

SURVEY ARTICLE

The Roman Danube: An Archaeological Survey

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The purpose of this survey is to present in summary form the present state of knowledge of the Roman Danube in the light of recent research and archaeological discoveries. The river itself is the core, as it was for the Roman presence in Central and Eastern Europe from early in the first century A.D. to the last decades of the fourth century. In its long course from its confluence with the Inn at Passau, the point from which it assumes its dominant role, to its delta on the Black Sea, Europe's greatest river impinges on the territory of several modern states — Austria, Slovakia, Hungary, Croatia, Serbia, Romania, and Bulgaria, to which can be added Moldova, Ukraine, and Russia, where the Roman presence was extended along the coast north of the delta as far as the Crimea. Within the Empire the limits of this survey are the southern boundaries of the middle and lower Danube basins, the eastern Alps, the Dinaric and the Balkan mountains. As a result, except for the passages of the major roads to the Danube, little attention is given to those areas south of these limits that belong more to the Mediterranean, Adriatic Dalmatia, Macedonia, and Thracia south of the Haemus (Stara planina). Within these limits lie the Roman provinces of Noricum, Dalmatia north of the watershed, Pannonia, Moesia, both later divided into Superior and Inferior, and Dacia beyond the Danube. Except for Dacia, bounded on the north and the east by the ring of the Carpathians, the river formed the northern limit of these provinces and for Dacia its southern boundary.

The first section (I) reviews recent research and publication in archaeology, epigraphy, and frontier history. The descriptive sections (II–VII) are supported by two topographical appendices. The first (Appendix A) lists the major routes between the Mediterranean and the Danube by seven regions: from north-east Italy by the Alpine passes (RI), by the Carnic and Tauern Alps (RII), and by the Julian Alps (RIII), from the Adriatic across the Dinaric ranges (RIV), from the south Adriatic and the Aegean by the Vardar-Morava corridor (RV), from the Strymon and Hebrus valleys across the Haemus range (RVI), and from the Black Sea coast (RVII). The second (Appendix B) lists places by Roman province along both banks of the river and along the coast of the Black Sea between the Inn and the Crimea, and in Dacia beyond the Danube. Whereas in the first appendix sites are identified by ancient names where these are recorded on itineraries, modern names are used for the second, since many of the lesser sites have no recorded ancient name. Wherever possible, annotation in the descriptive sections (II–VII) consists of references to places in these lists. In both appendices location references are given to the recently published *Barrington Atlas of the Greek and Roman World* where these are available (B + map number + location square) and to the modern state in which they are situated. Here the outline map (Fig. 1) indicates the line of the major roads and the principal places along these and along the Danube, by references to the appendices. A significant number of publications relating to the Danube region are not readily available in libraries and for this reason a more accessible secondary publication (e.g. *L'Année Epigraphique*) is wherever possible cited.

This survey, though inevitably far from comprehensive, seeks to report the significant advances in research and major discoveries in several countries that have experienced major political changes in the last twenty years. There are signs everywhere to encourage the hope that over the next twenty years our understanding of the Roman Danube will be much improved, compared with that which is presented here.

I RESEARCH AND PUBLICATION

General accounts of the Roman Danube are available in the four relevant volumes of the second edition of the *Cambridge Ancient History* and in a recent French compilation on the Roman provinces.¹ In the matter of maps the entire area of the Roman Danube is now covered in the *Barrington Atlas of the Greek and Roman World*. This supersedes for most purposes the sheets of the *Tabula Imperii Romani* that now cover most of the area but the detailed gazetteers of the latter still retain great value.² As regards the individual Roman provinces, most recent studies tend to be defined by the boundaries of modern states and regions rather than the ancient limits, often as part of multi-volume national histories. The chapters on individual provinces contributed to the monumental *Aufstieg und Niedergang der römischen Welt*, though of varying scope and quality, still retain value.³

For Noricum the work of G. Alföldy published more than thirty years ago is yet to be superseded, but is now complemented by the richly illustrated work of Thomas Fischer. The Roman era in Austria is now fully described in a recent collective volume that forms part of a national history, and for the modern region of Carinthia there is an archaeological atlas edited by G. Piccottini.⁴ Several studies by Hungarian scholars have tended to embrace areas of Pannonia that lie within eastern Austria and in the northern districts of Slovenia, Croatia, and Serbia. The synthesis of A. Mócsy published in 1974, following his survey contributed to the IXth supplement of Pauly-Wissowa twelve years earlier, remains of value. A compendium on the archaeology of Pannonia edited by two American-based scholars also retains value for some of the chapters contributed by leading Hungarian specialists.⁵ In Pannonia the Severan era dominates the historical and archaeological record, above all in the major frontier centres such as Carnuntum, Brigetio, and Aquincum. An account of this ‘Great Age of Pannonia’ by J. Fitz describes the prominence

¹ Vol. X (1996), 545–85; XI (2001), 577–603; XII (2005), 210–66 (all by J. J. Wilkes); XIII (1998), 482–6 (by M. Todd); C. Lepelley (ed.), *Rome et l'intégration de l'Empire 44 av. J.-C.–260 apr. J.-C. Tome 2. Approches régionales du Haut-empire romain* (1998), 231–97 (by J. J. Wilkes).

² R. J. A. Talbert (ed.), *Barrington Atlas of the Greek and Roman World* (2000), Map 12 (H. Bender), 13 (A. Bursche and L. Pitts), 19 (Bender), 20 (P. Kos and M. Šašel Kos), 21 (J. J. Wilkes), 22 (A. G. Poulter), 23 (D. Braund), 49 (Wilkes), with a separate directory for each map. *Tabula Imperii Romani* K34 Naissus-Serdica-Thessalonike (1976), K35 (1) Philippi, Greek territory only (1993), L32 Mediolanum-Aventicum-Brigantium (1966), L33 Tergeste (1961), L34 Aquincum-Sarmizegetusa-Sirmium (1968), L35 Romula-Durostorum-Tomis (1969), M33 Castra Regina-Vindobona-Carnuntum (1986). For the course of the river the *Handbook of the River Danube* (Admiralty War Staff Intelligence Division, London, 1915; with supplement 1919) is still serviceable. On landscape changes in general see J. Chapman and P. Dolukhanov (eds), *Landscapes in Flux: Central and Eastern Europe in Antiquity*, *Colloquia Pontica* 3 (1997).

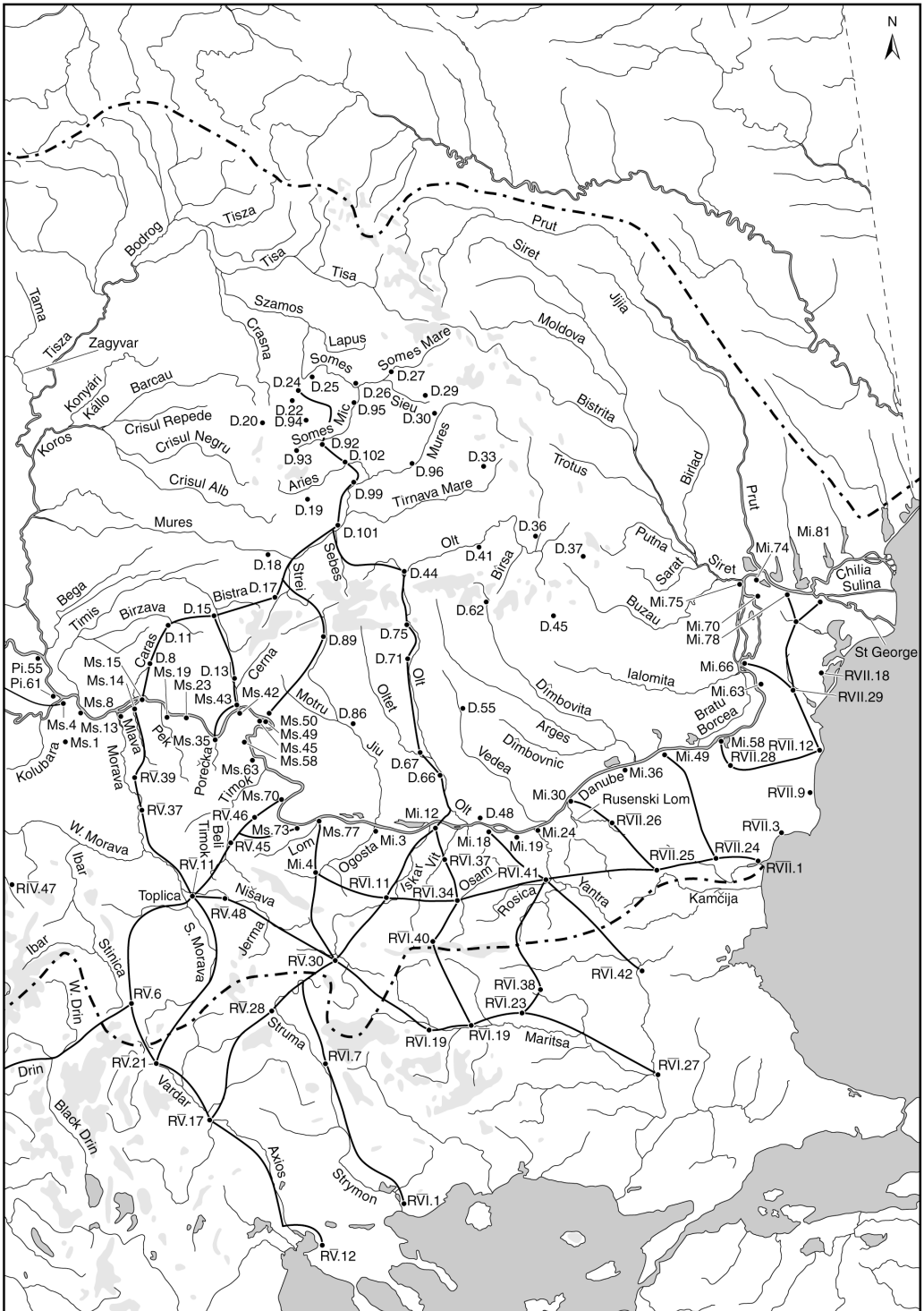
³ Ed. H. Temporini, *Il Prinzipat vol. 6* (1977): Noricum (G. Winkler), Pannonia (J. Fitz and A. Mócsy), Dalmatia (J. J. Wilkes and M. Zaninović), Moesia Superior (M. Mirković and N. Gudea), Dacia (N. Gudea, H. Daicovicu, C. Daicovicu and D. Protase); also *vol. 7* (1979): Moesia Inferior and Thracia (B. Gerov and Chr. M. Danov).

⁴ G. Alföldy, *Noricum* (1974), with the author's recent reflections in *Tyche* 13 (1998), 1–18; T. Fischer, *Noricum*, Zabernsbildbande zur Archäologie, series Orbis Provinciarum (2002) (on which see E. Ruprechtsberger, *JRA* 17 (2004), 697–8); V. Gassner, S. Jilek, and S. Ladstätter, *Am Rande des Reiches: Die Römer in Österreich* (Österreichische Geschichte 15 v. Chr.–378 n. Chr., ed. H. Wolfram) (2002) (on which see M. Buora, *JRA* 17 (2004), 689–96); G. Piccottini (ed.), *Archäologischer Atlas von Kärnten* (1989). Recent Festschrift volumes include important items: A. Betz and E. Weber (eds), *Aus Österreichs römischer Vergangenheit* (1990) (for H. Vetters); *Festschrift für H. Stiglitz* (1996); *Corolla Memoriae Walter Modrijan Dedicata* (1997); *Carinthia Romana und die römische Welt* (for G. Piccottini) (2001).

