of walls; decorated with epigraphy and stairstep designs, they were found in the Albaicín and can still be seen *in situ* in the Peinador de la Reina in the Alhambra.⁶⁵

In that same space there is an exceptional group of triangular *azulejos* that, though without gilding, present a full chromatic range: a darker and a lighter blue, together with a lilac or purple produced with manganese oxide. The few surviving specimens were meant to be set into the pavement in pairs, creating a series of rhomboid decorations: the central feature is an octagon with curved sides surrounded by different vegetal motifs. An almost identical set was found in the ruins of the Palacio de los Aljares, part of the Alhambra-Generalife complex. Their date of manufacture is still unknown, but from the dates of the buildings that contain them (Peinador de la Reina, Palacio de los Aljares) Torres Balbás believed them to postdate the mid-fourteenth century.⁶⁶

Until recently there were only a few examples of blue-on-white glazed *azulejos*. But tiles found in archaeological digs in Liguria (Italy), an area of commercial traffic in the late Middle Ages, have been traced to Nasrid workshops based on chemical analysis of their pigments. Their size and shape are consistently square, about 10 centimeters on a side, glazed and decorated with strokes of cobalt blue. They vary in their motifs, although most are vegetal. There are a few heraldic or figurative ones, including one that shows a gazelle; this design appears in much more refined form on pieces of Nasrid ceramic.⁶⁷

Blacksmiths and brickmakers worked in periurban areas or outside cities; their technologies required high temperatures that substantially transformed the clay or metals with which they began. Such intense chemical processes could pollute nearby areas and harm their inhabitants, as Ibn ‘Abdūn had observed centuries earlier.⁶⁸

64 Martínez Caviro, *La loza dorada*, 93; Frothingham, *Lustreware of Spain*, 60.

65 Martínez Caviro, *La loza dorada*, 90; Torres Balbás, “La Torre del Peinador de la Reina,” 198.

66 Torres Balbás, “La Torre del Peinador,” 209, and *Arte Almohade*, 201.

67 Capelli, García Porras and Ramagli, “Análisis arqueométrico,” 130–34.

68 Lévi-Provençal and García Gómez, *Sevilla a comienzos del siglo XII*, 113.

We should include among these artisans makers of cooking pots, as well as the silversmiths, goldsmiths, and glassmakers who employed smelting techniques. The first of these were by far the most numerous, since ceramic objects were essential for daily life in Nasrid households.

Archaeology has shed some light – though still not enough – on the areas where these artisans worked. In Málaga the potters and ceramicists were located in the suburb of Fontanella, where several workshops have been excavated in recent years.⁶⁹ These must have been the most important in the kingdom: Málaga was its principal port, and we know that Nasrid ceramics, called *opera di Malica*, were traded all over the Mediterranean and as far away as the North and Baltic Seas. In Almería the potters' areas lay beyond the suburb of al-Muṣallā, in the eastern part of the city, around the Puerta de Pechina; near the so-called Rambla de los Alfareros (“of the Potters”) and Calle Alfarerías (“Pottery Street”), and near the road to Granada, where water and clay were abundant. As in other large cities of al-Andalus (Toledo, Granada, Murcia, Bezmiliana) an important city cemetery was nearby.⁷⁰ In the city of Granada the ceramic industry grew at the southern outskirts: one of the earliest centers has been located beneath the present Casa de los Tiros.⁷¹ As the city spread in that direction the workshops gradually moved southeastward, eventually forming a suburb of considerable size in Nasrid times: al-Fakhkhārīn, “the Potters,” documented since the late Middle Ages and into the Early Modern era.⁷² At the same period ceramics were also manufactured within the Alhambra itself.⁷³ Pottery must have been produced, however, not only in the kingdom's principal cities but in smaller ones as well. Unfortunately we still lack sufficient information to trace the history of these (as has been done for other parts of al-Andalus), but we do know that the workshops were well established and that they distributed their products widely: ceramics made in both large and small cities reached the most distant and inaccessible corners of the kingdom without difficulty.⁷⁴

On the actual techniques of production we can rely on close direct analysis of the materials. E. Fernández Navarro has published several studies that

69 López Chamizo *et al.*, “La industria de la alfarería.”

70 García Porras, “La producción de cerámica en Almería,” 279–83.

71 López López *et al.*, “Casa Museo de los Tiros.”

72 Álvarez García, “Aproximación a la configuración urbana,” 98–99; Rodríguez Aguilera and Bordes García, “Precedentes de la cerámica granadina”; Rodríguez Aguilera, *Granada arqueológica*, 176–77.

73 Torres Balbás, “Tenería en el Secano,” 434; Flores Escobosa, *Estudio preliminar sobre loza azul*, 19; Malpica Cuello, *La Alhambra de Granada*, 267–68.

