

# Transactions of the Royal Historical Society

<http://journals.cambridge.org/RHT>

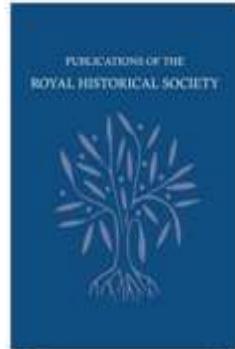
Additional services for *Transactions of the Royal Historical Society*:

Email alerts: [Click here](#)

Subscriptions: [Click here](#)

Commercial reprints: [Click here](#)

Terms of use : [Click here](#)



---

## ORIENTATION IN THREE SPHERES: MIEVEAL MEDITERRANEAN BOUNDARY CLAUSES IN LATIN, GREEK AND ARABIC

Alex Metcalfe

Transactions of the Royal Historical Society / Volume 22 / December 2012, pp 37  
- 55

DOI: 10.1017/S0080440112000059, Published online: 06 December 2012

**Link to this article:** [http://journals.cambridge.org/  
abstract\\_S0080440112000059](http://journals.cambridge.org/abstract_S0080440112000059)

### How to cite this article:

Alex Metcalfe (2012). ORIENTATION IN THREE SPHERES: MIEVEAL MEDITERRANEAN BOUNDARY CLAUSES IN LATIN, GREEK AND ARABIC. Transactions of the Royal Historical Society, 22, pp 37-55  
doi:10.1017/S0080440112000059

**Request Permissions :** [Click here](#)

## ORIENTATION IN THREE SPHERES: MEDIEVAL MEDITERRANEAN BOUNDARY CLAUSES IN LATIN, GREEK AND ARABIC\*

By Alex Metcalfe

READ AT THE UNIVERSITY OF LANCASTER

**ABSTRACT.** This paper investigates the development of land registry traditions in the medieval Mediterranean by examining a distinctive aspect of Latin, Greek and Arabic formularies used in boundary clauses. The paper makes particular reference to Islamic and Norman Sicily. The argument begins by recalling that the archetypal way of defining limits according to Classical Roman land surveyors was to begin *ab oriente*. Many practices from Antiquity were discontinued in the Latin West, but the idea of starting with or from the East endured in many cases where boundaries were assigned cardinal directions. In the Byzantine Empire, the ‘Roman’ model was prescribed and emulated by Greek surveyors and scribes too. But in the Arab-Muslim Mediterranean, lands were defined with the southern limit first. This contrast forms the basis of a typology that can be tested against charter evidence in frontier zones – for example, in twelfth-century Sicily, which had been under Byzantine, Muslim and Norman rulers. It concludes that, under the Normans, private documents drawn up in Arabic began mainly with the southern limit following the ‘Islamic’ model. However, Arabic descriptions of crown lands started mainly in the ‘Romano-Byzantine’ way. These findings offer a higher resolution view of early Norman governance and suggest that such boundary definitions of the royal chancery could not have been based on older ones written in the Islamic period.

### Introduction

When landed property was defined in the medieval Mediterranean, many boundary clauses were described in ways which still loosely resembled model compositions of *limites* drawn up in Classical Roman texts, even if direct knowledge of that surveying and notarial ancestry was exceptional

\* I would like to thank the Arts and Humanities Research Council for their funding of ‘The Norman Edge: Identity and State Formation on the Frontiers of Europe’ project of which the author was a co-investigator (2008–11); the British Academy for their award of a Mid-Career Fellowship (2011–12); Wolfson College, the Oriental Institute and the Khalili Research Centre at the University of Oxford for hosting me as a Visiting Scholar and Research Associate (2010–12). I am also grateful to Chris Wickham and Jon Jarrett for their comments on a draft version of this paper. This is an adapted version of a paper read to the Society.

– and, more usually, non-existent. In itself, this observation is of no great consequence since it is well known that the art of land surveying in the Middle Ages had radically changed from that of Antiquity when professional *agrimensores*, experts in geometry and trigonometry, fastidiously noted every type of land, limit, local idiosyncrasy and cause of dispute.<sup>1</sup> The methodical precision of the *ars gromatica* rarely troubled the medieval notary. No longer was it standard practice to illustrate a work with sketches; to explain precedents, customs and jargon of land tenure, or, indeed, to link land survey, settlement and viability with cartography, cosmology or wider regional subdivision.<sup>2</sup>

It is equally obvious to note how political, legal and socio-economic relationships between landholder and the land were fundamentally different to those of later lordships in the Latin West, Byzantine East or, indeed, between a Mediterranean Muslim ruler and his salaried troops and officials. The colonising policy of the Roman Empire with its orderly resettlement of army veterans in the first centuries BC and AD were processes inconceivable to any medieval ruler, and the quintessential techniques of Roman surveying, a function of such imperial mandates, all but lapsed in the medieval Latin West and Balkans.<sup>3</sup> Instead, there was a far more haphazard approach to land definition with little effort made to measure boundary lengths and hardly ever any attempt to calculate the surface area of an estate.

However, not all ancient practice was discontinued. In the south of the Italian Peninsula for example, during and after the Norman period when document survival for the region improves significantly, echoes of Roman land surveying techniques are detectable in charters and cartularies. The notion that plots of land should be ideally conceived as quadrilateral had endured, and boundary markers were still of avail, albeit irregularly set, sized and devoid of any pagan aura.

<sup>1</sup> The gromatic texts have been compiled into a new critical edition by Brian Campbell, *The Writings of the Roman Land Surveyors. Introduction, Text, Translation and Commentary* (2000). On the *constitutio limitum*, see Hyginus in *ibid.*, 134–63. Among secondary sources, see O. A. W. Dilke, *The Roman Land Surveyors: An Introduction to the Agrimensores* (Newton Abbot, 1971); M. Clavel-Lévêque, *Cadastrés et espace rural. Approches et réalités antiques. Table ronde de Besançon, mai 1980* (Paris, 1983); G. Chouquer, M. Clavel-Lévêque, F. Favry and J.-P. Vallat, *Structures agraires en Italie centro-méridionale. Cadastres et paysages ruraux* (Rome, 1987); C. Nicolet, *L'inventaire du monde. Géographie et politique aux origines de L'Empire romain* (Paris, 1988).

<sup>2</sup> For atypical medieval interest in Roman surveying texts, see Lucio Toneatto, 'Note sulla tradizione del *Corpus agrimensorum romanorum*, I. Contenuti e struttura dell'*Ars gromatica* di Gisemundus (IX sec.)', *Mélanges de l'École française de Rome: Moyen-Âge*, 94 (Rome, 1982), 1, 191–313.

<sup>3</sup> One of the last references to the term 'agrimensor' dates to 597 when Gregory the Great dispatched a surveyor from Rome to resolve a dispute on church lands in Sicily where there was presumably no one suitable. *Monumenta Germaniae Historica, Epist. I.1, Gregorii I Registri Lib. I–IV*, ed. P. Ewald (Berlin, 1887), 484–5, Letter VII.36.

But the most striking links to the past were in the orientation of estates. In particular, the order in which boundaries were recorded when their limits were assigned cardinal points. In these descriptions, confines predominantly began *ab oriente* running laterally from a point at the top of the eastern limit. This system derived directly from the ancient Roman custom of land division. On this, its most basic precept, the early gromatic writer Julius Frontinus reflected how ‘our ancestors . . . first drew out two *limites*, one stretching from east to west, which they called the *decumanus*, the other from south to north which they called the *kardo*’.<sup>4</sup>

### Boundary clauses in pre- and early Norman Italy

Across the south Italian mainland, the period from late Antiquity to the early eleventh century is marked by a relative lack of charter materials. In part, this is due to questions of document production, but it is also due to document loss, which in many regions, such as Byzantine and Islamic Sicily, is extreme. From the twelfth century, a relative proliferation of charter material resulted from increasingly sophisticated forms of civil governance and complementary roles played by trained, literate functionaries.<sup>5</sup> Ironically, this period of nascent bureaucracy, which inflated the importance of documents as instruments of command, control and legitimacy, coincided with the rise of those most illegitimate and illiterate of newcomers – the Normans – who carved out new demesnes from which parcels of land could be granted. Norman patronage of ecclesiastical lordships generated new, and renovated old, institutional frameworks for the conservation of charter and cartulary materials, thus providing both means and motives for increased document production and conservation. Territorial consolidation and record-keeping further promoted the status of trained notaries, while also reinforcing the association between religious houses and the comital (later royal) administration on the one hand, and the scribal classes on the other. Indeed, it was through their agency that the outcomes of boundary inquests were expressed in the idiom of diplomatic and legal formularies, not the language of the landholders or that of the local *boni homines*, *kaloι anthrōpoi* or *shaykhs*. So in spite of reliance on oral testimony of the

<sup>4</sup> Julius Frontinus, *De agri mensura*, in Campbell, *Writings of the Roman Land Surveyors*, 10.