⁵ A. Mócsy, *Pannonia and Upper Moesia* (1974); ‘Pannonia’, in *P-W Suppl.-Bd. IX* (1962), cols 515–776 (the New Pauly has drawn criticism for its haphazard coverage of Pannonian material: J. Fitz, *Alba Regia* 31 (2003), 105–6); Mócsy's published works, until his death in 1987, are listed in the volume of *Acta Archaeologica Hungarica* dedicated to his memory (41 (1989), 9–15) and a selection have been republished as *Pannonia und das römische Heer: ausgewählte Aufsätze* as volume VII in the *Mavors* series edited by M. P. Speidel (1992). A. Lengyel and G. T. B. Radan (eds), *The Archaeology of Roman Pannonia* (1980). Research on Pannonia in 1980–1986 is surveyed by J. Fitz in *ActArchHung* 41 (1989), 533–58. There is also much of value in the published proceedings of an Italian colloquium, G. Hajnóczy (ed.), *Pannonia e l'impero romano* (1995) (on which see J. J. Wilkes, *JRA* 9 (1996), 415–23).



FIG. 1. The Roman Danube: routes and stations to the Danube (Appendix A) and principal locations on and near the Danube (Appendix B). (Redrawn by Harry Buglass from original supplied by J. J. Wilkes)



and prosperity enjoyed by the Middle Danube provincial communities in the early third century A.D. in a manner that echoes Andreas Alföldi's tribute to the Illyrian soldier emperors of the later third century.⁶

Since the earlier studies by J. Dobiáš, the archaeological record for Roman activity north of the upper Danube in the territory of the former Czechoslovakia, now the Czech Republic and the Republic of Slovakia, has been transformed, partly through the increased opportunities for cross-border collaboration but even more through the recent results of aerial photography. The import of Roman goods to this area and in Poland has long been well documented, though the nature of this traffic in the social and economic context continues to be debated. The discoveries of recent years have revealed a significant and lasting Roman presence, both civil and military, in the basins of the rivers March/Morava and Waag/Váh, ancient highways from central Europe to the Pannonian Danube.⁷

The break-up of the former Yugoslavia has led to the demise of a number of publications reporting current research and new discoveries sometimes not destined for full publication, notably *Archaeologia Iugoslavica* and the regular thematic conferences of the Yugoslav Archaeological Society (*Materijali*).⁸ In the new order, Slovenia in the south-east Alps has seen the publication of several important works under the aegis of either its Academy or the National Museum in Ljubljana, the latter through its series (*Situla*) of catalogues and monographs, building on the foundations of the excellent National Archaeological Gazetteer, in which the record for the Roman era is but a part of the great scholarly legacy of Jaroslav Šašel.⁹ For Croatian Pannonia the regular conferences of the Croatian Archaeological Society provide, through their published proceedings, valuable surveys for all periods concerning the areas in question.¹⁰ No recent syntheses are available for the province of Dalmatia that embraces not only Croatian Dalmatia but also the troubled land of Bosnia-Herzegovina. Since the volumes by G. Alföldy (1965) and J. J. Wilkes (1969) the ancient topography of the region has been examined in two major monographs and numerous papers by the late Ivo Bojanovski. It is unfortunate that his publications are missing from many libraries and the disappearance of the Centre for Balkan Studies created in Sarajevo by the late Alojz Benac makes it unlikely that this state

⁶ J. Fitz, *The Great Age of Pannonia (AD 193–284)* (1982) (the author has received a Festschrift (1996)); compare with A. Alföldi, *CAH XII* (1939), 200.

⁷ The state of research until the most recent discoveries was surveyed for Bohemia by K. Motykova in *Aufstieg und Niedergang* (op. cit. (n. 3)), II vol. 5 (I) (1976), 143–99, and for Slovakia by T. Kolník, *Römische und Germanische Kunst in der Slowakei* (1984), also on Roman stations in the Pannonian frontier 'Vorland' in Slovakia, *Arch. Roz.* 38 (1986), 411–34. There are also two invaluable surveys by L. F. Pitts, 'Roman style buildings in Barbaricum (Moravia and S. Slovakia)', *Oxf. Journ. Arch.* 6 (2) (1987), 219–36; 'Relations between Rome and the German "Kings" on the middle Danube in the first to fourth centuries A.D.', *JRS* 79 (1989), 45–58. Recent research has been centred on the differing interpretations of the Roman finds at Mušov (Ps. 55) in the Czech Republic, beginning with the report by J. Tejral, *BerRGK* 73 (1992), 377–468, and followed by the published proceedings of various conferences: H. Friesinger, J. Tejral, and A. Stuppner (eds), *Markomannenkriege — Ursachen und Wirkungen* (1994); J. Tejral, K. Pietá and J. Rajtár (eds), *Kelten, Germanen und Römer von Ausklang der Latène-zivilisation bis zum 2. Jh. im Mitteldonauegebiet* (1995); J. Tejral (ed.), *Das mitteleuropäische Barbaricum und die Krise des römischen Weltreiches in 3. Jahrhundert* (1999); J. Bouzek, H. Friesinger, K. Pietá, and B. Komorczy (eds), *Gentes, Reges and Rom: Auseinandersetzung, Anerkennung, Anpassung. Festschrift J. Tejral* (2000).

⁸ The last issue of *Arch. Iug.* appeared in 1987 and among the later volumes of *Materijali* three are of special value for the Roman period, 17 (1980) (roads and communications), 18 (1978) (mosaics), and 20 (1985) (burials).

⁹ *Arheološka Najdišča Slovenije* (1975) (text and maps). A Festschrift for J. Šašel was published in 1990 as vol. 41 of the Academy periodical *Arheološki Vestnik* and a volume of his collected papers was published in 1992 by the National Museum in Ljubljana (*Situla* 30). Among other works of general value is M. Šašel Kos, *A Historical Outline of the Region between Aquileia, the Adriatic and Sirmium in Cassius Dio and Herodian* (1986); also a full-scale commentary on the Illyria by the same author is in preparation. Among conference publications is: R. Bratož (ed.), *Westillyrikum und Nordostitalien in der spatrömischen Zeit*, *Situla* 34 (1996), and M. Šašel-Kos and P. Scherrer (eds), *The Autonomous Towns of Noricum and Pannonia: Noricum, Situla* 40 (2002) (on which see N. Christie, *JRA* 17 (2004), 699–705).

¹⁰ Among those of particular value are those based on Varaždin (1978), Zagreb and area (1979), Eastern Slavonija and Baranja at Vukovar (1984), Karlovac and the Sisak region at Karlovac (1986), Podravina and the region Kalnik-Bilogora at Koprivnica (1990), Knin and region at Knin (1992), Slavonki Brod and region at Sl. Brod (1993).

of affairs will be improved.¹¹ In recent years there has been much activity in Croatian Dalmatia, centred on the major cities of Salona (RIV.11) and Narona (RIV.37). At the former a Franco-Croatian collaboration has focused on the early Christian centres, resulting in a series of major reports, including a catalogue of all the early Christian basilicas currently known in the Roman province of Dalmatia (excluding Salona); and at the latter excavation has recently revealed a major shrine dedicated to the Julio-Claudian dynasty.¹² Most of the province of Moesia Superior lies within the borders of the Serbian Republic and the former Yugoslav Macedonia includes the Skopje region in the south of Moesia Superior, along with the northern districts of the province of Roman Macedonia. Though much new information has accrued since Mócsy's syntheses of 1970 and 1974, neither has been replaced, except in regard to the ancient topography of those areas now covered by the more recent publication of the inscriptions of the province (see below). In the 1960s and 1970s the Danube gorges below Belgrade were the scene of large-scale state-sponsored rescue archaeology on the many ancient sites threatened with inundation by the Yugoslav-Romanian dam at Karataš, and also further downstream by a second barrier at Kusjak. Partly as a consequence of this concentration there is less new work to report from the interior of the province, though monographs on a variety of topics continue to appear under the aegis of the Archaeological Institute of the Serbian Academy and of the National Museum in Belgrade. For Macedonia there is now available, thanks to the efforts of German colleagues, the monumental work of Ivan Mikulčić on the late Roman and early Byzantine fortified settlements of the northern region.¹³

Until a decade or so ago archaeological research in the Bulgarian part of Moesia Inferior was centred on the Danube sites of Novae (Mi.18) and Iatrus (Mi.24) in long-term collaboration with Polish and East German colleagues, both of which have generated many publications, while the major site of Oescus (Mi.12) has been a centre of research by Bulgarian archaeologists for many years under the leadership of the late Teofil Ivanov. During the past decade a major Anglo-Bulgarian project based on the city of Nicopolis ad Istrum (RVI.41) marks the beginning of a wider and more fruitful collaboration between a new generation of Bulgarian archaeologists and foreign colleagues. New syntheses on the history and archaeology of the Bulgarian region of Moesia Inferior can now be expected, although some areas, notably west of the river Iskar and east of the river Yantra, remain to be fully explored. At the same time it seems likely that the works of an older generation of scholars, V. Velkov, B. Gerov, and R. F. Hoddinott, are likely to remain in service for some years to come.¹⁴ In the Dobrudja region of Moesia Inferior that lies now in Romania

¹¹ G. Alföldy, *Bevölkerung und Gesellschaft der römischen Provinz Dalmatien, mit einem Beitrag von A. Mócsy* (1965); J. J. Wilkes, *Dalmatia* (1969). Bojanovski's work is published in Serbo-Croatian but with lengthy French summaries: *Système routier de Dolabella dans la province romaine de Dalmatia* (1984); *Bosnie et Hercegovine à l'époque antique* (1988).

¹² P. Chevallier, *Ecclesiae Dalmatiae: l'architecture paléochrétienne de la province romaine de Dalmatia (IVe–VIIe s.)*, *Salona II*, Coll. Ec. Fr. Rome 194/2 (1995). The other volumes in the Franco-Croatian Salona series are listed under Salona in the gazetteer. There has also appeared a volume of collected papers on religious topics by the late Branimir Gabričević, *Studije i članci o religijama i kultovima antičkog svijeta* (1987).

¹³ A. Mócsy, *Gesellschaft und Romanisation in der römischen Provinz Moesia Superior* (1970); *Pannonia and Upper Moesia* (1974). Recently published regional studies include: S. Ercegović-Pavlović and D. Kostić, *Les Monuments et les sites archéologiques dans le région de Leskovac*, Inst. Arch. Monogr. 20 (1988), covering a region of south-west Serbia. For the north-western borderland of Moesia Superior and Dalmatia around the middle and lower Drina there is now R. Zotović, *Population and Economy of the Eastern Part of the Roman Province of Dalmatia*, BAR Int. Ser. 1060 (2002). For the ancient region of Paconia in north-west Roman Macedonia there is now Zv. Bieldedovski, *Bregalnica Basin in the Roman and Early Medieval Period* (1990). I. Mikulčić, *Spätantike und frühbyzantinische Befestigungen in Nordmakedonien: Städte-Vici-Refugien-Kastelle* (2002).