74 García Porras, *La cerámica del poblado*, 448–49.

conclude that the design of Andalusí ceramics, especially from the Almohad and Nasrid periods, was not only handsome and well-proportioned but also closely adapted to their intended uses (storage capacity, temperature of the liquids contained, resistance to temperature changes, etc.). This meant the application of a sophisticated technology that made the materials yield their best results.⁷⁵ These pieces fulfilled the requirements of their roles to a high degree; the same cannot always be said of ceramics manufactured later, or elsewhere. In general terms we can affirm that they were beautiful, well proportioned, functional, and durable.

What are these pieces and their uses? Traditionally, Andalusí vessels have been categorized according to their function.⁷⁶ When we speak of domestic pieces we mean those that were essential in an Andalusí household, most of them closely related to food: the handling and preparation of foodstuffs, their presentation at the table, their storage and transport. Lamps and forms of illumination were also important. Shapes varied widely according to the object's intended function.

Within the home it was essential to store the foods that entered,⁷⁷ and the chief vessels for the purpose were earthenware jars and jugs (*tinajas, jarras*). The former were large, thick-walled containers for water, oil, and other substances. They were usually unglazed, though some have a glaze on the top half. Almohad *tinajas* were wide at the base with a rounded body of large capacity and a short, wide neck. In Nasrid times the body became slimmer, the neck longer and more bell-like, and the base narrower. Handles of a shape called "shark's fin" grew more common. Many appear to be humble copies of vases or ewers that were enamelled and decorated in blue and gold, such as the *Jarrones* of the Alhambra, "the most exquisite examples of the ceramic art, unrivalled in the Middle Ages."⁷⁸ It took artists of supreme knowledge and skill to produce them. Only a few of this type survive, but each seems more beautiful than the other. While the size of the *Jarrones* resembled that of *tinajas* their function must have been very different, but scholars do not yet agree on their intended purpose: as palace decorations, showy water filters, or something else unknown to us.⁷⁹ Their decoration, and the difficulty of their manufacture – they are almost sculptural – display the quality and capacity of Granada's workshops, especially those linked to power. In this they were the counterpart of *ṭirāz*.

75 Fernández Navarro, *Tradición tecnológica*, 169–74.

76 Rosselló Bordoy, *Ensayo de sistematización*; Navarro Palazón, *La cerámica islámica en Murcia*.

77 Motos Guirao, "La cultura material," 426–28.

78 Torres Balbás, *Arte Almohade*, 216.

79 Zozaya, "Los Jarrones de la Alhambra," 38–42.

We know much less about the development of *jarras* or jugs; they changed much less, perhaps because they were confined to the domestic sphere. The base might be flat or convex, the body rounded, and the neck long and narrow, all well-proportioned in profile. Two handles curved from the middle of the neck to the shoulder. Jugs were of unglazed, porous clay so that they could “sweat” and keep liquids cool and purified.

Jars and jugs were often set into a wooden frame to keep them from contact with the floor: these frames might be decorated with incised, pierced, or stamped patterns. The vessels might also have covers: for *tinajas* a flat wooden or ceramic disc, sometimes with a knob in the center for grasping; covers of *jarras* could be concave or convex, decorated, and sometimes even glazed in green or brown.

Ceramic vessels for the kitchen were used for handling and transforming foodstuffs. The two basic types were casseroles and stewpots (*cazuelas*, *marmitas*). The first, a dish broader than it is high, allows rapid cooking in which liquid boils away quickly; it is suitable for softer foods (vegetables, fish, some kinds of meat, etc.) and for making sauces. *Cazuelas* changed shape slowly over time: under the Nasrids they had thin walls with a turned or thickened border, grooved on the inside to secure a lid, and toward the end of the Middle Ages either curved handles or a grip at each side.

The *marmita* is taller, suitable for longer cooking with steam and somewhat harder foods such as certain meats and legumes, and for making stews. The Granadan examples have thin walls, a convex base, and oval or pear-shaped designs on the body that helped to hold heat from flames or coals. The neck is notably thinner than the body, helping to concentrate the vapor of the cooking food; two curved handles helped to lift it from the fire. All the features of these pots show the potters' technical skill in handling clay and improving their designs to achieve better culinary results. So that these vessels could contain liquid, semiliquid, or oily ingredients they were finished in a brown glaze, which at least from the twelfth century appears poured or dripped from the upper edge. Only two types were not treated in this way: flat disks (*tabaq*) without a top, probably used for baking bread with no added fats or other ingredients, and utensils for preparing couscous – a dish described in Andalusi recipe collections from the twelfth century. These *alcuzcuzeros*⁸⁰ were *marmitas* pierced through the bottom before firing so that the steam rising from a pot

80 Motos Guirao, “La cultura material,” 422–23; Granja Santamaría, *La cocina árabe andaluza*, 23.

of boiling water placed below would cook the wheat grains that form the basis for the dish.