<sup>5</sup> For issues of document production, survival, as well as notarial status and traditions across medieval south Italy, see the following important collections: *Civiltà del Mezzogiorno d'Italia. Libro scrittura documento in età normanno-sveva. Atti del convegno dell'associazione italiana dei paleografi e diplomatisti (Napoli–Badia di Cava dei Tirreni, 14–18 ottobre, 1991)*, ed. Filippo D’Oria (Salerno, 1994); *Per una storia del notariato meridionale*, ed. Mario Amelotti et al. (Rome, 1982); Francesco Magistrale, *Notariato e documentazione in terra di Bari: ricerche su forme, rogatari, credibilità dei documenti latini nei secoli IX–XI* (Bari, 1984).

above parties, written boundary clauses in Latin, Greek or Arabic seldom contained any element of spoken vernacular.

The demarcated, straight-line rigour of Classical Roman boundaries reduced the need to record the precise course of limits. But with the dereliction of this system, emphasis shifted to noting the physical attributes of land which lay on the limits themselves, fixing a location either by citing that of adjacent properties, with boundary sides designated by number ('the first part is from the land of so-and-so'),<sup>6</sup> or in terms of limits with an upper and lower 'head' or *caput*, each appended with a flank (*latus*);<sup>7</sup> or by orientation ('from the east there is such-and-such').<sup>8</sup> Cartulary collections, such as those compiled by the Longobard scribes of Cava, tended towards relatively fine descriptions of physical relief and included data relating to land use. However, in many Latin charters, landed property was given *cum omnibus pertinentiis*, rarely specifying what those things were.<sup>9</sup> Such styles of composition in grants, endowments, conveyances, deeds of sale and purchase can be found in all areas where Latin notaries operated.

Shades of difference existed within these debased, Romanised schemes, as Jean-Marie Martin has shown in a cursory assessment of terms used in

<sup>6</sup> Illustrative examples thus: 'de secunda parte a medio limite terra qui venit in sorte Nicyfori. Tertia parte a medio limite terra Rodelgardi et Petri. Quarta parte a medio limite terra qui venit in sorte Nicyfori', *Codice diplomatico Barese (Le pergamenie di S. Nicola di Bari: periodo greco, 939-1071)*, ed. F. Nitti di Vito (Bari, 1900), IV, 5-6 from the year 962. For three eleventh-century examples, see *Les chartes de Troia. Édition et étude critique des plus anciens documents conservés à l'Archivio Capitolare (1024-1266)*, ed. J.-M. Martin (Bari, 1976), 87-9 (88) from 1039; 94-5 from 1047; 111-14 (113) from 1083.

<sup>7</sup> As frequently found in the Lombard *Regnum* and later in Campania, for example in an Amalfitan deed of sale from 1080, 'et predictae casalis fuit divisum capud fixum de susu in iusu et termines de petra e de sabuci inter illam et illam portionem constituti sunt', *Codice diplomatico amalfitano*, ed. R. Filangieri di Candida (Naples, 1917), 121-2.

<sup>8</sup> As a typical example: 'primum ab oriente a medio pariete est terra Nicolai pape. Secundus a meridie extra parietem est via publica. Tertium ab occidente extra parietem est introitus et exitus Ursi f. Maionis. Quartus autem finis a septemtrione extra parietem est terra eiusdem Ursi', see *Le pergamenie di S. Nicola di Bari: periodo normanno, 1075-1194*, ed. F. Nitti di Vito (Bari, 1902) (*Cod. dipl. Barese*, V), 47 from 1098. For twelfth-century descriptions that are directly comparable, see 145 and 153. In September 1125, a donation of land and an olive grove in Massafra to the church of San Pietro dell'Isola Grande di Táranto gave the limits as 'ab orientis parte via antica; ab occidente via Patemisiu[m] descendens; a borea parte casilia ecclesiae Sancti Martini; ab austro clausura Sancti Angeli'. *Le pergamenie dell'archivio arcivescovile di Taranto (1083-1258)*, ed. F. Magistrale (2 vols., Galatina, 1999), I, 16-18 (17). In a private deed of sale from Brindisi from 1187: 'ab oriente in occidentem pedes manuales decem et octo et dimidium . . . ab oriente domus Basillii. Ab occidente domus Laurencii. A borea terra mea. Ab austro via publica et introitus et exitus eius', *Codice diplomatico Brindisino (492-1299)*, ed. A. De Leo and G. M. Monti (Trani, 1940), I, 43, lines 7-8 and 10-12.

<sup>9</sup> In a grant from Venosa, an unspecified parcel of lands was accepted to be 'ut apparet ex instrumento Grece exarato'. See *Die Abtei Venosa und das Mönchtum im normannisch-staufischen Süditalien*, ed. Hubert Houben (Tübingen, 1995), 327-8 (328). On such Greek *deperdita*, see Vera von Falkenhausen, 'L'atto notarile greco in epoca normanno-sveva', in *Civiltà del Mezzogiorno d'Italia*, 241-70.

notarial acts to depict the rural landscape of south Italy.<sup>10</sup> While stressing broad uniformity interrupted by local variation contingent on both scribe and terrain, Martin found the sharpest distinctions to be in pre-Norman Campania, between the scribes of the *curiales* in the duchy of Naples and the Longobard notaries of the principality of Salerno, particularly Cava. Although the former were generally more conservative and closer to the practices of late Antiquity than their Salernitan counterparts, both 'schools' harmonised during the first half of the tenth century and defined limits with cardinal points or with numbered sides around plots conceived as quadrilateral.

### Land survey models of the eastern Roman Empire

Classical Roman land surveyors were never sure why they set out land boundaries *ab oriente*, but they associated it with pagan practices from a time immemorial.<sup>11</sup> Over the course of the next millennium, the concept of the east as the foremost of bearings was increasingly bound up in Christian thought with the orientation of churches, heaven and holy Jerusalem.<sup>12</sup> The east even gave rise to the popular eastern Christian name, Anatolius.<sup>13</sup> For Gervase of Tilbury, echoing Augustine of Hippo, the sequential arrangement of cardinal points in Greek revealed the primordial, quadripartite division of the earth.<sup>14</sup> Why else would the initial letters of ἀνατολή ('east'), δύσις ('west'), ἄρκτος ('north') and μεσημβρία ('south') spell out the name of A-d-a-m? Although this did not entirely resolve the problem, the long-held view of prioritising and

<sup>10</sup> Jean-Marie Martin, 'Perception et description du paysage rural dans les actes notariés sud-italiens (IXe–XIIe siècles)', in *Castrum 5. Archéologie des espaces agraires méditerranéens au Moyen Âge*, ed. A. Bazzana (Madrid, Rome and Murcie, 1999), 113–27. No similar survey has been conducted for insular Sicily.

<sup>11</sup> On eastward-facing aspects of land and sacred buildings, see Hyginus, 'Gromaticus', in Campbell, *Writings of the Roman Land Surveyors*, 137. For Roman belief in Etruscan precedents, see *ibid.*, xlv and 326.

<sup>12</sup> For a recent critique with particular emphasis on visual representation, see Alessandro Scafi, *Mapping Paradise: A History of Heaven on Earth* (Chicago, 2006).

<sup>13</sup> In part, emulating Saint Anatolius, bishop of Laodicea (d. 283). In twelfth-century south Italy it was attested as both a first name, Ἀνατόλιος and Ἀνατόλης, and as a cognomen as in Νικόλαος τοῦ Ἀνατολοῦ and Ἰωάννης Ἀνατολός, see *Syllabus graecarum membranarum*, ed. F. Trinchera (Naples, 1865), 185 and 332. Cf. also the modern Italian surname, Natoli, frequently found in the province of Messina, specifically on the Aeolian islands and to the north of the Nébrodi mountains in what was once the Val Démone of the Norman period. Girolamo Caracausi, *Dizionario onomastico della Sicilia* (2 vols., Palermo, 1993), II, 1101.