¹⁴ V. Velkov, *Cities in Thrace and Dacia in Late Antiquity* (1977); *Roman Cities in Bulgaria* (1980); *Geschichte und Kultur Thrakiens und Moesiens (Gesammelte Aufsätze)* (1988). B. Gerov, *Beiträge zur Geschichte der römischen Provinzen Moesiens und Thrakien (Gesammelte Aufsätze)* (1980); *Landownership in Roman Thracia and Moesia (1st–3rd century)* (1988). R. F. Hoddinott, *Bulgaria in Antiquity: an Archaeological Introduction* (1975). There is much of value in the conference volumes: A. G. Poulter (ed.), *Ancient Bulgaria vols 1–2* (1983); L. Slokoška et al. (eds), *The Roman and Late Roman City* (2002).

between the lowest section of the Danube and the Black Sea there has been a steady rate of research in recent years, not merely on the well-known military sites along the river and the ancient Greek settlements along the Black Sea coast but also among the many settlements of the ostensibly less attractive interior, where aerial photography has become more readily available. A 1991 study by A. Suceveanu and A. Barnea is now joined by chapters on the region in the Greek and Roman eras compiled for a new *History of Romania* that bids to replace the volumes by Pippidi and Berciu (1965) and Vulpe and Barnea (1968) for the pre-Roman and Roman periods.¹⁵

Since the Second World War there has appeared a large quantity of published research relating to the history and archaeology of Dacia north of the Danube, partly to support the political agenda relating to Romania's Daco-Roman cultural and historical identity, above all under the regime of Nicolai Ceaucescu. There remains much of lasting value in the monographs and periodicals of those years but during the past decade or so there has been a new wave of publication in which argument and debate have ranged more freely over such topics as the survival of the indigenous inhabitants of Dacia following the Roman conquest and also the state of affairs during the last decades of Roman rule and in the century following the formal evacuation under Aurelian. Among older works those of the indefatigable Dumitru Tudor on Dacia Inferior (Oltenia) between the Danube and Carpathians and on the settlements of Dacia as a whole remain of great value. There is now, however, an entirely new synthesis for the province that has been generated by a collaboration between Romanian and other European colleagues in field research and which has been edited by two British participants, I. P. Haynes and W. S. Hanson of London and Glasgow, and indicates the great advances that have been made in Dacian studies in recent years. Among recent Romanian works is a detailed analysis of Dacia in the ancient historical sources (D. Ruscu), a new synthesis of Dacian history from the time of Burebista to the end of antiquity (C. C. Petolescu), a study of material relations between Roman Dacia and the regions beyond both before and after the Roman conquest (C. H. Opreanu), and an important study of municipal life in the province (R. Ardevan). New series of international conferences and colloquia have also produced valuable publications, on rural life (Tulcea 1998) and on the army and urban development (Alba Julia 2000), both gaining much from not being restricted to Romanian material.¹⁶

The focus of this survey is the military and civil cordon along the Danube and the major routes between that line and the Mediterranean heartlands of the Roman world, starting in the west at the Inn confluence and extending beyond the delta as far as the Crimea to include military deployment along the Black Sea coast. Between the early second century and the late third century A.D. the Roman military system and its associated settlements

¹⁵ D. M. Pippidi and D. Berciu, *Din Istoria Dobrogei vol. 1. Geți și Greci la Dunărea de Jos* (1965); R. Vulpe and I. Barnea, *Din Istoria Dobrogei vol. 2. Romanii la Dunărea de Jos* (1968); A. Suceveanu and A. Barnea, *La Dobrudja romaine* (1991); I. Petrescu, M. Dambovița and A. Vulpe (eds), *History of Romania: II Antiquity* (ed. D. Protase and A. Suceveanu), pt. 1 *Greek Colonies in the Dobrudja* (by A. Avram et al.), pt. 2 *Dacia* (by D. Protase and M. Barbulescu), *Dobrudja* (by A. Suceveanu and D. Radulescu (2nd–3rd century) and D. Radulescu and A. Barnea (4th–6th century)) (2001).

¹⁶ D. Tudor, *Oltenia Romana* (3rd edn, 1968); *Villes, bourgs et villages en Dacie romaine* (1968). There is a useful survey of works on Dacia for the years 1981–1989 by S. Cocis and A. Paki, *Acta Mus. Nap.* 32 (1995), 827–57. W. S. Hanson and I. P. Haynes (eds), *Roman Dacia: the Making of a Provincial Society*, JRA suppl. 56 (2004), with a historical introduction by the editors, Iron Age and the Dacian citadels (K. Lockyear), the supposed extermination of Dacians (D. Ruscu), towns in recent research (A. Diaconescu), rural settlement (I. A. Oltean), burial monuments (C. Ciongradi), religious belief (A. Schäfer). D. Ruscu, *Provincia Dacia in istoriografia antica* (2003). C. C. Petolescu, *Dacia și Imperiul Roman de la Burebista până la sfârșitul antichității* (1999). C. H. Opreanu, *Dacia romana și barbaricum* (1998). R. Ardevan, *Viața municipală în Dacia romana* (1998); V. H. Barman (ed.), *La vie rural dans les provinces romaines* (1998); H. Ciugudean and V. Moga (eds), *Army and Urban Development in the Danubian Provinces of the Roman Empire*, Bibliotheca Mus. Apul. 15 (2000). Among volumes of collected papers by older scholars relating to Dacia are: Em. Popescu, *Christianitas Daco-Romana, Collected Papers* (1994); L. Balla, *Studia Dacica* (collected papers, ed. E. Szabó), Hungarian Polis studies 5 (2000); D. Isac, *Viața cotidiană în castele Daciei Porolissensis* (2001).

extended north of the Danube to include Romanian Transylvania and Oltenia, although the stretch of the Danube cordon directly affected by this advance was limited to that between the mouth of the Morava in Serbia and the Olt in Romania. The history and archaeology of this huge complex of military deployment and associated settlement, and its impact on the indigenous communities along both banks, has engaged the attention of specialists for more than a century and now impacts on the territories of ten modern political states. Since the Second World War new discoveries and new research in this area have been reported (and subsequently published) to the regular Congresses of Roman Frontier Studies (*Limeskongress*) that meet around three times each decade in different frontier zones of the Roman Empire.¹⁷ Most of the Danube cordon is now covered by detailed guides and gazetteers for the Danube section of individual states rather than Roman provinces, some compiled specifically for a Frontier Congress and most published within the last decade or so. Congress proceedings also usually include valuable surveys of recent work that cover most of the Danube region.

The Austrian section of the Danube comprises all of Noricum between the Inn and the Wienerwald, with one legionary fortress (Lauriacum N.16) and around fifteen auxiliary forts, and the short but strategically important western section of the Pannonian Danube, with two legionary fortresses (Vindobona Ps.2 and Carnuntum Ps.13) and three auxiliary forts.¹⁸ The increasing evidence for Roman activity north of the Austrian Danube in the territories of the Czech and Slovakian Republics has been reported to recent Frontier Congresses.¹⁹ The long course of the Hungarian Danube flows east to its great bend above Budapest, with the legionary fortress Brigetio (Ps.30) and around ten auxiliary forts, then south to the Croatian frontier above the Drava confluence, with the legionary fortress Aquincum (Pi.5) and thirteen auxiliary forts. More than a century of research, including several large-scale excavations, had provided a reasonably full picture of the history and nature of the Roman Danube in Hungary but even that has been dramatically improved through the use of aerial photographs during the last twenty years, not so much of the major sites but of the different lines of the Danube road, numerous watchtowers, and above all the many temporary camps related to military operations that took place in the area.²⁰ The section of the Pannonian Danube between the rivers Drava and Sava,

¹⁷ Recent volumes in the series are: *Limes XII* (Stirling 1979), ed. W. S. Hanson and L. J. F. Keppie (1980); *Limes XIII* (Aalen 1983), ed. D. Planck and C. Unz (1986) (on which see the excellent discussion by V. A. Maxfield, *JRA* 2 (1980), 334–46); *Limes XIV* (Carnuntum 1986), ed. E. Vettors and M. Kandler (1990); *Limes XV* (Canterbury 1989), ed. V. A. Maxfield and M. J. Dobson (1991); *Limes XVI* (Kekrade 1995), ed. W. Groenmann-van Waateringe (1997); *Limes XVII* (Zaláu), ed. N. Gudea (1999); *Limes XVIII* (Amman 2000), ed. P. W. Freeman *et al.* (2002); *Limes XIX* (Pécs 2002), ed. Z. Visy (forthcoming). The best general account of the Roman Danube in English is that by V. A. Maxfield in J. Wachter (ed.), *The Roman World* (1987), Vol. 1, 171–93.

¹⁸ M. Kandler and H. Vettors (eds), *Der römische Limes in Österreich: ein Führer* (1986). For earlier research there is the monumental work of Kurt Genser, *Der österreichische Donaulimes in der Römerzeit*, *Der römische Limes in Österreich* 33 (1986). H. Friesinger and F. Krinzinger (eds), *Der römische Limes Österreich: Führer zu den archäologischen Denkmälern* (1997). (For a brief survey of the Danube in Noricum, J. J. Wilkes, *JRA* 2 (1989), 347–52). For Roman military sites in Austrian territory north of the Danube, H. Friesinger in *Festgabe H. Vettors* (1985), 258–9. For a valuable survey of research on Pannonia Superior for 1986–1997 see *Limes XVII* (op. cit. (n. 17)), 122–9 (S. Jilek).

¹⁹ *Limes XV* (op. cit. (n. 17)), 432–4 (T. Kolník); *XVI*, 417–23 (T. Kolník); 473–7 (J. Rajtár); 531–6 (J. Tejral); *XVII*, 131–8 (T. Kolník), 829–51 (J. Tejral).

²⁰ The full impact of recent discoveries can be seen in Zs. Visy, *The Ripa Pannonica in Hungary* (2003), with detailed maps recording the results of aerial photography. For earlier guides, J. Fitz (ed.), *Der römische Limes in Ungarn* (1976), and Zs. Visy, *Der pannonische Limes in Ungarn* (1988). Both works by Visy also contain useful data on the lesser known sections of the Pannonian Danube in Croatia and Serbia. The late Roman Danube, in particular above and below the Danube bend, is described in two studies by the late Sandor Soproni, *Der spätromische Limes zwischen Esztergom und Szentendre* (1978), and *Die letzte Jahrzehnte des pannonischen Limes* (1985). The progress of research and the interpretation of new discoveries can be followed through the contributions by Hungarian scholars to the Congresses of Roman Frontier Studies (op. cit. (n. 17)): *Limes XII*, 627–35 (A. Mócsy), 637–54 (D. Gabler), 671–9 (S. Soproni); *XIII*, 369–76 (Mócsy and Gabler); *XIV*, 219–24 (J. Fitz), 547–60 (Zs. Visy); *XV*, 219–24 (J. Fitz); *XVI*, 85–92 (D. Gabler), 165–72 (G. Bertok); *XVII*, 139–50 (Zs. Visy).

containing around nine auxiliary forts, is now divided between Croatia and the Serbian Vojvodina and has received little attention in recent years.²¹

The Danube of Moesia Superior begins at the Sava confluence opposite the Serbian capital Belgrade, site of a legionary fortress (Ms.4), and below the second fortress of Viminacium (Ms.14) flows for nearly one hundred miles through a succession of gorges often known as Djerdap (the Turkish for 'whirlpool'), after which come the double bends ('parrot's beak'), until the Serbian-Bulgarian frontier at the river Timok. There is now a most useful survey by the Romanian scholar N. Gudea of military sites along the Danube of Moesia Superior assignable to the period up to c. A.D. 275 (the evacuation of Dacia beyond the river). This includes not only all sites on the right bank in Serbia and Bulgaria, down to the mouth of the river Lom where the river entered Moesia Inferior, but also all the sites adjacent to the left bank in the Banat region of Serbia and in Romania that lay in Trajan's Dacia beyond the river. In addition to the many interim and summary reports produced by Serbian archaeologists, the proceedings of the major conference held at Kladovo in 1995, in place of a Congress of Frontier Studies that had been planned for the region two years before, have been published.²²

The Danube of Moesia Inferior is divided by the modern frontier east of Silistra between Bulgaria and Romania. The Bulgarian section contains three legionary bases, Oescus (Mi.12), Novae (Mi.18), and Durostorum (Mi.49), and perhaps as many as thirteen auxiliary forts. A full account of the Danube sections of Moesia Superior and Moesia Inferior that lie within Bulgaria has been compiled by the Bulgarian scholar Roumen Ivanov; this offers a valuable supplement for Moesia Superior to that of Gudea noted above, since it also includes sites of the late Roman and earlier Byzantine periods. Conditions along the lower Danube are significantly less favourable for the investigation of military deployment prior to the late third century A.D. compared with the Pannonian Danube of Austria and Hungary. Most of the earlier sites lie beneath later fortified sites and, except for the legionary bases in Bulgaria, the archaeological evidence for the earlier Roman era (first to third centuries A.D.) remains meagre in quantity and insignificant when set beside the more intelligible body of evidence provided by inscriptions and military diplomas. A catalogue of the fortifications in Moesia Inferior, both along the Danube and in the interior, from which there is evidence of occupation dating before the late third century A.D., has been compiled by two Romanian scholars, M. Zahariade and N. Gudea. Included here are not only all sites known in Bulgaria and Romania but also those that indicate the extension of the Roman military arrangements in Moesia Inferior along the Black Sea coast north of the delta as far as the Crimea, in the modern territories of Moldova, Ukraine, and Russia. The published proceedings of a conference at Svishtov held in 1998 have furnished a valuable synthesis on the late Roman lower Danube in the

²¹ A useful summary account of the former Yugoslav Pannonian Danube is furnished by Visy, *op. cit.* (n. 20, 1988), 126–30 and 140 (bibliography).