Finally there were *anafres* or portable stoves, always present in Andalusí kitchens.⁸¹ They had two parts, a lower one where the coals were lit and an upper one pierced with airholes for ventilation and with supports for holding pots upright.

Once the food was cooked it was taken to the table to be eaten. Andalusí etiquette required that all the food be brought to the table and shared, so diners were not served individually except with soups, a favorite dish. Sauces also might come in their own tureens or pitchers. Both seem to have become more common over time, and by the late Almohad and the whole Nasrid eras Granadan kitchens would hold several examples.

Among ceramics used at the table the commonest were the *ataifor* (plate or platter) and the *jarrita* (drinking vessel). The first, for holding food at the table, was capacious; some were concave and almost hemispherical, while others were straight-sided with a vertical rim. Typically they had a greenish glaze on the inside (in different shades, sometimes almost turquoise) that was lighter on the outer surface, or their glaze might be white. These pieces display a variety of decorative motifs and colors: irregular lines of manganese over a brown or green glaze,⁸² patterns stamped in the wet clay and then glazed, *cuerdada seca*, green with purple, or blue and gold. This most typical decorative ceramic under the Nasrids again displays the technical skill of Granadan potters. There is a superb display of examples in the Alhambra Museum, with a variety of shapes and motifs: geometrical, vegetal, figurative, etc.⁸³ Perhaps the finest piece is a plate in the Victoria and Albert Museum in London. These ceramics were traded widely and well known in European markets as *operis terra Maliqa*;⁸⁴ in Granada and elsewhere they were also elements of social prestige and a form of propaganda for the Nasrid dynasty.⁸⁵

Jarritas, the other constant on Granadan tables, were meant to hold small amounts of liquid and to be drunk from directly.⁸⁶ They were made of pure, colorless clays that allowed transpiration and kept the liquid cool. They are usually tall, with differently shaped bases: flat and wide, or hollowed with an

81 Marín, "Ollas y fuego."

82 Ruiz García, "Decoración en la cerámica nazari."

83 Flores Escobosa, *Estudio preliminar*.

84 Fábregas García and García Porras, "Genoese Trade Networks," 40–44.

85 García Porras, "Producción cerámica y organización política."

86 Motos Guirao, "La cultura material," 436.

external molding. Their bodies are pear-shaped and their necks open at the top, with long or circular handles.

Jarritas and their table companions, *ataifores*, were on full display to guests at the table and therefore received the fullest panoply of decorative elements: stamped patterns, glazed or unglazed manganese color, *cuerda seca*, incisions, and blue-and-gold glazes. Alongside the plates and drinking jugs on tables in Granada there would be taller jars, pitchers for sauces (with a tall cylindrical neck and perhaps a three-lobed spout), small bottles, and so forth.

This was the basic equipment of an Andalusí household, covering the basic domestic needs. But there were other ceramic or pottery items as well: *lebrillos*, large basins used variously for kneading bread, personal washing, or laundry – this was one of the most useful pieces in a home. With a broad, flat base, it had outward-sloping sides and a turned edge and was usually glazed on the inside. Only occasionally would it be decorated.

Candlesticks and candleholders were another pottery item essential in the home. The Nasrid “tall-footed” type had a base plate, a tall stem, and a cup at the top for the fuel and the wick. A handle from the cup to the base made it easier to carry – as the stems were made longer over time, so were the handles. These were usually glazed and might be decorated, sometimes in blue and gold.

We will not speak in detail here of other small, rarer items of domestic pottery in Granada such as toys, drums, basins, goblets, funnels, canteens, whistles, etc., many of which were beautiful in appearance.

We have described here in general terms the kinds of ceramics that emerged from Nasrid workshops, both those destined for domestic use and the more sophisticated type, enamelled and decorated perhaps in blue and gold. What distinguished the Granadan case from others in al-Andalus is the increasing bifurcation of the two, a formal distinction between humbler jugs and plates for the home and highly decorated ones for other spheres. We can speculate that perhaps under the Nasrids external factors such as trade and its agents helped to accelerate this process. Decorated pieces, used by elites both inside and outside the kingdom, were increasingly influenced by external demand until at some point those intended for export took on distinctive forms.⁸⁷ Decorated Nasrid ceramics, born of several converging traditions and already known in Mediterranean markets,⁸⁸ enjoyed a brief commercial success. But they were soon replaced by other Peninsular products that imitated Granadan technology