<sup>14</sup> Gervase of Tilbury, *Otia imperialia. Recreations for an Emperor*, ed. and trans. S. E. Banks and J. W. Binns (Oxford, 2002), I, 10, 64–5; Augustine of Hippo, *Homilies on the Gospel according to St. John, and his First Epistle*, trans. John Henry Parker (2 vols., Oxford 1848–9), I, Homily X.12, 162. The link between Adam and the Greek cardinal points appears to have derived from apocalyptic literature of the Hellenistic period; cf. the same idea repeated in *The Sibylline Oracles*, ed. H. N. Bate (1918), Book III, *Prologue*, 46, and in 2 Enoch 30, 13.

outlining the first land boundary from the east continued long after the fall of Rome, not least in the Eastern Empire where the Classical principles of surveying were more deeply ingrained than in the Latin West.

In medieval Greek, didactic treatises on land definitions (περιορισμοί) were as detailed as their Classical Latin predecessors, and continuities between these cognate traditions are easily recognisable: the use of specialist scribes and surveyors; the compilation of cadastral records; the classification of land types; the use of boundary markers, and ways to measure boundary lengths.<sup>15</sup> Origins of the art were often attributed, not incorrectly or without precedent, to pharaonic Egypt.<sup>16</sup> Nevertheless, in both theory and practice, there remained the same propensity to sequence cardinal directions and to begin a boundary clause with reference to the east. These were set out in archetypal models, such as this:

First, write the boundaries in order like this; taking the east as a start they lead away to the west leaving the property of so-and-so on the right where there stands a tree, an olive, myrtle, pine or plane, or a river or stream. To here, there are fifteen rope-lengths. It turns back, rises to the south leaving the fields of so-and-so on the right, and they go straight on until some-such place in which there is a rocky mound and a bay tree that has a cross, letters or a certain mark, by which point it has taken 100 rope-lengths. It turns to the east, continues right along the road that is the one leading from a certain *castrum*, leaving the property of so-and-so on the right and the trees planted in a row there. On them is found a mark drawn on high, a cross made as a sign for all; and going straight on, it reaches a certain spot completing a measure of 200 rope-lengths. Next they go away eastward for a little and downhill to the bend of a certain river where the measure is found to be fifteen rope-lengths. It curves back to the south, goes straight on, leaves on the right someone's vineyard, and downhill to the boundary of so-and-so's field in which there is an ancient mound where it is necessary to renew the place-marker, show the truth and keep the neighbours' peace. There, the rope-lengths are found to be thirty-five. Then they head off again to the east leaning up against the boundary and the property of so-and-so where a large rock is planted; the measure to here is found to be twenty-five rope-lengths. To the north again, they go along the road of the village heading straight towards the seashore joining the boundary where the start began, and where there are again found to be fifteen rope-lengths.<sup>17</sup>

<sup>15</sup> See the collected texts in *Géométries du fisc byzantin*, ed. J. Lefort, R. Bondoux, J.-CL. Cheynet, J.-P. Grélois and V. Kravari, *Réalités byzantines* 4 (Paris, 1991). For landholding contexts, see Paul Lemerle, *The Agrarian History of Byzantium from the Origins to the Twelfth Century: Sources and Problems* (Galway, 1979); Nicolas Svoronos, 'Recherches sur le cadastre byzantin et la fiscalité aux XI<sup>e</sup> et XIII<sup>e</sup> siècles: le cadastre de Thèbes', *Bulletin de Correspondence Hellenique*, 83 (1959), 1–164.

<sup>16</sup> Classical Greek historians and geographers often alleged that the earliest origins of land division were Egyptian. Herodotus 2.109; Diodorus Siculus 1.81.2; Strabo 17.787. For Byzantine views on these precedents, see *Géométries du fisc byzantin*, 48–9, §17 and 136–7, §205.

<sup>17</sup> Ἀπάρξου, γράφει καθεξῆς τὰ σύνορα τοιῶσδε: ἀρχὴν λαβὼν ἀνατολῆς ἄπεισιν ὡς πρὸς δύσιν καταλιμπάνων δεξιὰ τὰ δίκαια τοῦ δεῖνα, ἐν οἷς καὶ δένδρον ἴσταται, ἔλαι ἢ μυρσίνη ἢ ἔλατος ἢ πλάτωνος, ἢ ποταμὸς ἢ ῥύαξ, ἄχρι δὲ τούτου εὐρηνηται σχοινία δεκαπέντε. Κλίνει δ' αὖθις, ἀνέρχεται ὡς πρὸς τὴν μεσημβρίαν καταλιμπάνων δεξιὰ χωράφια τοῦ δεῖνα, καὶ κατ'εὐθείαν ἄπεισιν ἄχρι τοῦδε τοῦ τόπου, ἐν ᾧ λαυράτον ἴσταται λίθινον κεχωσμένον ἔχον σταυρὸν ἢ γράμματα ἢ γνώρισμα τοιούδε, ἐν ᾧ καὶ

It should be reiterated that some scribes adhered to such prescribed ideals more closely than others, and many definitions did not even include references to boundary sides. Moreover, it is unfortunate that the bulk of surviving evidence in Greek comes from the fourteenth and fifteenth centuries, much relating to the Balkans, at times and in places where limits were not always plotted systematically.<sup>18</sup> Nonetheless, Greek boundary-clause models consistently followed the same principles as seen in the three examples below:

Consider the directions when starting a survey, and write down the notable parts quite precisely, pointing out the start, end, and any change to the direction. Thus, a field of such-and-such a person starts from the east, runs to the west, turns to the south until it reaches a certain spot, back to the east to a particular known point, and turns back up to the north.<sup>19</sup>

Much as you must also know the directions well: the east, the west, the north, and the south. For the east is always the top (κεφαλή) boundary.<sup>20</sup>

Land surveying on the level comprises directions, observation points, lines and angles; it includes types, forms, figures, and principles. There are four directions – east, west, north, and south.<sup>21</sup>

In former Byzantine areas of southern Italy, including Latinised regions such as Apulia, the strong tendency to begin with reference to the east

τέλος εἴληψε τὰ ἑκατὸν σχοινία. Στρέφεται πρὸς ἀνατολάς, κρατεῖ τὸν δρόμον δρόμον, τὸν δρόμον τὸν ἐρχόμενον ἀπὸ τοῦ δεῖνα κάστρου, καταλιμπάνει δεξιά τὰ δίκαια τοῦ δεῖνα καὶ τοὺς κατ' ὄρδιον ἐκεῖ πεφυτευμένους δρύσας, ἐν οἷς καὶ τύπος εὐρηται σχηματισθεῖς ὥραν ἄνωθεν τούτου δὲ σταυρὸς εἰς γνώρισμα τοῖς πᾶσι, καὶ κατ' εὐθείαν ἀπὼν ἄχρι τοῦ δεῖνα τόπου ἀποτελεῖ ποσότητα διακοσίων σχοινίων. Εἴτ' ἀνατολικώτερον ἄπεισι πρὸς ὀλίγον, καὶ καταντᾷ εἰς ἀγκάλισμα τοῦ ποταμοῦ τοῦ δεῖνα, ἐν ᾧ καὶ μέτρον εὐρηται σχοινίων δεκαπέντε. Πρὸς ἄρκτον αὐθις ἀνακλιᾷ, ἄπεισι κατ' εὐθείαν, καταλιμπάνει δεξιά ἀμπέλιον τοῦ δεῖνα, καὶ καταντᾷ εἰς σύνορα τοῦ δεῖνα χωράφιου, ἐν ᾧ χωματοβούνιον παμπάλαιον εὐρέθη, ὅπερ ἀνακαινίζειν δεῖ εἰς γνώρισμα τοῦ τόπου, εἰς ἀληθείας δήλωσιν, εἰς ἀμαχον γειτόνων, σχοῖνοι κᾶν τούτω εὐρηνηται τριάκοντα καὶ πέντε. Εἴτ' αὐθις πρὸς ἀνατολάς ἄπεισιν ἀκουμβίζων εἰς σύνορον καὶ δίκαια τοῦ κτήματος τοῦ δεῖνα, ἐν ᾧ καὶ πέτρα εὐρηται μεγάλη ῥιζημαία, μέτρον δ' ἐν τούτοις εὐρηνηται σχοινία εικοσιπέντε. Πρὸς ἄρκτον αὐθις ἄπεισι τὸν δρόμον τοῦ χωρίου τὸν κατερχόμενον εὐθὺς πρὸς τὴν ἀκτὴν θαλάσσης, καταλαμβάνει σύνορον ὅθεν ἀρχὴν εἴληφει, ἐν ᾧ καὶ πάλιν εὐρηνηται σχοινία δεκαπέντε. Taken from *Τοῦ σοφωτάτου Ψελλοῦ γεωμετρία διὰ στίχων* ('Land surveying in verses of the most learned Psellos'), in  *Géométries du fisc Byzantin*, 191–3, §299. This anonymous work pre-dates 1204 and was optimistically attributed to the eleventh-century historian Michael Psellos.