²² N. Gudea, 'Die Nordgrenze der römischen Provinz Obermoesien: Materialien zu ihrer Geschichte (86–275 n. Chr.)', *Jbb. des. Röm.-Germ. Zentralmuseum Mainz* 48 (2001), 3–118. The author is critical of apparent inconsistencies in the identification and naming of a number of sites along the Serbian Danube. P. Petrović (ed.), *Roman Limes on the Middle and Lower Danube* (1996) (see J. J. Wilkes, *JRA* 11 (1998), 635–43). There is an illustrated account of the Roman sites in the region by P. Petrović in *Dossiers d'Archéologie* 220 (1997), 60–1. During the past twenty years there have been many reports published in the Belgrade periodical *Starinar*, and in the special series *Djerdapske Sveske / Cahiers des Portes de Fer* (Belgrade). For a recent discussion of arrangements in Moesia Superior during the occupation of Dacia based on the analysis of recent finds see M. Mirković, *Limes XVIII*, *op. cit.* (n. 17), 757–64. For the period prior to the Roman conquest there are the published proceedings of a 1998 Yugoslav-Romanian colloquium, M. Vasić (ed.), *Le Djerdap / Les portes de fer à la deuxième moitié du premier millénaire av. J. Chr. jusqu'aux guerres daciques* (1999).

period from Diocletian to Heraclius.²³ Below Silistra both banks of the Danube of Moesia Inferior are Romanian until the apex of the delta and the frontier with Moldova. In addition to the legionary fortress of Troemis (Mi.70) there may have been as many as eighteen auxiliary forts between Silistra and the mouth of the St George (south) channel of the delta. This region was the scene of much military activity during the early and middle Byzantine eras and the dating of many remains continues to be far from certain, not only of sites along the river but also of the several linear earthworks both within the Dobrudja in the vicinity of Constanța and in the area north of the delta. Arguments for assigning any of these to the Roman period are not convincing.²⁴ The evidence for a Roman military presence at places along the Black Sea coast north of the Danube delta during the late first and second centuries A.D. has been known for more than a century, but in recent years there have been some remarkable discoveries in the Crimea in and around Sevastopol (Mi.96), since it has become open to excavation and exploration.²⁵

The Roman military deployment in Dacia beyond the Danube lasted for little more than a century and a half. As re-shaped within the Carpathians by Hadrian and then modified under the Antonines and Severi there are around one hundred military sites in the province, forming inner and outer security perimeters in Transylvania and securing the three major routes that linked Dacia with the rest of the Empire. At the centre was the legionary base of Apulum (D.101), with a second being established at Potaissa (D.102) under Marcus Aurelius. Though the overall military system is now well understood, many sites have been barely explored by excavation, if at all. A notable advance in recent years has been the identification of systems of intervisible towers and observation posts forming a protective screen linked with the outer perimeter of forts designed to provide early warning of intruders moving through the Carpathian passes. During the last quarter of a century Romanian archaeologists Nicolae Gudea and Ioanna Bogdan Cătănciu have compiled and revised detailed surveys of the Roman military system in the province. The former has compiled the most recent account, while the latter has produced her detailed

²³ R. Ivanov, 'Das römische Verteidigungssystem an der unteren Donau zwischen Durticum und Durostorum (Bulgarian) von Augustus bis Maurikios', *BerRGK* 78 (1997), 468–640. M. Zahariade and N. Gudea, *The Fortifications of Lower Moesia (AD 86–275)* (1997). Though covering only sites throughout Bulgaria, there is still much of value in the study of the Polish scholar M. Biernacka-Lubańska, *Roman Fortifications in Bulgaria* (1990). G. von Bülow and A. Milčeva (eds), *Der Limes an den unteren Donau von Diokletian bis Heraklios (Vorträge der int. Konf. Svishtov, Bulgarien. 1–5 Sept 1998)* (1999). Most congress reports from this region relate to work on late Roman levels, *Limes XIV*, op. cit. (n. 17), 855–61 (T. Sarnowski), 863–74 (A. Dimitrova-Milčeva), 875–92 (A. Pissarev); *XVII*, 507–22 (R. Ivanov); *XVIII*, 673–84 (Sv. Conrad and D. Stanchev). The last describes the results of survey in 1997–2000 in the region between Svishtov and Ruse.

²⁴ Despite its limitations the older synthesis of C. Scorpan, *Limes Scythiae*, *BAR Int. ser.* 88 (1980), is yet to be replaced. There is also still much of value in H. Gajewska, *Topographie des fortifications romaines en Dobroudja* (1974), but a more recent gazetteer is available in M. Zahariade, *Moesia Secunda, Scythia and Notitia Dignitatum* (1988). A useful review of recent work is provided by the publication of a 1996 symposium, M. Zahariade and I. Opis (eds), *The Roman Frontier in the Lower Danube* (1998), and also M. Zahariade, 'The Roman frontier in Scythia Minor 1980–1994', in Petrović, op. cit. (n. 22, 1996), 223–34. The considerable and increasing amount of evidence for construction in the province of Scythia Minor under the Tetrarchy has recently been discussed by M. Zahariade, *Limes XIX* (op. cit. (n. 17)), Abstracts, 101–2. Other reports relating to this region include *Limes XVII*, 485–6 (A. Barnea), 885–94 (L. Otsa), 907–12 (V. Lica); *XIX*, Abstracts 44–5 (J. Karavas).

²⁵ For a summary of evidence relating to the Roman military presence in the area see T. Sarnowski, 'Das römische Heer im Norden des Schwarzen Meeres', *Archeologia (Warsaw)* 38 (1987), 61–98. The same scholar has reported new discoveries to the most recent frontier Congress, 'Die Römer bei den Griechen auf der südlichen Krim. Neue Entdeckung und Forschungen', *Limes XIX*, op. cit. (n. 17), Abstracts 85–6.

account of Roman activity in the Wallachian plain between the Carpathians and the lower Danube.²⁶

Since the second supplement to Volume III of the *Corpus Inscriptionum Latinarum* was published in 1902, progress in the publication of inscriptions from the Danube lands, both Latin and Greek, has been organized on a national basis and has been defined by modern political boundaries, with the notable exception of the Inscriptions of Moesia Superior. Except for a computer-generated concordance to the Inscriptions of Noricum, any plans to produce a new version of *CIL* now appear to have been abandoned in the face of rapidly advancing systems of electronic recording and dissemination. An exception may be the fascicule of Roman milestones (*CIL* XVII.4) compiled for the western Danube region by the late Gerold Walser. An attempt to provide a usable record of epigraphic publications relating to Eastern Europe and the Balkans covering the years 1902–1978, organized by Jaroslav Šašel and published in 1980 with contributors from eleven countries, remains an invaluable work of reference.²⁷ Military diplomas, bronze records of imperial constitutions granting citizenship and other privileges to various categories of Roman soldiers, are an important source of information for military deployment in the Danube region. Many of those found in recent years have been exported illegally with consequent loss of provenance and context. Their publication by H. Nesselhauf for *CIL* XVI (1936, with a supplement in 1956) has been continued by the late Margaret Roxan in four volumes covering the years 1954 to c. 1998.²⁸

Recent years have brought significant developments in the publication of inscriptions in some of the Danube countries. In the case of Austria, in addition to the *CIL* index volume for Noricum already noted, the inscriptions from Steiermark (south-east Austria) are catalogued and there is also a supplement for Carinthia covering the years 1902–1971. Since 1979 the harvest of texts is registered in surveys, so far six, covering the years up to 2000. There has also been welcome attention to inscriptions on portable objects (*Instrumenta*), all too often neglected in the major collections, while the Austrian coverage of the *Corpus Signorum Imperii Romani* (*CSIR*) that contains many inscribed items is near complete. The large collection of inscriptions from the Schloss Seggau near Solva (*RIII.57*) is now published. Finally, many important texts are now republished with illustrations in

²⁶ The earlier compilation by Ioanna Bogdan Cătănciu, *Evolution of the Defence Works in Roman Dacia*, BAR Int. ser. 116 (1981), has now for the most part been superseded by N. Gudea, 'Der dakische Limes. Materialien zu seiner Geschichte', *Jhb. Röm. Germ. Zentralmuseum Mainz* 44 (1997), 497–609. Ioanna Bogdan Cătănciu, *Wallachia in the Defensive System of the Roman Empire* (1997). For the system of forward observation see I. Ferenczi, *ActArchHung* 41 (1989), 299–311, and in *Limes XVII*, op. cit. (n. 17), 443–61. For progress reports on Dacia see *Limes XII*, 799–814 (N. Gudea); *XIII*, 461–8 (I. B. Cătănciu), 477–97 (Gudea), 510–13 (C. C. Petolescu); *XVI*, 13–23 (Gudea), 101–7 (Cătănciu), 603–8 (M. Zahariade); *XVII*, 151–70 (D. Isac), 172–86 (D. Benea), 187–97 (R. Avram and Petolescu), 477–84 (D. Ruscu), 895–905 (L. Petolescu), 915–30 (bibliography for Dacia Porolissensis by N. Gudea); *Limes XVIII*, 719–36 (Cătănciu).

²⁷ *Inscriptionum Lapidarium Provinciae Norici usque ad annum MCMLXXXIV repertarum Indices (ILLPRON Indices)*, ed. M. Hainzmann and P. Schubert, fasc. 1–3 (1986). J. Šašel (ed.), 'Epigraphische Forschungen seit *CIL* III (1902)', *Arheološki Vestnik* 31 (1980), 201–321: Austria (E. Weber), Albania (Z. Mirdita), Bulgaria (V. Božilova), Czechoslovakia (L. Vidman), East Germany 1945–1977 (H. Krummrey), Greece (M. Šašel-Kos), Hungary (B. Lőrincz), Poland (J. Kolendo), Romania/Dacia (N. Gudea), Romania/Scythia Minor (E. Doruțiu-Boilă and C. C. Petolescu), USSR (Ju. G. Vinogradov), Yugoslavia (J. Šašel).

²⁸ M. M. Roxan, *Roman Military Diplomas 1954–1977* (1978); *1978–1984* (1985), *1985–1993* (1994), and with P. Holder, *1994–1998* (2003). A list of her many published papers relating to military diplomas (compiled by P. Holder) appears in J. J. Wilkes (ed.), *Documenting the Roman Army: Essays in Honour of Margaret Roxan* (2003). The same volume (55–87) contains W. Eck, 'Der Kaiser als Heer des Heeres. Militärdiplome und die kaiserliche Reichsregierung'. Current publications of new diplomas, by P. Weiss and others, can be found mainly in *ZPE* and are also registered in *L'Année Epigraphique*.

a volume of inscriptions relating to municipal administration in Noricum.²⁹ For Hungary the publication of Roman inscriptions (*RIU*) is nearing completion but such is the difficulty of reading and interpreting many texts that revisions and corrections to recent volumes are already appearing in addition to the regular surveys of new discoveries. The relatively small total of Greek texts (*c.* 150) from Pannonia is also now published. Other publications include texts from beyond the Pannonian Danube, both those removed from the province and those originating from Barbaricum.³⁰

Some years before the break-up of Yugoslavia Anna and Jaroslav Šašel had completed their three-part collection of inscriptions found and published in that territory between 1902 and 1970 (*ILLug*), and there are signs that some of the successor republics are generating supplements to this invaluable work for their own territories.³¹ For Slovenia there is now a full catalogue of inscriptions (181 items) in the collection of the National Museum in Ljubljana and the corpus of texts for Slovenia has already been inaugurated with the volume covering Neviodunum (**RIII.29**) and its territory, to be followed by volumes on the three other Roman cities that lie within the territory of Slovenia (Emona, Celeia, and Poetovio).³² In Croatia a scheme to continue the collection of the Šašels has been established; so far that for 1991–1995 has been published while that for the intervening period (1971–1990) is in preparation. Another recent collection covers the late Roman period and there is also a valuable survey for Adriatic Liburnia.³³ The first volume of the corpus of inscriptions from Narona (**RIV.37**), containing the texts incorporated in the Erešova Tower, is published. For the territory of Bosnia-Herzegovina there is a supplement covering Latin and Greek texts for the years 1971–1997 (177 items) and from an

²⁹ E. Weber, *Die römischen Inschriften der Steiermark* (1969); P. S. Leber, *Die in Kärnten seit 1902 gefundenen römischen Steininschriften* (1972). For the ‘Annona Epigraphica Austriaca’ see E. Weber, *Römisches Österreich* 8, 107–16 (for 1979); 9/10, 271–88 (1980–1981); 11/12, 377–90 (1982); 19/20, 177–251 (1983–1992); E. Weber *et al.* in *Akten des 7. Österreichischen Althistorikertages* (ed. Tauber) (2001), 49–127 (for 1993–1998); E. Weber *et al.*, *Tyche* 16 (2001), 221–78 (for 1999–2000). For instrumenta the *Testimonia Epigraphica Norica* (*TENOR*) (ed. M. Hainzmann) has already produced fascicules for a number of museum and private collections, edited by R. Wedenig and P. Schubert (reported in *AE* (1997), 1207 and (2000), 1145; for the database on the web: <http://www.kfunigraz.ac.at/agawww/Instrumenta/oberoesterreich/index.html>). *CSIR Austria: I.3–4 Carnuntum* (1970, 1972); *I.5 Scarbantia* (1974); *I.6 Aelium Cetium* (1975); *II.1–5 Virunum* (1968–1994); *III.1 Iuvavum* (1975); *III.2 Lauriacum* (1976); *III.3 Ovilava* (1981); *III.4 Aguntum-Brigantium* (1984). R. Wedenig, *Epigraphische Quellen zur städtischen Administration in Noricum* (1997).