87 García Porras, “La cerámica española importada.”

88 García Porras, “Los orígenes de la cerámica nazari.”

but adopted a system of production better suited to the new context for trade in the Mediterranean.⁸⁹

6 Metals and Glass

The Nasrid kingdom also produced glass and jewelry items suitable for domestic use. Some metal objects employed alongside ceramics in the home were for personal hygiene (including surgical instruments) or adornment, or for mending clothes (needles, combs, awls, thimbles). An especially interesting collection of such objects was found in the necropolis of Sa'd ibn Mālik next to the Elvira Gate in Granada: it includes metal earrings, necklaces, finger rings, and amulets belonging to the dead.⁹⁰ Rings and bracelets found in excavated houses were often made of glass twisted into a circle,⁹¹ and glass jars, goblets, bottles, and small pitchers were meant to hold liquids; there is an occasional glass plate for food like the one found in Santa Isabel la Real.⁹² Of course the fragility of this material means that few examples have survived, nor do we know much about its production; there may have been a glassworks in the Albaicín.⁹³ Glass must also have been made inside the Alhambra, and some of it is preserved in its Museum:⁹⁴ most consists of drinking vessels and perfume bottles. Since we have no definite archaeological site, neither can we determine the chronology. The most recent excavations in the Secano area of the palace complex,⁹⁵ intended to determine what artisanal activities took place there, have revealed a small oven that was probably meant for melting glass. The best-known glassworks, at the edge of the city in the Calle Real de la Cartuja, postdates the Castilian conquest.⁹⁶ In Málaga, too, glassworks have been found and dated to the late thirteenth–early fourteenth centuries.⁹⁷ We know of no glass ovens in Almería, although the discovery of some fine pieces in its Alcazaba suggest that there might have been a good glassworks in the city.

89 García Porras, "Transmisiones tecnológicas."

90 Fresneda Padilla *et al.*, "Orfebrería andalusí."

91 Cressier, "Humildes joyas."

92 López López, *Excavaciones arqueológicas*, 155.

93 López Marcos *et al.*, "Excavación de urgencia," 281–86.

94 Marinetto Sánchez, *El vidrio en la Alhambra*.

95 García Porras, Welham and Duckworth, *Informe preliminar*.

96 Carta *et al.*, "En las afueras de la ciudad nazari," 118–21.

97 Govantes Edwards and Duckworth, "Medieval Glass Furnaces," 10.

7 Conclusions

The fact that the Nasrid kingdom of Granada existed and survived in the face of a vigorously expansionist Castile was a miracle. The early Nasrid monarchs expanded their territory to the east and south of the Peninsula and pursued pragmatic and intelligent policies, so that the kingdom became an Islamic enclave in a solidly Christian Europe. In the new economic and commercial context that was developing in the western Mediterranean, the kingdom was both an inconvenience and an opportunity for Europeans, having inherited all the splendor of the Islamic past. Merchants flocked there to find a range of products that were in high demand by both feudal and urban elites in the West, and Nasrid rulers responded to that demand.

As we have observed, Nasrid production, especially of manufactured objects, was well entrenched throughout the territory: products that originated in the countryside easily reached urban markets, and vice versa. Silk spun in villages reached silk exchanges in the cities and the royal textile workshops (*ṭarīz*). Ceramics fashioned in urban potteries reached the farthest corners of the kingdom. Wood, metal, glass, and ceramic items were produced with sophisticated techniques. For merchants, the kingdom was a place to find and develop products that could be redirected to distant markets. Silk and ceramics, in particular, enjoyed a golden age thanks largely to the active intervention of commerce. Both products were commercial successes, although they followed somewhat different paths.

In the case of ceramics, commerce may have produced a dissociation between the types intended for internal consumption and those destined for export. The introduction of certain techniques known to Mediterranean markets, and a study of their forms, seems to confirm this. The commercial success of Nasrid ceramics was fleeting because foreign merchants' penetration was limited; its techniques were transferred to other parts of the Peninsula that were more receptive to a strong intervention of foreign traders.

Silk, however, offered the opportunity to sell the raw fiber rather than the woven product; it was then finished in faraway workshops (Lucca, Prato, Florence, Genoa). The Nasrids continued to cultivate the mulberry trees, raise the silkworms, and separate and spin the threads.

In the Nasrid kingdom of Granada, then, we find a well-organized artisanal sector, spread throughout the territory, and of consummate technical skill – but over-dependent on external commerce, which forced some of its industries to develop in different ways. Building construction, woodworking, blacksmithing, and glassmaking were hardly touched by commercial considerations, but ceramics and textiles felt their effect and therefore adopted individual solutions.

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