<sup>18</sup> For example, the long *praktikon* of John Vatatzis from 1341 with its haphazard starting points. *Archives d'Athos: Actes d'Iviron IV*, ed. J. Lefort, N. Oikonomidēs, D. Papachryssanthou and V. Kravari (Paris, 1995), 53–78.

<sup>19</sup> From *Τοῦ σοφωτάτου Ψελλοῦ γεωμετρία διὰ στίχων* ('Land surveying in verses of the most learned Psellos'), in  *Géométries du fisc Byzantin*, 184–5, §287.

<sup>20</sup> From *Ἀρχὴ τῆς γεωμετρίας* ('Principle of land surveying'). Greek text in  *Géométries du fisc Byzantin*, 48–9, §21.

<sup>21</sup> From *Μέθοδος τῆς γεωμετρίας* ('Method of land surveying'), in  *Géométries du fisc Byzantin*, 38–9, §2. This is repeated almost verbatim in the treatise of *Γεωργίου γεωμέτρου περὶ γεωδαισίας*, 136–7, §207.

remained.<sup>22</sup> Further to the south, in Calabria, southern Basilicata and the Salento Peninsula (Terra d'Ótranto), where Byzantine notarial influence persisted and where Greek-speakers were more in evidence, the basic principle of conceiving land units as quadrilateral and of beginning their limits with reference to the east was also more standard than not.<sup>23</sup>

### Arab-Muslim land surveying

The meagre pickings scattered in papyri, narrative texts and borrowings from Greek into Arabic which relate to landholding, settlement and tax-collection in the century after the Arab conquests of the Byzantine Near East show that much of the existing infrastructure, including local officials, their administrative memory, terminology and savoir faire was carried forward into the Islamic period, even if the dynamics of land grants, landholding and lordship in the Islamic world were to evolve in quite different ways.<sup>24</sup>

Under the Umayyads, the population census (*ihṣā'*) and land survey (*mash* or *tā'dīl*) remained basic, if irregular, tools of post-conquest authority, control and organisation.<sup>25</sup> The first gauged revenues from the *jizya* or religious head-tax payable by non-Muslims; the second served to estimate and, if necessary, adjust the amount of income obtainable from the land. As a result, it was the names of landed properties, their taxable value and fiscal relationship with landholders and/or the treasury which tended to be documented in state registers, rather than the physical limits of the estates themselves.

Gathering and confirming essential data of this type in this way continued into later periods, exacerbating points of differentiation with non-Muslim regions where there was a more diverse range of record-keeping landlords for whom land use, rights, obligations and fiscal dues were inextricably linked to the act of describing boundaries for

<sup>22</sup> For example, a donation of various landed properties made to the church of Santa Maria Veteranis in Brindisi in the year 1107, *Codice diplomatico Brindisino*, I (492–1299), 20–3 (21, lines 17, 30, 42, 49; 22, lines 56, 61, 66 and 84).

<sup>23</sup> For early mainland examples from 981 and 1005, see *Syllabus Graecarum membranarum*, 6–7 and 13 respectively. Cf. *inter alia* the later βρέβιον ('inventory') of Reggio: ἔστιν δὲ ὁ συνορισμὸς πρὸς μὲν ἀνατολὰς τὸ σύνορον τῆς Ἁγίας Θεοτόκου τοῦ Ἀθανάτου, πρὸς δὲ δυσμῶς τὸ σύνορον Μαρίας μοναχῆς τῆς Ταβρομενίτις, ἐπὶ δὲ ἄρκτον εἰς τὸ ῥυάκιν τῆς αὐτῆς Ἁγίας Θεοτόκου τοῦ Ἀθανάτου. *Le Brébion de la métropole byzantine de Région (vers 1050)*, ed. André Guillou (Vatican City, 1974), 183, lines 18–21.

<sup>24</sup> See the important collection of essays in *Land Tenure and Social Transformation in the Middle East*, ed. Tarif Khalidi (Beirut, 1984); Kosei Morimoto, 'Land Tenure in Egypt during the Early Islamic Period', *Orient*, 11 (1975), 109–53; Michael G. Morony, 'Landholding in Seventh-Century Iraq: Late Sassanian and Early Islamic Patterns', in *The Islamic Middle East 700–1900*, ed. A. L. Udovitch (Princeton, 1981), 135–77.

<sup>25</sup> Wadād al-Qāḍī, 'Population Census and Land Surveys under the Umayyads (41–132/661–750)', *Der Islam*, 83 (2006), 341–416.

cartularies, inventories, concessions, sales and endowments. Instead, in the Islamic world, clearer lines of separation materialised between cultivation, productivity and state taxation strategies on the one hand, and the legally correct way of drawing up acts of alienation by trained Muslim jurists on the other. Thus, there is nothing in the treatises of Ibn Mammāṭī and al-Makhzūmī which explains how to make boundary definitions of landed estates, regardless of the wealth of other information relating to agronomy, agricultural surveys or tax assessment procedures.<sup>26</sup>

Document loss narrows our view of medieval chancery practice, but even so evidence of a Muslim fiscal administration routinely engaged in defining actual estate boundaries remains scarce. An exception, and also one of the earliest boundary clauses in Arabic, resulted from a land grant (*qaṭīʿa*) in Mosul made by the caliph al-Muʿtamid to make taxably productive a large, uncultivated plot on the city's outskirts by the Tigris river. Dating from 754, the limits were recorded by al-Azdī in his tenth-century regional history.<sup>27</sup> The chronicler had personally seen the original document (*kitāb*) and cited the boundaries verbatim. With a quadrilateral outline, point-to-point markers and assigning of cardinal directions to boundary sides, it bears tantalising, familial resemblances to European counterparts, distinguished only by an estimated area.<sup>28</sup> But beyond the superficial, there is nothing of substance to link it to any identifiable precedent.

While it is unusual to encounter detailed definitions made in Arabic by scribes of state offices or religious institutions, it is common to find descriptions of landed property in private deeds of sale. Moreover, after the first century AH, with increasingly refined articulation of Islamic thought by scholars and theorists, even the most mundane boundary delineations fell within legal, theological and cosmological frameworks constructed to define and regulate ideas of sacred geography.<sup>29</sup> By and from the 800s,

<sup>26</sup> Ibn Mammāṭī (d. 1209), *Qawāwīn wa-Dawāwīn*, ed. A. S. Atiya (Cairo, 1943); Al-Makhzūmī (fl. 1169–85), *Kitāb al-minhāj fī ʿilm kharāj Miṣr*, ed. C. Cahen and Y. Ragib (Cairo, 1986). For particular reference to terminology arising from this, see Gladys Frantz-Murphy, *The Agrarian Administration of Egypt from the Arabs to the Ottomans* (Cairo, 1986).

<sup>27</sup> Al-Azdī, *Tārīkh al-Mawṣil*, ed. ʿAlī Ḥabība (Cairo, 1967), 171–2. The grant was made in Rabīʿ al-Thānī, 137 AH. See 158 for the terms of the concession. For a translation and discussion, see Hugh Kennedy, 'Elite Incomes in the Early Islamic State', in *Studies in Late Antiquity and Early Islam 1. The Byzantine and Early Islamic Near East 6: Elites Old and New in the Byzantine and Early Islamic Near East*, ed. John Haldon and Lawrence I. Conrad (Princeton, 2004), 13–28 (17–18).

<sup>28</sup> The area was reckoned as fifty-two *jarīb*. Only two boundaries (the south and the west) were mentioned by name, but the estate appears to have begun with the eastern boundary. Al-Azdī, *Tārīkh al-Mawṣil*, 172.