³⁰ *Die römische Inschriften Ungarns* (ed. L. Barkócsi, A. Mócsy *et al.*): 1 *Savaria, Scarbantia and the Danube from Ad Flexum to Arrabona* (1972); 2 *Salla, Mogentiana, Mursella, Brigetio* (1976), with revisions by G. Alföldy, *Specimina Nova* 6 (1990), 85–108 (also now *CSIR Hungary* 8 (ed. C. Ertel *et al.*), for the territories of Salla and Mogentiana, (1999)); 3 *Brigetio* (*cont.*), and *Danube bend* (1981); 4 *Between the Drava and the Danube from Lussonium and Altinum* (1984), also *CSIR Hungary* 7 (1991) covering the same area; Index to vols 1–4 (ed. B. Lőrincz *et al.*) (1991); 5 *Intercisa* (1991) with Index, B. Lőrincz, *ZPE* 95 (1993), 269–95; 6 *Aquincum Territory, Civitas Eraviscorum, the Danube from Matrica to Annmatia and Gorsium Territory* (2001) with Index, B. Lőrincz, *ZPE* 148 (2004), 291–312 (incorporating many revisions and new readings by G. Alföldy, *Specimina Nova* 16 (2000), 47–66). Future volumes are: 7–9 *Aquincum I–III*; 10 *Barbaricum and Suppl to vols 1–5*; 11 *Milestones*. Since the 1980 survey (*op. cit.* (n. 27)) by B. Lőrincz the same author has produced two further surveys of epigraphy in Pannonia, *Act. Class. Debrecen* 30 (1994), 5–17 (covering 1979–1993) and in *Att XI Congr. Int. Epigr. Graeca e Latina Roma 1997* (1999), 435–49. Votives recovered from the Danube bed at Bölsce (**Pi.29**) are now published. Unpublished texts from the Sarmatian plain are published by P. Kovács, *Epigraphica* I (2000), 57–74. P. Kovács, *Corpus Inscriptionum Graecarum Pannonicarum* (*Hungarian Polis Studies* 3) (1998). J. Česka and H. Hošek, *Inscriptiones Pannoniae Superioris in Slovacia Transdanubiana conservatae* (1967); R. Hošek, *Tituli Latini Pannoniae Superioris annis 1967–1982 in Slovacia reperti* (1985).

³¹ A. and J. Šašel, *Inscriptiones Latinae quae in Iugoslavia ... repertae et editae sunt, Ljubljana: Inter annos MCMII et MCMXL*, Situla 25 (1986); *Inter annos MCMXL et MCMLX*, Situla 5 (1963); *Inter annos MCMLX et MCMLXX: accedunt nonnullae ad annos MCMXL-MCMLX pertinentes*, Situla 19 (1978).

³² M. Šašel Kos, *The Roman Inscriptions in the National Museum of Slovenia*, Situla 35 (1997).

³³ M. Segvić, ‘Croatiae schedae epigraphicae Latinae (CSEL): Inscriptiones quae in Croatia ab anno MCMXCI usque ad annum MCMXCV repertae et editae sunt’, *Opuscula Archaeologica* 20 (1996), 131–9; Z. Demo (ed.), *Early Christianity in Continental Croatia* (1994); R. Matijasić in G. Paci (ed.), *Epigrafia romana in area adriatica*, Ichnia 2 (1998).

earlier era an invaluable illustrated catalogue of religious and votive monuments by the then head of the Sarajevo National Museum.³⁴ The publication of the Greek and Roman inscriptions of Serbia based on the territories and regions of Moesia Superior also includes the Skopje region that now lies within the former Yugoslav Republic of Macedonia (already published) and the north-east part of the province east of the river Timok that lies within Bulgaria (not yet published). Otherwise the collection is more or less complete, except for the Danube gorges in the north and the Kosovo region in the south. Since parts of this region lie close to the boundary zone of the Latin and Greek languages, it is a particular strength of this collection that the inclusion of both (a welcome precedent followed in the *IG X* fascicule covering the north-west of Roman Macedonia) makes visible the significant level of interaction visible in both Latin and Greek texts; this has been well documented in a monograph by the late Petar Petrović, one of the editors of the series.³⁵

It remains a matter for regret that the magnificent publication of the *Greek Inscriptions of Bulgaria* by the late Georgi Mihailov, now fully revised and up to date with the publication of a supplementary fifth volume, could not somehow have been integrated with the publication of Latin texts, on which there has been little progress in recent years. By comparison the volume of the late B. Gerov, covering the Danube of Moesia Inferior and its hinterland between the rivers Iskar and Yantra (447 items), falls a long way short of the standard set by Mihailov. While this volume covers the major sites of Oescus and Novae, its restricted scope indicates how much remains to be done on those sections of the Bulgarian Danube between the rivers Timok and Iskar in the west and between the Yantra and the Romanian border at Silistra in the east. This state of affairs makes all the more welcome the record for Novae (*Mi.18*), for which the catalogue of Latin texts edited in 1992 has now been replaced by a new publication of 1997 that includes both Latin and Greek texts.³⁶ For Romania publication of both the Greek and Latin texts from the two major regions of the Dobrudja (Moesia Inferior/Scythia Minor) and Dacia beyond the Danube comprising Oltenia, the Banat, and Transylvania is now well advanced, and more recent finds and publications are covered by regular surveys.³⁷

³⁴ A. Škegro, 'Inscriptiones Latinae et Graecae Bosnia et Hercegovinae (1971–1997)', *Opuscula Archaeologica (Zagreb)* 21 (1997), 85–116; E. Imamović, *Monuments culturels et votifs antiques dans le territoire de la Bosnie-Herzégovine* (1977).

³⁵ F. Papazoglu et al. (eds), *Inscriptions de la Mésie supérieure, Belgrade: I Singidunum et le nord-ouest de la province* (ed. M. Mirković and S. Dušanić) (1976); *II Viminacium et Margum* (ed. M. Mirković) (1986); *III/2 Timacum Minus et la vallée du Timok* (ed. P. Petrović) (1995); *IV Naissus-Remesiana-Horreum Margi* (ed. P. Petrović) (1979); *VI Scupi et la région de Kumanovo* (ed. B. Dragojević-Josifovska) (1982). P. Petrović, *Paléographie des inscriptions romaines en Mésie supérieure*, Inst. Arch. Monographies 14 (1975). *Inscriptiones Graecae Vol. X, pars II Inscriptiones Macedoniae, fasc. II Inscriptiones Macedoniae Septentrionalis, sect. prima Inscriptiones Lyncestidis, Heraclaea, Pelagoniae, Derriopi, Lychmidi* (ed. M. Papazoglu et al.) (1999). For a summary of texts published since *IMS* and *ILlug* (op. cit. (n. 31)) from the territories of the provinces Dalmatia and Moesia Superior, based on *AE* and publications cited above (op. cit. (n. 33–34)), see J. J. Wilkes, *Atti Congr. Int. Epigraphia Graeca e Latina Roma 1997* (1999), 451–60.

³⁶ The Greek inscriptions from the Danube region of Moesia Inferior in Bulgaria were published in Vol. II of *Inscriptiones Graecae in Bulgaria repertae* (ed. G. Mihailov) (1958), nos 480–862, now with Vol. V, *Inscriptiones novae, addenda et corrigenda* (ed. K. Banev et al.) (1997) (5160–5394bis). B. Gerov (ed.), *Inscriptiones Latinae in Bulgaria repertae*, Vol. I.2 (1983). On the epigraphic culture of the Moesian provinces in general there is a useful survey, based on statistics, by L. Mrozewicz, *Atti Cong. Int. Epigraphia Graeca e Latina Roma 1997* (1999), 461–72.

³⁷ *Inscriptiones Daciae et Scythiae Minoris Antiquae* (ed. D. M. Pippidi and I. I. Russu). Series 1: *Inscriptiones Daciae Romanae* (IDR). I *Prolegomena historica et epigraphica, diplomata militaria, tabulae cereatae* (ed. I. I. Russu) (1975); *II Pars meridionalis inter Danuvium et Carpatos montes (Oltenia and Muntenia)* (ed. G. Florescu and C. C. Petolescu) (1977); *III Dacia Superior, pars occidentalis* (ed. I. I. Russu) (1977); *III/2 Dacia Superior, Ulpia Traiana Sarmizegetusa* (ed. I. I. Russu) (1980); *III/3 Dacia Superior, pars media* (ed. I. I. Russu et al.) (1984); *III/4 Dacia Superior, pars orientalis* (ed. I. I. Russu) (1988); *III/5 Inscriptiones d'Apulum*, Mémoires de l'Académie des Inscriptions et Belles-Lettres 24 (ed. I. Piso) (2001); *III/6 Dacia Superior, Apulum-Instrumentum domesticum* (ed. C. L. Băluță) (1999). Series 2: *Inscriptiones Scythiae Minoris (IScM)*. I *Inscriptiones Histriae et vicimiae* (ed. D. M. Pippidi) (1983); *II Tomis et territorium* (ed. I. Stoian) (1987); *III Callatis et territorium* (ed. A. Avram) (1999); *IV Tropaeum Traiani et territorium* (in preparation); *V Capidava-Troesmis-Noviodunum* (ed. E. Doruțiu-Boilă)

II EARLY HISTORY AND ADMINISTRATION

Recent research has had little impact on current reconstructions of events in the Danube lands between Caesar and Claudius, except in so far as the increasing body of material evidence furnishes a welcome deterrent against over-reliance on simplified accounts based on the manifestly incomplete and distorted historical record combined with the results of a haphazard record of archaeological research. The narrative of Roman wars is all too often little more than a succession of journalistic headlines, by which a complex and unpredictable succession of events was reported to a wider world.