<sup>29</sup> In Muslim tradition, a mosque should ideally be entered with the right foot first, while exiting is done with the left foot first. Similarly, a toilet or place of cleansing (*miṣḥād*) should be entered by leading with the left foot and leaving, cleansed, with the right. Such

when boundary clauses are attested in greater numbers, an empirically observable point of difference emerges between the Muslim ordering of boundaries and the ‘Romano-Byzantine’ arrangement. In the Arab-Muslim world, pole position went to the southern limit (*al-ḥadd al-qiblī*), not the eastern one, as the first to be described.<sup>30</sup>

Why the south-first archetype became standard in Muslim land surveys is easier to guess than to ascertain with confidence but we need not be embroiled here in the debate about the *qibla* as the chosen direction of prayer for Muslims, since issues surrounding this were settled before Muslim legal tradition recognised *al-qiblī* (‘the south’) as pre-eminent among directions.<sup>31</sup> Less speculation is needed to explain the diffusion of the south-first model. For this, the efforts of Muslim jurists to reconcile legal theory and implementation, while ensuring that the parameters of orthodox practice were not exceeded, fostered a prodigious output in

conceptual links are reflected in Arabic etymology; the right hand and right-hand side (*yaman*) is fortunate (*yumūn*). The Muslim orientation of the world, from the perspective of the central Arabian Peninsula, connects the right-hand side with the south, and the left (*al-shamāl*) with the north along a roughly north–south axis between Syria (*al-Shām*) and Yemen (*al-Yaman*). There are also associations between elevation (‘*al-yā*’) and the heavenly sublime; and correspondingly negative links between the lower world (*al-dunyā*) and baseness (*danāyā*). On sacred geography in Islam, see Annemarie Schimmel, *Deciphering the Signs of God: A Phenomenological Approach to Islam* (Albany, 1994), 47–87; Angelika Neuwirth, ‘Spatial Relations’, in *Encyclopaedia of the Quran*, ed. Jane Dammen McAuliffe (6 vols., Leiden, 2001–6), v, 104–8; Joseph Chelhod, *Les structures du sacré chez les arabes* (Paris, 1965; new edn, Paris, 1986), 35–65 and 209–45; James R. Lewis, ‘Some Aspects of Sacred Space and Time in Islam’, *Studies in Islam*, 19/3 (1982), 167–78; Clinton Bennett, ‘Islam’, in *Sacred Place*, ed. Jean Holm and John Bowker (London and New York, 1994), 88–114.

<sup>30</sup> In Egypt, Syria and al-Andalus, when *al-qiblī* appears in a quartet of cardinal points it is evident that it referred to the southern limit. The boundary diametrically opposite was often called *zahr al-qibla*, *dabūr al-qibla*, or *al-ḥadd al-dabūrī* (literally, ‘the back of the *qibla*’ i.e. ‘north’). In Sicily, *dabūrī/an* was translated into Latin as *septentrionaliter*, a *septentrionalis* or *versus septentrionem*. However, in Classical Arabic the root *d-b-r* is associated with the rear or backside of something, of turning one’s back or being ‘of the west’. Indeed, *al-Dabūr* is the west wind attested in the *ḥadīth* (see *Sahīḥ Bukhārī*, 4: 54.427), so called because it was thought to come from the back of the Ka’ba (see M. Forcada, *Rīḥ*, in *Encyclopaedia of Islam*, 2nd edn (11 vols. and Supplement, Leiden, 1960–2005) (henceforth *EF*), VIII, 526, and D. A. King, *al-Matīʿ*, in *EF*, VI, 839). The problem of twin meanings for *d-b-r* was raised, but not solved, by Adalgisa De Simone, ‘Su alcune corrispondenze lessicali in diplomi arabo-latini della Sicilia medievale’, in *Gli scambi culturali e socio-economici fra l’Africa settentrionale e l’Europa mediterranea. Atti del congresso internazionale di Amalfi, 5–8 dicembre 1983*, ed. Luigi Serra (Naples, 1986), 469–84 (483–4).

<sup>31</sup> On the pre-Islamic precedents for the *qibla*; its directional switch during the lifetime of Muḥammad; the non-Meccan orientation of early mosques; the cosmological status acquired by the Ka’ba and the *qibla*’s scientific calculation, see Robert G. Hoyland, *Seeing Islam as Others Saw It: A Survey and Evaluation of Christian, Jewish and Zoroastrian Writing on Early Islam* (Princeton, 1997), 560–73; A. J. Wensinck and D. A. King, *Qibla*, in *EF*, v, 82–8. On later mathematical geography, see David A. King, *World-Maps for Finding the Direction and Distance to Mecca: Innovation and Tradition in Islamic Science* (Leiden, 1999); Petra Schmidl, *Völkstümliche Astronomie im islamischen Mittelalter* (2 vols., Leiden, 2007), both with full bibliographies.

*‘ilm al-shurūt* (‘the study of contracts’).<sup>32</sup> In tandem with other peripheral branches of the law, such as records of court minutes, verdicts and legal stratagems, they established and propagated formularies and paradigms as practical, professional aids for *qādīs* (judges), jurists, officials and scribes. By the end of the 800s, a unified notion of how a south-first ‘Islamic’ boundary definition should be written was as widely accepted as it was disseminated. On occasion, *shurūt* authors accompanied their boundary definition models with explanatory passages, such as this from al-Sarakhsī’s eleventh-century *Kitāb al-Mabsūt*:

The first boundary: from the direction of the south there is the house of so-and-so.  
 The second boundary: to the east of the house is the house of so-and-so. And the third boundary: north there is the house of so-and-so. And the fourth boundary is western: the house of so-and-so. As the direction of the *qibla* is the most noble of directions (*‘ashraf al-jihāt*), so its foremost part is the start.<sup>33</sup>

Thus, in an Egyptian papyrus relating a house sale in Alexandria from the year 820, the boundaries were given as south–north–west–east.<sup>34</sup> Other Arabic deeds of sale from the ninth- and tenth-century Egypt also begin with the southern boundary and proceed to cite the northern, eastern and western limits.<sup>35</sup> In a Syrian papyrus from the ninth century, we read that ‘the first boundary: to the south there is the village [text missing], and the third boundary: there is, to the north the village of Burayj; and the fourth boundary: from the direction of the west’.<sup>36</sup> In sales of two estates outside Damascus in the year 922, the boundaries of both began *min al-qibla*, and

<sup>32</sup> W. B. Hallaq, ‘Sharḥ’, in *EF*, IX, 358–9; Émile Tyan, *Le notariat et le régime de la preuve par écrit dans la pratique du droit musulman*, 2nd edn (Harissa, 1959), 1–99; al-Ṭahāwī (d. 933), *Kitāb al-shurūt al-saghīr*, ed. ‘A. M. al-Jubūrī (Baghdad, 1974); *Kitāb al-buyū‘ min al-shurūt al-kabīr*, ed. with introduction and notes by Jeanette A. Wakin, *The Functions of Documents in Islamic Law* (New York, 1972), 1–203.

<sup>33</sup> Al-Sarakhsī, *Kitāb al-Mabsūt fī l-Furū‘* (30 vols., Cairo, 1906–13), XXX, 178, lines 2–4: *al-ḥadd al-awwal min qibal al-qibla dār fulān wa-’l-ḥadd al-thānī fī sharq al-dār dār fulān wa-’l-ḥadd al-thālith dār al-qibla dār fulān wa-’l-ḥadd al-rābi‘ al-gharbi dār fulān li-anna jihat al-qibla ashraf al-jihāt fa-’l-bidāya awwal min-hā*. The second boundary to be defined could vary between the north and the east, but since jurists were defining property for alienation and to correspond to an Islamic ‘ideal’ (and not to calculate surface area), there was less practical need to describe opposite sides consecutively in order to assist in working out their average lengths.

<sup>34</sup> *al-qiblī . . . al-bahī . . . al-gharbi . . . al-sharqī*. See Charles C. Torrey, ‘An Arabic Papyrus Dated 205 AH’, *Journal of the American Oriental Society*, 56 (1936), 288–92.

<sup>35</sup> For examples see Adolf Grohmann, *Arabic Papyri in the Egyptian Library* (6 vols., Cairo, 1934), I, 141ff. For illustrated examples, see Geoffrey Khan, *Bills, Letters and Deeds: Arabic Papyri of the 7th to 11th Centuries* (1993).

<sup>36</sup> *al-ḥadd al-awwal min al-qibla al-qarya* [MS text missing] *wa-’l-ḥadd al-thālith min qibal zahr al-qibla al-qarya Burayj, wa-’l-ḥadd al-rābi‘ min qibal al-maghrīb*. i.e. S–[E]–N–W. See Nabia Abbott, ‘Arabic Papyri of the Reign of Ġa‘far al-Mutawwakil ‘ala-llah (AH 232–47/AD 847–61)’, *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, 92 (1938), 88–135 (110–13). As in al-Azdi’s boundary definition, measures were given for lengths (reckoned in *jall*), but no calculations of area were included.

then ran east–north–west.<sup>37</sup> Moreover, the south–first model endured: in twenty deeds of sale, purchase and conveyance, mainly relating to houses in Cairo from the 1400s, all begin with the southern boundary, continuing north–east–west thereafter.<sup>38</sup>

*Shurūṭ* works, also known as *wathāʾiq* among the Mālikī jurists of the Iberian Peninsula and North Africa, may again provide a point of transmission, this time between Egypt–Syria and the south–central and western Mediterranean. The works of Ḥanafī *shurūṭ* scholars such as Ibn ʿAbdūn, *qāḍī* of Qayrawān in 888 AD under the Aghlabids, were widely consulted, influential – and now lost.<sup>39</sup> In any event, beginning with the south as ‘the noblest of directions’ was also the Andalusi practice as prescribed by the eleventh-century *shurūṭ* scholar Aḥmad al-Ṭulayṭūlī (‘from Toledo’).<sup>40</sup> Deeds of sale from fifteenth-century Nasrid Granada show how the south–first model was a lasting one.<sup>41</sup> But such firmly rooted practices in Muslim al-Andalus were not pervasive to all parts of the Iberian Peninsula, as examples from the Catalonian cathedral of Sant Pere de Vic and others indicate, which tended to define properties with the east first.<sup>42</sup> Significant is an apparent switch between styles in pre- and post-*Reconquista* Toledo revealing how the south–first model

<sup>37</sup> Dominique Sourdel and Janine Sourdel-Thomine, ‘Trois actes de vente Damasains du début du IVe/Xe siècle’, *Journal of the Economic and Social History of the Orient*, 8 (1965), 164–84 (167 and 178).

<sup>38</sup> D. S. Richards, ‘Documents from Sinai concerning Mainly Cairene Property’, *Journal of the Economic and Social History of the Orient*, 28 (1985), 225–93.

<sup>39</sup> On the development of *shurūṭ* works under the Ḥanafī *madhhab*, see Wakin, *Documents in Islamic Law*, 10–29. For the situation in Ifrīqiya and Sicily, see William Granara, ‘Islamic Education and the Transmission of Knowledge in Muslim Sicily’, in *Law and Education in Medieval Islam*, ed. J. E. Lowry, D. J. Stewart and S. M. Toorawa (Gibb Memorial Trust, 2004), 150–73.

<sup>40</sup> For an archetypal, Andalusi, Arab–Muslim boundary definition running S–N–E–W (*al-qibla . . . al-jawf . . . al-sharq . . . al-gharb*), see al-Ṭulayṭūlī (d. 1067), *Al-Muqniʿ fi ʿilm al-shurūṭ*, ed. F. J. Aguirre Sábada (Madrid, 2004), 129.

<sup>41</sup> M. Dolores Rodríguez Gómez and Salud M. Domínguez Rojas, ‘La compraventa de fincas urbanas en la Granada del siglo XV a través de dos documentos notariales árabes’, *Anaquel de Estudios Árabes*, 19 (2008), 175–99 (195, doc #2, lines 4–5).

<sup>42</sup> For example: ‘et afrontat ipsa vinea de parte orientis in strata qui pergit ubique, et de meridie in torrente, et de occiduo in vinea de nos donatores, et de circui similiter in vinea de nos donatores’, in *Catalunya Carolíngia IV: els comtats d’Osona i de Manresa, Memòries de la Secció històrico-arqueològica LIII*, ed. Ramon Ordeig i Mata *et al.* (Barcelona, 1999), doc. no. 367. I am grateful to Jon Jarrett for alerting me to land-definition practices (and customary variations) in tenth-century Christian Catalonia, and also to Amalia Zomeño for her informal communication to me about boundary orientations in the corpus of 160 documents from Nasrid Granada, of which ninety-five were published with Spanish translations in *Documentos árabigos-granadinos*, ed. L. Seco de Lucena (Madrid, 1961). For a complete inventory, see A. Zomeño, ‘Repertorio documental árabigo-granadino: LOS documentos árabes de la Biblioteca Universitaria de Granada’, *Qurtuba. Estudios Andalusíes*, 6 (2001), 275–96.

was expressly linked to Muslim notarial practice before its fall in 1085. Thus, in an Arabic deed of sale dated to Ramaḍān 475 AH/AD 1083, the boundaries of a vineyard were given as south–north–east–west<sup>43</sup> However, the boundaries of ‘Mozarab’ Christian deeds of sale thereafter tended to begin with the east.<sup>44</sup>

The contrasting formulae from different administrative–religious traditions are sufficient to form the basis of a typology that can be tested against charter evidence from frontier zones in order to establish questions of continuity, disjuncture and the co-existence of land survey practices. At this point, we can return to the central Mediterranean and the contested island of Sicily which from 535 to 827 had been under the Byzantines, and then under Muslim rule until the fall of Palermo to the Normans in 1072.

### Boundary delimitations in Norman Sicily<sup>45</sup>

In the 1090s, when the piecemeal Norman Conquest and pacification of Muslim Sicily was complete, two types of document emerged to confirm the details of granted lands and men: lists on which the local population was registered, and descriptions confirming the boundaries of conceded estates. In Greek, these were generally known as *plateiai*; in Arabic, they were called the *jarā'id al-rjāl* (literally ‘lists of men’), and the *jarā'id al-ḥudūd* (‘lists of boundaries’). Examples are known from comital and royal charters as well as from later cartulary collections. In the absence of any trained cadre of Latin scribes on the island, the Norman rulers’ early use of Arabic and Greek, later combined in bilingual confirmations, is striking. Also of note is that Latin charters purport to date from this early period, but almost all are later copies, known forgeries or of dubious authenticity.<sup>46</sup>

<sup>43</sup> *Los Mozárabes de Toledo en los siglos XII y XIII*, ed. Angel González Palencia (3 vols., Madrid, 1926), 1, 1 and 2–3. document no. 1 (475/1083): *fī-'l-qibla . . . fī-'l-jawf . . . fī-'l-sharq . . . fī-'l-gharb*. For a brief commentary, see Francisco Pons Boigues, *Apuntes sobre las escrituras mozárabes Toledanas que se conservan en el archivo histórico nacional* (Madrid, 1897), 19–21.

<sup>44</sup> Of many similar examples, see documents no. 2 (Nov. 1092) and no. 3 (Apr. 1093), which open with the eastern boundary. *Los Mozárabes de Toledo*, 2–3.

<sup>45</sup> On Arabic deeds of sale and purchase in Sicily, see Antonio D’Emilia, ‘Diplomi arabi siciliani di compravendita del secolo VI Egira e loro raffronto con documenti egiziani dei secoli III–V Egira’, *Annali (Istituto Universitario Orientale di Napoli)*, 14 (1964), 83–109; Olivia Remie Constable, ‘Cross-Cultural Contacts: Sales of Land between Christians and Muslims in 12th-Century Palermo’, *Studia Islamica*, 85/1 (1997), 67–84; Henri Bresc, ‘La propriété foncière des musulmans dans la Sicile du XIIe siècle: trois documents inédits’, in *Giornata di studio: del nuovo sulla Sicilia musulmana (Roma, 3 maggio 1993)*, ed. Biancamaria Scarcia Amoretti (Rome, 1995), 69–97. Reprinted in *Una stagione in Sicilia* (2 vols., Palermo, 2010), 1, no. 3.

<sup>46</sup> For an assessment of the problems of document counts, survival rates and forgeries, see Graham A. Loud, ‘The chancery and charters of the kings of Sicily (1130–1212)’, *English Historical Review*, 124 (2009), 779–810.

The *jarā'id* lists were to become the main written instruments of the Arab-Norman *Dīwān* or royal fiscal administration which managed estates and men of the royal demesnes in Sicily and Calabria.<sup>47</sup> Yet, the precise origins of the *jarā'id* are difficult to ascertain, not least because no charters have survived from either the Byzantine or Islamic periods. Even in the Norman period, there are no extant Arabic documents before the 1090s; nor were any apparently issued from 1112 until after the foundation of the kingdom in 1130.<sup>48</sup>

As for the 'lists of men', it is now accepted that they were based on pre-Norman precedents as it can be inferred that they had been compiled with reference to pre-existing Arabic records.<sup>49</sup> But the precedents for the land boundaries remain obscure – frustratingly so, because Norman Sicilian rulership is conspicuous for its borrowings from the Latin West, Byzantium and from the Islamic world, including the combined use of three languages in the royal palaces, and three diplomatic traditions in the royal chancery.

So, how original was the Norman land registry tradition in Sicily? Did it also have local Arabic roots from the Islamic period? Or had ways of defining limits been introduced with the Normans, perhaps from Latin Longobard or Byzantine Greek areas?