For the period of Caesar and the Triumvirs early studies by Ronald Syme, edited and published by A. R. Birley, remind us of how much the reported schemes of Philip V of Macedon and Mithridates VI of Pontus to invade Italy by the overland route remained fresh in the Roman memory. That will have been especially the case when rumours were circulating in Italy during the early years of the Civil War that the Dacian ruler Burebista was planning to send a barbarian horde into Italy. According to Syme, at the time of his death Caesar was planning not to seek glory by an attack on Parthia in the East but rather to make Rome and Italy secure by an expedition into the Danube lands directed against the power of the Dacians. The Triumvirs had this design in their minds in their own military actions during the years of rivalry. Caesar Octavianus' attacks on the Pannonians and the Delmatae (35–33 B.C.) still occupy a prominent place in the record but little or nothing is now known of the activities of Antony in the direction of the central Balkans.³⁸ Only when the region of Dardania, and in particular the strategic crossroads of Naissus (Niš RV.11) in the Morava valley, was secured would it have been possible for the proconsul Crassus (29–28 B.C.) to make his spectacular foray down the lower Danube, to avenge earlier Roman defeats in the Dobrudja and even, it seems likely, win a success against the Dacians that was perceived to be a real challenge to Caesar's heir. Recent studies have argued for the lasting impact of Crassus' campaigns, both on the native communities in the area but also on Rome's relations with the Black Sea cities.³⁹ After Crassus, affairs along the lower Danube recede into the background as the regime of Augustus engaged in the conquest of Illyricum. Subjugation of the Pannonian peoples of the Drava and Sava valleys and of Bosnia was achieved at enormous cost in two series of campaigns (14–9 B.C. and A.D. 6–9). Uncertainty still persists as to when and under what circumstances the peoples of Noricum and those of Pannonia north of the Drava came under Roman control. Archaeological (notably dress) and onomastic evidence indicate

(1980). Late Roman inscriptions from Romania are published separately: *Inscriptiones intra fines Dacoromaniae repertae Graecae et Latinae anno CCLXXXIV recentiores* (ed. Em. Popescu) (1976). For surveys of recent publications see C. C. Petolescu, *Studii și ceretări de istorie veche și arheologie* 44 (1993), 387–96 (XII nos 576–610); 45 (1994), 369–73 (XIII nos 611–30); 47 (1996), 401–9 (XIV–XV nos 631–91); 48 (1997), 383–9 (XVI nos 692–720); 49 (1998), 277–89 (XVII nos 721–58); 50 (1999), 189–201 (XVIII nos 759–818). The same scholar has also published two volumes of inscriptions relating to Dacia from other regions of the Empire, 1 *Italy and the Western Provinces* (1996), 2 *From the Areas of CIL III and CIL VIII* (2000).

³⁸ R. Syme, *The Provincial at Rome and Rome and the Balkans 80 BC–AD 14* (ed. A. Birley) (1999), 174–92 (Caesar's designs), 145–50 (Antony in Macedonia). The editor adds a note (150 n. 122) of an inscription from Europus in Macedonia mentioning M. Insteius L. f. (imperator), then probably proconsul and subsequently a commander at Actium (*BCH* 118 (1994), 215–28). For a recent discussion of contacts between Mithridates and the Black Sea cities see L. Ruscu, *Tyche* 15 (2000), 119–35, and for those of Burebista, A. Suceveanu, *Tyche* 13 (1998), 229–47 (discussion of context of Acornion decree). On Burebista's western advance against the Boii and the lasting memory of the Dacians among the Romans see G. Dobesch in Tejral-Pietá-Rajtár, op. cit. (n. 7, 1995), 15–19. In the Adriatic it has been suggested that the so-called SC de Issaeis (Sherk no. 24) is not after all a *Senatusconsultum* but a response by Caesar to a petition by Tragurium and other communities in the area seeking help against attacks by the Delmatae: P. Culham, *Classical Antiquity* 12 (1993), 51–64.

³⁹ In the view of Cătănciu, op. cit. (n. 26, 1997), 150–1, Roles of the Getae was among the successors of Burebista ruling north of the Danube. For the developing Roman relations with the Dobrudja, see M. Oppermann, *Klio* (1985), 111–17, and for the developing relations between the Romans and the Bosporan kingdom, H. Heinen, *Cahiers du Centre G. Glotz* 7 (1996), 81–101.

that these communities had little or nothing in common with those Pannonians south of the Drava against whom the Augustan campaigns had been directed. Their closest links were with groups in the south-west on the fringes of the south-eastern Alps (Varciani, Taurisci, and Latobici). It has been suggested that most of the area came under some form of Roman control following the Alpine campaign of 15 B.C. and that submission of the easternmost Pannonians followed on the Roman victories south of the Drava in 12–11 B.C. (T. Nagy). The fact that there is no trace of any form of Roman administration along the upper Danube (Raetia, Noricum, and Pannonia) before Claudius can be viewed as an example of Roman flexibility towards communities under control but yet to be formally annexed (G. Dobesch). Another view (J. Fitz) links the formal annexation of peoples north of the Drava with the mission of Drusus in the early years of Tiberius. The move may have been necessitated by the collapse of Rome's German client ruler Maroboduus and the establishment of Vannius in territory north of the Danube bounded on the east by the river Dura (Waag/Váh), an action that marked the start of Rome's long engagement with the Suebic Germans north of the Pannonian Danube (T. Nagy). A recent survey and discussion of the material evidence from the territory of Maroboduus' 'German Empire', including the rich cremations of Bohemia and the Roman campaign base at Marktbreit on the middle Main, suggests that the main direction of Roman contact, both commercial and military, came from the west. Notions of a contemporary Roman military presence from the direction of the upper Danube are discounted. Neither Devín (Ps.61), on the Danube left bank close to the mouth of the March/Morava, nor Stare Hradiško have so far yielded any evidence that they were Augustan military bases, while the military remains from Mušov Burgstall (Ps.55) are now generally agreed to be of Antonine rather than Augustan date. It is also argued that the quantities of Roman military equipment recorded, including brooches and swords, arrived from the west rather than from Noricum.⁴⁰

Notwithstanding the major developments under Claudius — annexation of Thrace and the ensuing Crimean expedition, a wholesale reorganization of provincial and municipal administration, and the successful establishment of a new client regime among the Suebic Germans — the attention of the Roman world was entirely directed to the invasion and conquest of Britain, another legacy from the dictator Caesar. The removal of troops from the Danube command for the British expedition and later for the Armenian campaigns may be an indicator of a confidence recovered after the disasters of Augustus' later years or simply a measure of the emperor's lack of interest in the region as a whole. Under Nero the detailed record that survives for the activities of Ti. Plautius Silvanus in Moesia (*ILS* 986) reveals a wide range of responsibilities and actions, mainly of a diplomatic character involving peoples beyond the lower Danube and in the Crimea. The underlying cause may have been the westward movement of the Sarmatian Alani impacting upon Roman allies among the Roxolani, Bastarnae, and Dacians. A similar pattern of activities but on the middle Danube has been ascribed to Tampius Flavianus, governor of Pannonia, a few years later (*ILS* 985), but here the surviving record is incomplete. Both commanders were awarded triumphal honours under the new Flavian regime.⁴¹

The half-century between the end of Nero and the accession of Hadrian returned the Danube to the centre of Roman political and military affairs, a prominence it was to retain for almost three centuries. The principal episodes of warfare are reasonably well documented and their outline history no more in doubt — the Sarmatian raids of A.D. 68–70, Domitian's wars against the Dacians, Suebic Germans, and Sarmatians in A.D. 85–92, and Trajan's two Dacian expeditions in A.D. 101/102 and 105 leading to the

⁴⁰ T. Nagy, *ActArchHung* 43 (1991), 57–85; G. Dobesch, *Limes XIII* (op. cit. (n. 17)), 308–15; J. Fitz, *RÖ* 17/18 (1989/1990), 79–86; T. Nagy, *ActArchHung* 41 (1989), 61–71. E. Doberjar and V. Sakar in *Festschrift Tejral*, op. cit. (n. 7), 21–42.

⁴¹ On the policies of Claudius towards the Danube lands see L. Mrozevicz, *Eos* 87 (2000), 295–310; on Plautius Silvanus and Tampius Flavianus see P. Conole and R. D. Milns, *Historia* 32 (1983), 183–200.

annexation of the Dacian kingdom. This phase of instability came to an end with a major reorganization following further hostilities in the first years of Trajan's successor Hadrian (A.D. 117–118). There is a steadily increasing body of evidence for these events from inscriptions, including epitaphs and career records, bricks and tiles stamped by military units, military diplomas containing lists of army units stationed in provincial commands, and the excavated remains of an increasing number of military stations. For both of the major series of campaigns under Domitian and Trajan and their aftermath there are the valuable studies of K. Strobel. In the imperial capital the reliefs on Trajan's Column depicting the emperor's two expeditions into Dacia have been subjected to detailed study and commentary. Hitherto little or no trace of these momentous events has been detected in the region where they took place but that is now changing. A series of Roman campaign bases identified in the hill country south-east of Dacian Sarmizegetusa has been associated with the attack of Lusius Quietus during the first campaign, while the Dacian occupation of some citadels has been linked with the period between the first and second campaigns following the Roman occupation of south-west Dacia.⁴²

No major finds can be reported relating to events during the half-century between Hadrian's reorganization of the lower Danube and the outbreak of the Marcomannic wars along the middle Danube under Marcus Aurelius.⁴³ Roman relations with the Suebic Germans dwelling north of the upper Danube in the territories of the Czech Republic and Slovakia are becoming more fully understood through the documentation of Roman objects in settlements and burials. Rather than being simply the result of commerce, the material is viewed as tangible evidence for a political and cultural engagement on the part of native élites. The much debated second-century A.D. stone buildings of Roman design in several places beyond the Danube — Devín (Ps.61), Stupava (Ps.62), and Cífer-Pác (Ps.64) — have an official character and may have played a formal role in Roman-German relations. They may well relate to a period of co-existence before the friction developed that led to warfare under Marcus Aurelius. The precise nature of this relationship and the stages of its demise remain uncertain.⁴⁴ The directions of Roman military operations during the Marcomannic wars (A.D. 167–180) are now becoming clearer through the identification of many temporary camps along and beyond the Danube. Concentrations have been identified at the major river crossing between Brigetio (Ps.33) and Iža (Ps.32), while the importance of the March/Morava-Thaya basin as a route into German territory is indicated by numerous temporary camps. It now seems clear that a semi-permanent base was established at Mušov Burgstall (Ps.55), though its role and function, along with the period of occupation, remain a matter of debate.⁴⁵ Away from the main theatre of war, it has been argued that the much discussed command *Praetentura Italiae et Alpium* held by

⁴² K. Strobel, *Die Donaukriege Domitians* (1989); *Untersuchungen zu den Dakerkriegen Traians* (1984); also a general critique of other reconstructions of the conquest and early history of the province, *Studi și cercetări de istorie veche și arheologie* 49 (1998), 207–27, and a discussion of the years A.D. 117–123 arising from the discovery of the Gherla military diploma, *Festschrift Lauffer* (1986), 903–67. F. Lepper and S. Frere, *Trajan's Column: a New Edition of the Cichorius Plates. Introduction, Commentary and Notes* (1989); S. Settis (ed.), *La Colonna Traiana* (1988) (both discussed in detail regarding sculptural aspects by J. C. N. Coulston, *JRA* 3 (1990), 290–309). For a discussion of Roman strategy in the early stages of Trajan's campaigns, A. Diaconescu, *Acta Mus. Nap.* 34 (1997), 13–52; on the Roman camps at Jigur, Virful lui Petru, and Pic de Comărniceș (I–III), A. S. Stefan, *Limes XVI* (op. cit. (n. 17)), 517–25; on the occupation of Piatra Criarii citadel north-west of Apulum beyond the limit of Roman occupied territory, C. Opreanu, *Acta Mus. Nap.* 35 (1998), 187–94.

⁴³ The historical tradition preserved in the *Historia Augusta* is examined by D. Ruscu, *Acta Mus. Nap.* 36 (1999), 59–79.

⁴⁴ Recent discussions of the background to the Marcomannic wars include the contributions of G. Dobsch and G. Domanski in Friesinger, Tejral and Stuppner, op. cit. (n. 7, 1994), 17–21 and 109–14; and for a discussion of the evidence from the perspective of Slovakia, T. Kolník, *Limes XV* (op. cit. (n. 17)), 432–4, and *XVI*, 417–23. On the Roman stone buildings see the discussion of Pitts, op. cit. (n. 7, 1987).

⁴⁵ For Roman temporary camps see J. Rajtár, *Limes XVI* (op. cit. (n. 17)), 473–7 (Slovakia), and for Mušov, J. Tejral in the same volume, 531–6; for a general survey of all Roman military sites see J. Musil in *Festschrift Tejral*, op. cit. (n. 7), 87–94.