### The orientation of boundaries in Sicilian Arabic charters

Of the earliest surviving, authentic, post-Norman Conquest land grants, those written in Greek are prominent, such as the description of the newly constructed *kastron* of Focerò in north-eastern Sicily, whose limits were composed in Greek from scratch in the mid-1090s on the order of Count Roger I himself.<sup>50</sup> The proceedings were overseen by twelve 'archons', almost all of whom had Greek names and some of whom can be identified with influential kin groups from around the area.<sup>51</sup> Recently, both this hilltop site and its extensive boundaries have been identified, and we now know that they began from the east, from a point at the

<sup>47</sup> For detailed analysis, see Jeremy Johns, *Arabic Administration in Norman Sicily: The Royal Dīwān* (Cambridge, 2002), 39–62, 91–169, for the *jarā'id al-rijāl*. For the *ḥudūd*, see 170–92.

<sup>48</sup> Johns, *Arabic Administration*, 78–80.

<sup>49</sup> For this argument, see *ibid.*, 42–62.

<sup>50</sup> For an unreliable edition of the petition (ἐπιστολή) of Carpetazza fol. 20 from the Archivio Capitolare at Patti, see *I diplomati greci ed arabi di Sicilia*, ed. Salvatore Cusa (Palermo, 1868–82; repr. Cologne and Vienna, 1982), 532–5 (henceforth Cusa, *I diplomati*).

<sup>51</sup> Those who defined the land of Focerò are: Giorgios, uncle of lord Eugenios the *amīr*; lord Melis the Frank of Troina; and the headman (ἄρχηγ) with those from Marsatina at Troina; Petros Philonitis from Catouna at Maniace; the notary Leon of Adrano; Basilis Tricharis of San Marco; Menglavitis of San Marco; Moules of Mavrachóma; the abbot of Galati; the *archistrategos* Michael; the notary, Leon Sakkas, and the notary, Philippos Kolokinthos.<sup>7</sup> Cusa, *I diplomati*, 533.

top of the eastern limit.<sup>52</sup> Indeed, of the earliest examples of boundary clauses in Sicilian Greek with specifically named boundary sides, the vast majority open with reference to the eastern boundary first.<sup>53</sup>

Arabic boundary descriptions made under the Norman rulers are in relatively short supply and are attested later. The earliest is a bilingual (Greek–Arabic) copy of a confirmation from 1133, in which the Arabic was based on the Greek.<sup>54</sup> The first monolingual boundary clause from the royal Arab-Norman *Dīwān* comes even later, in 1141.<sup>55</sup> Of all Arabic boundary clauses, the largest and most coherent corpus is found in a royal confirmation of lands granted to the church of Santa Maria Nuova at Monreale.<sup>56</sup> These were definitions of open villages and fertile farmlands in western Sicily – well-populated areas that had been overwhelmingly Muslim since the ninth century. The boundaries of four large provinces and some fifty of their internal estates were described in detail.<sup>57</sup>

When the data for Arabic boundary clauses is set out, there is a clear difference between private acts of alienation on the one hand and royal charters issued by the Norman *Dīwān* on the other. As can be seen in Tables 1 and 2, the private documents are mixed, but boundaries began mainly with the south – as if composed by Arab-Muslim scribes cognisant of the received ‘Islamic’ model.<sup>58</sup> However, confirmations of lands drawn up in Arabic and issued by the royal *Dīwān* opened mainly with the east in the ‘Roman’ Christian way.

<sup>52</sup> See Michele Fasolo, *Alla ricerca di Focerò* (Rome, 2008), for the careful identification of Focerò with the mountain peak and plateau of Fossa della Neve, and 66–7 for a reconstruction of the *kastron*’s limits circumscribing approximately 120km<sup>2</sup>.

<sup>53</sup> See Cusa, *I diplomi*, 367–8 (from the year 1095: E–W), 509–10 (date 1097: E–), 549–50 (date 1102: E–S), 405–7 (date 1110: S–), 407–8 (date 1112: W–), 599–601 (date 1112: E–W–N–S), 413–14 (date 1122: E–); see also *Le pergamene greche esistenti nel grande archivio di Palermo*, ed. G. Spata (Palermo, 1862), 163–5 (date 1091), 173–5 (date 1092), 257–9 (date 1122); *Les actes grecs de Messine*, ed. André Guillou (Palermo, 1963), 60–1 (date 1123; E–W–).

<sup>54</sup> Cusa, *I diplomi*, 515–17. For an important discussion, see Albrecht Noth, ‘I documenti arabi di Ruggero II’, in Carlrichard Brühl, *Diplomi e cancelleria di Ruggero II* (Palermo, 1983), 190–1, and Johns, *Arabic Administration*, 94–9.

<sup>55</sup> Archivo Ducal de Medinaceli, Toledo, 1104 (S796) *recto*. For further context of the Medinaceli documents in Sicily, see Johns, *Arabic Administration*, 58, 102–6 and 304–5.

<sup>56</sup> Cusa, *I diplomi*, 179–244. A new critical edition of the Arabic–Latin boundaries by Jeremy Johns and Alex Metcalfe is forthcoming.

<sup>57</sup> The provincial boundaries (Arabic: *iqṭīm*, plural *aqālīm*; in Latin, *magnae divisae*) of Jāṭū (modern S. Giuseppe Iato), Qurullūn (Corleone), Baṭṭallarū (Battallaro) and Qal’at al-Ṭraṣī (Calatrasi) covered over 1,200 km<sup>2</sup>. They were conceived as amorphous or polygonal, not quadrilateral, and were not defined in terms of side or cardinal points. For attempts to trace the limits of Battallaro, see Maria Adelaide Vaggioli, ‘Note di topografia nella Sicilia medievale: una rilettura della *jarida* di Monreale (*divise Battallari, divisa Fantasine*)’, in *Quarte giornate internazionali di studi sull’area Elima, Erice, 1–4 dicembre 2000* (Pisa, 2003), 1247–324.

<sup>58</sup> Several appear to have Arab-Muslim vendors and (mainly Arab-)Christian purchasers. The exceptions to this are nos. 2, 9(?), 10, 11 and 12. See Table 1 (below).

### Conclusions

In view of 250 years of Arab-Muslim rule in Sicily before the Normans, it is slightly surprising to find royal chancery scribes writing out boundaries in Arabic based on a Romano-Byzantine orientation model. There seem to me two plausible, but very different, explanations for this. The first is a conservative argument of long continuity: namely, that during the Islamic period, scribes drew on existing Byzantine records, superimposing new boundaries over old, but writing out subsequent descriptions in Arabic. Hence, the Arabic boundaries of Norman crown lands still started with the east.

This possibility, however, is a problematic one given the prevailing tendency for scribes everywhere else in the Islamic world to follow a south-first model in Arabic. Moreover, in Sicily, the protracted processes of conquest are likely to have dislocated old Byzantine boundaries – processes which continued with the division of imperial and ecclesiastical *latifundia*; colonisation and settlement from Ifrīqiya; the subdivision of property due to the literal application of Mālikī inheritance law which advocated splitting lands between heirs, and the ‘green revolution’ which can only have disrupted the rural landscape yet further. As such, there are many reasons to believe that Byzantine estates’ boundaries could not have survived unadulterated throughout the Islamic period until the time of the Normans in the eleventh and twelfth centuries.

Moreover, the evidence for administrative records from Fatimid times prior to the Norman Conquest points primarily to the use of population censuses: recording the people on the land whose memory confirmed its limits, rather than defining the actual land boundaries themselves in writing. Indeed, this might explain the absence of any claim to lands in the Norman period on the pretext of some older documentation in Arabic. Otherwise for the Islamic period in Sicily, we can at best infer the existence of state records for landed property, perhaps with lists of provincial officials, landholders and presumably some estimate of land tax revenue. But there is too little evidence to go beyond this or to assume that they had compiled cadastral registers of detailed physical boundary descriptions.