Antistius Adventus (*ILS* 8977) is more likely to be connected with an invasion in A.D. 167, on the evidence of a dramatic fall in coin production coupled with the closure of the Dacian mines, than with the events of A.D. 170. There is no evidence that this command gave rise to any form of linear barriers similar to those of the *Claustra Alpium Iuliarum* based on the summit fort at Ad Pirum (*RIII.5*). Under Marcus Aurelius the focus of military activity lay further east, indicated by new construction of that period at the Trojane pass of Atrans (*RIII.12*) and the newly established legionary base at Ad Medias/Ločica (*RIII.13*) near Celeia. In the aftermath of the war another solution has been offered to the enigma of the Commodus *burgus* inscriptions of A.D. 184, ten of which were found in the late Roman cemetery at Intercisa (*Pi.24*). Instead of an earlier suggestion that some of these stone plaques had never actually been placed in position and had remained in the mason's yard, Soproni has argued that, since the name of the emperor had been systematically erased following A.D. 192, they were removed from public view until a few years later, following the Severan promulgation of an Antonine descent in A.D. 195, an act that will have reinstated Commodus as a 'brother' of Septimius Severus.⁴⁶

The close relationship between the Severan dynasty and the Danube region, above all Pannonia, continues to be revealed by discoveries of new construction, both civil and military, and also of inscriptions that increase the statistical predominance of records dating from between A.D. 193 and 235 when compared with all other eras. Some have suggested that much of this activity was linked directly with the passage through the area of Severus and his family in A.D. 202 on their return from the Parthian campaign. Other finds have also been linked with the presence of Caracalla on the Danube in A.D. 213 en route for his Eastern campaign.⁴⁷

The principal changes in provincial organization of the Danube lands are reasonably well documented, but no new evidence bearing upon long-standing problems has come to light in recent years. This is the case for the much debated pre-Claudian arrangements, based on Illyricum in the west and the Thracia-Macedonia command on the lower Danube, from which emerged the province of Moesia. In regard to Illyricum, earlier doubts over the authenticity of the record from Epidaurum (*RIV.42*) indicating a division into Illyricum Superius (later Dalmatia) and Illyricum Inferius (later Pannonia) around A.D. 8/9 appear to have been misplaced.⁴⁸ Neither command however emerges clearly before Claudius while Pannonia continued for some years to be known as Illyricum. In the Adriatic region of the later Dalmatia new evidence has come to light for the role of the legate P. Cornelius Dolabella (A.D. 14–20) in fixing boundaries for the provincial map (*forma Dolabelliana*), already well documented in Liburnia, between communities in the hinterland of Salona (*RIV.11*). The annexation of Thrace in A.D. 45/46 marks the appearance of Moesia as an established command. In the west, Noricum became a separate province after ceding territory on the east to place Carnuntum and the military cordon of the Amber Road in consular Pannonia. The early limit of Moesia on the east was the river Utus (Vit) east of the Novae (*Mi.18*) but on the west is not certain. Indications that the Belgrade area below the Sava confluence, that marked the later limit, was first occupied from the direction of Pannonia suggest that the region above the Danube gorges was initially controlled from the major centres at Mursa (*Pi.43*) and Sirmium (*RIII.43*). In the division of Moesia in A.D. 85 or 86 the boundary between Superior on the west and Inferior on the east was fixed at the river Cebrus (Cibrica), but by around the middle of the second century A.D. it had been moved westwards to the Almus (Lom). A succession of changes saw the line between Moesia Inferior and Thracia moved southwards until by the early

⁴⁶ S. Soproni, 'Zu den Burgusinschriften von Commodus', in *Festschrift J. Fitz*, op. cit. (n. 6), 91–4.

⁴⁷ On the Severi and Pannonia see Fitz, op. cit. (n. 6, 1982); for recent epigraphic finds relating to new construction see P. Kovács, *Acti XI Congr. Int. Epigr. Graeca e Latina* (1999), 521–31. For details of the journey of Severus see H. Halfmann, *Itinera Principum: Geschichte und Typologie der Kaiserreisen im römischen Reich* (1986), 216–23.

⁴⁸ I. Bojanovski, *Izdanja Hrvatskog arheološkog društva* 12 (1987), 101–10. A Claudian date for the division is favoured by J. Fitz, *Alba Regia* 29 (2000), 65–73.

third century it ran along the top of the Haemus range. No new evidence has come to light for any temporary changes of the line between Pannonia Inferior and Moesia Superior that may have been put into effect during the Dacian wars under Domitian and Trajan or the German and Sarmatian wars of Marcus Aurelius. It now seems clear that the tripartite division of Trajan's Dacia into Superior (Apulensis), Inferior (Malvensis), and Prolissensis had already been put into effect by the time of the departure from the area of Q. Marcius Turbo as Hadrian's praetorian prefect in A.D. 118.⁴⁹ The votive to the Thracian horseman deity near Dobrič (Mi.50) in Moesia Inferior by a freedman of Turbo may belong to the period of his Dacian command or his presence in the area in the company of Hadrian in A.D. 131. Milestones from between Arrabona (Pi.22) and Mursella (RiII.87) on the road to Savaria (RiII.24) dated to A.D. 218 bearing the name of a legate of Pannonia Inferior suggest that the early third-century change of boundary between Pannonia Inferior and Superior placed the line along the Arabo (Rába) valley, that is much farther to the west than has been assumed in the past. Later in the same century doubt subsists over the record suggesting that a new province of Dacia was created south of the river at the time of the evacuation under Aurelian.

In the reform of civil and military administration in the early fourth century A.D. all the Danube provinces were divided. In Noricum and Pannonia Superior areas adjacent to the Danube became the provinces Noricum Ripense and Pannonia Prima, now separated from the inner region of Noricum Mediterranea and Savia. Pannonia Inferior was divided into Pannonia Secunda and Valeria, both including stretches of the Danube. Moesia Superior was divided into Moesia Prima in the north and Dardania in the south, but the territory east of the rivers Margus (Morava) and Timacus (Timok) was ceded to the new province of Dacia Ripensis that also comprised the western area of Moesia Inferior as far as the Utus (Vit). What remained of the latter became Moesia Secunda, except that the Dobrudja region was detached as the province of Scythia.⁵⁰

New records continue to appear of provincial governors, with military diplomas providing closer dating of individual tenures and occasionally new identities. An inscribed architrave from Iader (RiV.5) bears the name of the proconsul Cn. (Baebius) Tamphilus Vala (Numonianus), perhaps one of the first to hold office in Illyricum following the settlement of 27 B.C. In the Black Sea region P. Vinicius, proprætor in Macedonia and Thrace in the middle years of Augustus, appears with the patronage and other civic honours of Callatis (RiVII.9). The careers of Sex. Aelius Catus (cos. A.D. 4) and A. Caecina Severus (cos. A.D. 1), who both held high command on the lower Danube late under Augustus, have been the subject of recent study.⁵¹ On the Adriatic, the imperial shrine at Narona (RiV.37) has produced a votive to Divus Augustus by P. (Cornelius) Dolabella *Caesaris August(i) legatus pro præ(aetore)*. The increasing Roman involvement in the affairs of the Bosporan kingdom that followed the annexation of Thrace is recorded in several honorific texts for local citizens who undertook the costs and hazards of embassies on behalf of their communities, in one instance at Olbia (Mi.94) to both the governor in Moesia Inferior and the king of the Sarmatian Aorsi, possibly in the time of Plautius Silvanus Aelianus (see above). Polish colleagues have been involved in registering the names of high officials active in the lower Danube area, including, for the period before the division of Moesia, the names of eighteen senators, other than legates, serving as legionary legates or senatorial tribunes, and more than twice that number holding equestrian posts, including auxiliary and fleet commands.⁵² While a number of new items and refinements of detail can be added to the lists of B. E. Thomasson compiled twenty years ago, the only new volume of *fasti* for the region is that by I. Piso listing the senatorial

⁴⁹ I. Piso in *Festschrift Betz* (1985), 471–81.

⁵⁰ T. D. Barnes, *The New Empire of Diocletian and Constantine* (1982), 209–25.

⁵¹ L. Mrozewicz, *Eos* 86 (1999), 103–5 (Aelius Catus) and 319–23 (Caecina Severus).

⁵² *AE* (1994), 1505 (Mrozewicz) and for other studies see the notices in *AE* (1995), 1173–4.

office-holders in Dacia.⁵³ The legates of Trajanic Dacia continue to attract interest.⁵⁴ In Dacia Inferior the name of the newly identified procurator Ti. Claudius Constans can now be restored on a Hadrianic construction record at Hoghiz (D.41). In the same province what appear to be the drafts of a letter addressed to the consular legate of the Three Dacias, Arrius Antoninus, have come to light at Romula (D.67). It has recently been observed that the legates of Moesia Inferior, from the Flavian period to the third century A.D., tended to be selected from the sons of consulars, a similar status prevailing in the case of Hispania Citerior.⁵⁵ In regard to individual legates the remarkable amount of construction recorded with the name of T. Vitrasius Pollio (A.D. 156–159) has recently been documented.⁵⁶ There has also been prolonged discussion of the decree of Chersonesus (Mi.96) in A.D. 174 honouring the legate of Moesia Inferior T. Aurelius Calpurnianus and his wife for their efforts to maintain peaceful conditions in the Crimea. Lists of known legates have also been compiled for this period (A.D. 161–175) and for the reigns of Severus and Caracalla (A.D. 193–217).⁵⁷ Most aspects of the administration of the Pannonian provinces have been covered in the volumes of J. Fitz. That scholar's suggestion that there was in the second century A.D. a 'Pannonian military career', that is from Inferior to Superior via the consulship, has not been widely accepted, although that pattern of appointment can be discerned.⁵⁸ Finally, there has been renewed exploration of the legate's palace at Aquincum (Pi.5); this has defined the overall extent of the complex (120 by 150 m).

Several new items have come to light for late Roman administration in the region. At Teurnia (Rii.6) in Carinthia the re-reading by I. Piso of the inscription on a statue base has identified a governor of Noricum Mediterranea from the time of the Tetrarchy, that is before A.D. 305. For the lower Danube lists have been compiled of the known military commanders (*duces*) between the third and seventh centuries and also of civil and military officials in the area of Lower Moesia between Diocletian and the sixth century.⁵⁹ The imperial capital Sirmium (Riii.42) has produced several votives by senior officials of the imperial bureaux, including the dedication of a shrine to Bonus Eventus for the safety of the *patroni eminentissimi* of the city council (*ordo*). Stamped bricks with the names of Roman commanders continue to be found, for example at Mautern (N.39) recording Ursicinus as 'vir perfectissimus dux leg(ionis) II Italicae', who may or may not be the *magister equitum* and *magister peditum* of the same name under Constantius II. On the lower Danube a late tower at Batin (Mi.27) has produced a stamp of Fl(avius) Rumoridus, *dux* of Moesia Secunda, also recorded on stamps at Cius (Mi.67) in Scythia dated A.D. 369, and who may be the *magister militum* under Theodosius and consul in A.D. 403.

At a lower level of service one document of particular interest is the epitaph of an imperial guardsman from Ulmetum (RVii.29) in the northern Dobrudja: 'Val(erius) Victorinus biarc(h)us qui militavi[t] in sacro palatio ann(os) VII[...] vix(it) ann(os) XL qui in proe[lio] Roamnorum (sic) Calced[o]ni contra adversarios decessit'. Erected by his widow Matrona, the monument records a casualty in the Battle at Chrysopolis near the Bosphorus where Constantine defeated Licinius on 8 September A.D. 324. The widow's reference to *adversarii* appears to refer to the forces of Constantine, drawn largely from the West, and indicates that the deceased was among the predominantly Danubian soldiers fighting for Licinius, identified here as *Romani*, while the name of the deceased appears pagan rather than Christian.

⁵³ I. Piso, *Fasti Provinciae Daciae I: Die senatorischer Amtsträger* (1993).

⁵⁴ C. C. Petolescu, *Acta Mus. Nap.* 26–30 (1989–1993), 45–8.

⁵⁵ A. R. Birley in *Festschrift Fitz*, op. cit. (n. 6), 47–50.

⁵⁶ J. Kolendo, cited in *AE* (1993), 1353.