An alternative explanation may offer a solution to this dilemma. Recent studies of the royal Norman *Dīwān* have shown the extent to which it was a confection of the Norman kingdom post-1130 under Roger II and his chief minister, George of Antioch.<sup>59</sup> It was also a late developer: after the period of 1112–30 when no documents in Arabic were apparently issued at all, the first boundary definition to be written using only Arabic is not attested before the 1140s. Moreover, when royal Norman charters

<sup>59</sup> Johns, *Arabic Administration*, 80–114.

in Arabic were reintroduced, they were characterised by the presence of non-Arabic loan terms, and occasional references to people and events of the 1100s.<sup>60</sup>

This scenario suggests a very different reason for the ‘Romano-Byzantine’ influence in Arab-Norman chancery documents; namely, that the Arabic boundary clauses were actually a modern product of Roger II’s day when land inquests to verify property conceded to, or disputed by, newly privileged landholders were overseen by Christian officials familiar with the conventions of Byzantine land inquests. From time to time, the findings of these were written out by scribes of the newly created royal *Dīwān* in Arabic. On the face of it, their elegant external features had the style and hallmarks of Arab-Islamic chancery documents, but their content reveals a distinctly non-Muslim provenance. Such a scenario fits well with the known development of the Norman bureaucracy from the early days of territorial reorganisation in the post-conquest period of the 1090s when bilingual (Arabic–Greek) functionaries and officials rose to prominence as agents, authors and actors in the comital and royal entourage.<sup>61</sup> Was it these ‘go-to’ men, the Christian archons, amirs, strategots and scribes of the early Norman rulers, who had been responsible for initiating this change of course in post-Islamic Sicily?

This is a tentative conclusion by way of a suggestion. But even so, the royal charter evidence appears to indicate that the Arabic boundary documents of Norman Sicily had no diplomatic connection with the Arab-Muslim past.

<sup>60</sup> For contemporary references to the Norman period in Arabic boundary clauses, see Cusa, *I diplomati*, 515–16, for George of Antioch as the *strategot* or ‘*āmil* (district official) of Iato in 1114, 212 and 215 for lands and men of the *Dīwān*, 242 for lands of the Norman knight, Paganus de Gorgis. On loan words in chancery contexts, see Alex Metcalfe, *Muslims and Christians in Norman Sicily: Arabic Speakers and the End of Islam* (London and New York, 2003), 127–40. Of particular importance is the frequent use of noun reduplication in boundary clauses e.g. τήν ὁδὸν ὁδόν; *per viam viam*; *al-tarīq al-tarīq* (‘right along the road’), which was a distinctive trait of medieval Greek that was transmitted into Latin and Arabic as a loan term.

<sup>61</sup> Vera von Falkenhäusen, ‘The Greek Presence in Norman Sicily’, in *The Society of Norman Italy*, ed. G. A. Loud and Alex Metcalfe (Leiden, 2002), 253–87; Hiroshi Takayama, *The Administration of the Norman Kingdom of Sicily* (Leiden, 1993), 25–56, and Johns, *Arabic Administration*, 63–90.

Table 1 *Private deeds of sale from Sicily with boundary definitions in Arabic*

	Boundary order
1 Deed of sale from 1112 <sup>a</sup>	S–E–W–N
2 Deed of sale from 1116 <sup>b</sup>	E–N–W–S
3 Deed of sale from 1130 <sup>c</sup>	E–N–W–S
4 Deed of sale from 1137 <sup>d</sup>	S–E–N–W
5 Deed of sale from 1161 overseen by the Muslim <i>qāḍī</i> of Palermo <sup>e</sup>	S–E–W–
6 Deed of sale from 1180 <sup>f</sup>	S–E–W–N
7 Deed of sale from 1183 <sup>g</sup>	S–W–E–N
8 Deed of sale from 1187 <sup>h</sup>	E–S–W–N
9 Deed of sale from 1190 <sup>i</sup>	S–N–E–W
10 Deed of sale from 1193 <sup>j</sup>	E–S–W–N
11 Deed of sale from 1196 said to be have made according to <i>Shariʿa</i> law <sup>k</sup>	S–W–N–E
12 Arab-Christian deed of sale (undated, but probably later 1100s) <sup>l</sup>	E–S–W–N

<sup>a</sup> *al-ḥadd al-qiblī ... al-sharqī ... al-ḥadd al-gharbī ... wa-ʿl-dabūr min-hi*. Cusa, *I diplomi*, 610–13 (61). <sup>b</sup> Known from a Latin transumpt of 1266, see Bresc, ‘La propriété foncière’, 93–6. <sup>c</sup> Latin transumpt of 1255, see Bresc, ‘La propriété foncière’, 96–9. Here, an estate in western Sicily – Raḥl Karrām – was named after the Muslim family who owned it (not simply held it), and was sold by them for 1,000 *tarī* to a Christian buyer. <sup>d</sup> *al-ḥadd al-qiblī ... al-ḥadd al-sharqī ... al-ḥadd al-dabūrī ... al-ḥadd al-gharbī*. Cusa, *I diplomi*, 61–7 (62). <sup>e</sup> *al-ḥadd al-qiblī ... wa-sharqī-hā ... wa-gharbī-hā*. Cusa, *I diplomi*, 101–6 (102). <sup>f</sup> *al-ḥadd al-qiblī ... al-ḥadd al-sharqī ... al-ḥadd al-gharbī ... al-ḥadd al-dabūrī*. Cusa, *I diplomi*, 39–43 (40). <sup>g</sup> *fa-ḥadd-hā al-qiblī ... al-gharbiyya ... wa-sharqī-hā ... wa-zahr al-qibla min-hā*. Cusa, *I diplomi*, 491–3 (491). <sup>h</sup> Latin transumpt of 1282, see Bresc, ‘La propriété foncière’, 99–101. <sup>i</sup> *min jiha qiblīyya ... bi-dabūrī-hā ... wa-sharqī-hā ... wa-qiblī-hā* (sic) ... *wa-gharbī-hā*. Cusa, *I diplomi*, 44–6 (44). <sup>j</sup> *al-ḥadd al-sharqī ... al-ḥadd al-qiblī ... al-ḥadd al-gharbī ... wa-ʿl-ḥadd al-rābī wa-huwa dabūr al-qibla*. Cusa, *I diplomi*, 496–8 (496–7). <sup>k</sup> *al-ḥadd al-qiblī ... al-ḥadd al-gharbī ... wa-dabūr al-qibla ... wa-ʿl-sharqī*. Cusa, *I diplomi*, 499–501 (499–500). <sup>l</sup> *al-ḥadd al-sharqī ... wa-ʿl-qiblī ... wa-ʿl-gharbī ... wa-ʿl-baḥrī*. Cusa, *I diplomi*, 505–6 (505).

Table 2 *Royal estates with cardinal-pointed boundary sides in Arabic*

Name of estate ( <i>rahl</i> )	Boundary order
Greek–Arabic grant from 1136 <sup>a</sup>	E–S–W–N
Arabic boundaries of Raḥl Ibn Sahl from 1154 <sup>b</sup>	E–W–S–
Greek–Arabic deed of purchase from 1161 <sup>c</sup>	E–W–S–N
Maghnūja (estate of Monreale, 1182)	S–E–W–
al-Duqqī	E–S–W–
al-Maghāghī	E–W–
Sūminī	E–W–
Malbīt	E?
Qurūbnish	E–
al-Andalusīn	S–N–
Manzil Zarqūn	S–N–
Raḥl al-Būqāl	S–W–
Raḥl al-Ghalīz	E–W–
Raḥl al-Balāt	E–S–W–N
Raḥl al-Mudd	E–S–
Raḥl al-Sikkāk	E–S–W–
Dasīsa	E–W–S–
Manzil Zammūr	E–
Manzil Kirashatī	E–N–W–
Ghār Shu‘ayb	E–W–N–
Raḥl Ibn Sahl	E–N–W–S
Jurf Bū Karīm	E–W–N–
Raḥl Bijānū	E–W–
Manzil ‘Abd al-Raḥmān	E–S–N–
al-Qumayṭ	E–S–W–N
Jaṭīna	E–S–W–N
al-Ghār	E–S–W–
al-Randa	E–N–W–
Raḥl al-Jawz	E–S–W–N
al-Aqbāt	E–S–W–N

<sup>a</sup> The original Arabic parts of the text are lost and survive only in later Latin and Italian translations of the Greek. Indeed, it is not even clear whether the boundaries were ever described in Arabic. Here, the boundary directions are taken from the Greek *periorismos*. See Cusa, *I diploma*, 115–16. <sup>b</sup> See Jeremy Johns and Alex Metcalfé, ‘The mystery at Chūrchuro: conspiracy or incompetence in twelfth-century Sicily’, *Bulletin of the School of Oriental and African Studies*, 62/1 (1999), 226–59, (esp. pp. 248–52). <sup>c</sup> *al-hadd al-sharqī . . . al-hadd al-gharbī . . . wa-’l-qiblī . . . wa-dabūr al-qibla*. Cusa, *I diplomī*, pp. 622–6 (pp. 624–5). The order of the boundaries in the Greek, which precedes the Arabic, is the same: τὸ ἀνατολικόν, τὸ δυτικόν, τὸ νοτιόν, τὸ βόρειον (ibid. p. 623).