⁵⁷ E. Doruțiu-Boilă, *Dacia* 36 (1992), 23–35; D. Boteva, *ZPE* 110 (1996), 239–47.

⁵⁸ J. Fitz, *Die Verwaltung Pannoniens in der Römerzeit vols 1–4* (1993–1995). On the 'Pannonian career', *Specimina Nova* 12 (1996), 127–38; contra M. Zyrominski, *Eos* 83 (1995), 337–53.

⁵⁹ J. Wiewiorowski, *AE* (1999), 1319; *Eos* 88 (2001), 351–60 (*AE* (2001), 1730).

Diocletian's famous retirement villa near Salona on the Adriatic coast in his native Dalmatia is now matched by the no less imposing edifice constructed by his Caesar Galerius at Gamzigrad (RV.36) in the remote hills of eastern Serbia and named Romuliana after his mother Romula. Remains of the mausoleum and the place of the Augustus' ceremonial cremation in A.D. 311 have been identified in the vicinity. A similar complex not far away at Šarkamen has been identified as belonging to Maximinus, Caesar of Galerius in the second tetrarchy. An imperial villa at Mediana (RV.8) not far from Naissus, where Constantine and Licinius arranged a division of their forces, and already known for its sumptuous decoration, has produced several votives by high officials in a shrine of Asclepius; these include Roemetalkes and his wife Philippa, who may be the *dux Aegypti et Thebaidos et utriusque Libyarum* in the period between A.D. 324 and 337. Among actual votives were porphyry statues of Asclepius and Hygieia. A votive to I.O.M. Cohortalis by a tribune of the Batavians (a tetrarchic formation brought from the West by Constantine) from the ruins of the *horreum* has the formula 'ob dedicatio[nem] domus'. Here *domus* may denote the official seat of the tribune in the *horreum*, for which a parallel has been suggested by I. Piso with the official residence of the financial procurator of Dacia Apulensis at Ulpia Traiana Sarmizegetusa. What may be an official residence of the late fourth century has been identified outside one of the gates at Intercisa (Pi.24) in Valeria (Pannonia Inferior).

Some new items of evidence have appeared relating to the staff and activities of provincial governors. Despite the large number of bricks produced and stamped by the infantry and mounted bodyguards (*pedites et equites singulares*) of the Dacian governor at Apulum (D.101), neither the location of their camp nor the residence of the legate has yet been identified. In Pannonia Superior a *speculator* from the legion at Vindobona who set up an official votive at Müllendorf (RIII.84) near Carnuntum is likely to have been in the service of the provincial legate resident there. At Virunum (RII.16) in Noricum the epitaph of a father and son who were both special priests for the interpretation of the entrails of animal sacrifices (*haruspices*), as well as lightning strikes and other unusual events, are likely to have served on the staff of the governing procurator based there in the period before the arrival of the legion and its senatorial legate at Lauriacum on the Danube under Marcus Aurelius. In the *municipium* at Carnuntum (Ps.12) a votive was set up by a junior army officer (*immunis*) with the title of 'pipe-inspector' (*tubularius*) who seems likely to have been a serving soldier rather than someone seconded to the provincial or municipal administration.

The most visible presence of the governor's authority throughout the province will have been the police posts (*stationes*) manned by legionaries seconded from their unit to the service of the governor as *beneficarii consularis*. Usually located on or near major roads and in major centres these individuals are frequently recorded on official votive altars to Jupiter Optimus Maximus, often precisely dated, on which they and their unit are named. A list published in 1990 records the following totals for individual provinces, including both official votives and epitaphs: Noricum (58), Pannonia Superior (93), Pannonia Inferior (64), Dalmatia (71), Dacia (69), Moesia Superior (43), Moesia Inferior, and the Bosphorus (51), with much lower totals for the inland provinces of Thracia (7) and Macedonia (3).⁶⁰ In Pannonia Inferior no less than seventy-nine inscribed altars have been found around the courtyard of the Jupiter shrine at Sirmium (Pi.42), dating from Trajan to A.D. 231. A hitherto unrecorded station has been identified at Abritus (RVII.26) on a major road between the Black Sea coast and the lower Danube. Here an altar was dedicated to the equine-goddess Epona, common in the Celtic-speaking world, and there is the epitaph of another *beneficarius consularis* whose wife came from the local city of Tomis. New records from other centres include a former *beneficarius consularis* at Santicum

⁶⁰ E. Schallmeyer *et al.*, *Der römische Weihebezirk von Osterburken I: Corpus der griechischen und lateinischen Beneficiar-Inschriften des römischen Reiches* (1990).

(**RII.5**) on the Norican highway and an unusually late example, late third or early fourth century A.D., at Campona (**Pi.16**) on the Danube in Pannonia Inferior. A new chronology has been established for the two groups of votives erected between A.D. 158/159 and 257 at Praetorium Latobicorum (**RIII.27**) on the main road between Emona and Siscia, while the variation in formulae among the large numbers of records from the station at Celeia (**RIII.14**) on the Amber Road has been studied. Among the various symbols of office used by these and other members of the governor's staff were the lance and a variety of sword-pendants, of which examples have been found at Albertfalva (**Pi.14**) and Annamatia (**Pi.26**). An epitaph at Timacum Minus (**RV.45**) recording death at the hands of [...]tionarii seems unlikely to be linked with soldiers on guard duty (*stationarii*), despite their known unpopularity in the late Roman period and is perhaps more likely a term applied to local robbers.

In the area of financial administration, the headquarters of the procurator of Dacia Apulensis has been identified at Ulpia Traiana Sarmizegetusa (**D.17**), with several votives of the early third century A.D. erected by Lucceius Felix. At Porolissum (**D.24**) the remains of the customs post for traffic in and out of the province have been excavated and identified by votives erected by local officials (*vilici*) to the *Genius portorii publici*. A similar votive, linked with the name of the chief managing agent (*conductor*) T. Iulius Saturninus, has now established the existence of a *portorium* office at Apulum (**D.101**), and there is another possible record from Tibiscum (**D.15**). A votive to Diana Regina by a slave *vilicus* at Montana (**Mi.4**) in Moesia Inferior late under Antoninus Pius records the name of the same *conductor* along with two overseers (*circitores*). In the west a votive to Mithras by a slave *vilicus* of the *conductor* Antonius Rufus has come from the station Bilachiniensis (**RII.3**) located at Camporosso close to the border between Italy and Noricum. On the Amber Road the two stations at Ad Publicanos (**RIII.11**) close to the border between Noricum and Pannonia have also been examined. Other studies have examined the role of *vilici* in this and other imperial bureaux and the change from contracted managing agents (*conductores*) to a direct administration under imperial procurators that occurred in the late second century A.D.⁶¹ The role of *publicani* in the collection of taxes in the area of the former Thracian kingdom may have originated with the institution of the coastal command (*praefectus orae maritimae*) under Augustus, based on the interpretation of a text from Dionysopolis (**RVII.3**) on the Black Sea coast. Remains from the south-eastern area of the *municipium*, later *colonia*, at Aquincum (**Pi.5**) have suggested that a temporary mint may have operated there in the time of Severus. A group of bronze weights with inlaid silver letters found in the bed of the Danube near Sexaginta Prista (**Mi.30**) has been linked with the Severan organization of the *annona militaris*. Stamps on the staves of wooden barrels re-used to line wells near Arrabona (**Ps.22**) and Aquincum (**Pi.5**) appear to record the exemption of supplies to the legionary hospital at the latter from customs duty (*immune in r(ationem) val(etudinarii) leg(ionis) II Ad(iutricis)*). From the late Roman period the epitaph of a *praefectus vehiculariorum* at Chomakovci (**Mi.5**) in the mining region of north-west Moesia Inferior, whose son served in the élite palace guard (*protector domesticus*), has been dated to the early fourth century A.D. A similar dating is also proposed for the *primipilares* at Oescus (**Mi.12**) and Novae (**Mi.18**) engaged in the procuring of supplies from Asia Minor for the lower Danube armies.

The retrieval of large votive altars re-used in a late fortification at Bölcske (**Pi.29**) now in the bed of the river south of Budapest has added significantly to knowledge of the provincial cult in Pannonia Inferior and in Pannonia Superior. Votives to I.O.M. Teutanus for the well-being (*incolumitas*) of the *civitas* of the Eravisci by the chief magistrates (*Ilviri*) of the Aquincum colony were erected, probably annually, on each 11 June during the second and third centuries A.D. That is also the day when altars were dedicated to I.O.M. Carnuntinus on the Pfaffenberg hill (**Ps.13**). The date clearly had some significance

⁶¹ M. Sanader, *Opuscula Archaeologica (Zagreb)* 19 (1995), 57–109.

for both provinces and most likely it was the anniversary of their creation by the subdivision of Pannonia in A.D. 106 following the end of the Dacian wars. The fragments of a dedication to I.O.M. Karnuntinus have been reconstructed as a votive to Maximianus in A.D. 286 by a decurion of the Carnuntum colony. The imperial figure on a temple architrave from the Jupiter precinct at the same site has been recognized as L. Aelius Caesar, known to have been in the province in A.D. 136–137. In the past strong arguments were put forward that the altar of the imperial cult (*ara Augusti*) in Pannonia Inferior lay at Gorsium (R.III.91) south-west of Budapest, once an auxiliary fort and later a major civilian settlement. A votive for Commodus and for the *ordo* of Aquincum by the *Ilviri* of the *municipium* on 11 June A.D. 178 and another to I.O.M. Teutanus by an auxiliary commander who was also priest at the temple of Marcus Aurelius on 1 May A.D. 211 are known from there. If, as now seems likely, the altar of the imperial cult was at Aquincum, its exact location remains uncertain. The association of the annual altars with the *civitas Eraviscorum* (an entity whose nature is yet to be understood in the third century) might point to the old native centre on the Gellért hill, though a Jupiter statue recently discovered in the vicinity of the *canabae* has suggested a location in that area closer to the military town and the fortress. In Dacia recent excavations have produced more remains of the imperial cult precinct at Ulpia Traiana Sarmizegetusa (D.17). At first the priesthood was titled simply *sacerdos provinciae* but by the early third century A.D. had been elaborated to *sacerdos Augusti nostri coronatus*. Far away from the Danube the precinct at Narona dedicated to the Julio-Claudians (R.IV.37) is now well documented. More recently similar votives mentioning an *ara Augusta* have come to light at Oneum (Omiš) on the coast a few miles south of Salona (R.IV.11). The head of a statue of Tiberius may indicate a link with his son the Younger Drusus, known to have been in the area between A.D. 17 and 20.

Most of the documents relating to municipal administration that have recently come to light come from the towns that developed in the military zones and were incorporated as *municipia* and later, in some instances, as *coloniae*. In Dacia, Trajan's *colonia Dacica Sarmizegetusa* (D.17) was founded on the site of a vacated legionary camp. Like settlements around the same time at Poetovio (R.III.18), Ratiaria (Ms.73), and Oescus (Mi.12), it was among the last of the veteran colonies that had been disposed throughout the Empire since the time of Augustus. In Dacia the colony appears at first to have been the only constituted city and its territory appears to have included several settlements that were later raised to the status of *municipium* and *colonia*, such as Tibiscum (D.15). There were families of equestrian rank among the upper classes of the colony, one of whom acted as the deputy for Commodus when the emperor agreed to assume one of the annual magistracies in a ceremonial capacity. A recent find has been the lead pipes of the city's water system, dating from the time of Trajan and Hadrian, bearing the title of the city (*col(onia) Dac(ica) Sar(mizegetusa)*) and the initials of the chief annual magistrates. Much less is known of the municipal organization at Apulum (D.101). The existence of a *municipium Septimium* is well documented, but the appearance of *colonia Aurelia* on locally-produced lamps and in graffiti on pottery remains a mystery. The notion that two such settlements existed side by side is hard to credit and most likely the *colonia* may have been some sort of transformation of the legionary *canabae*. Municipal office-holders, both magistrates and priests, are recorded in places later raised to city status, including Drobeta (Ms.50), Napoca (D.92), and Porolissum (D.24), also a *municipium Septimium*. On the lower Danube magistrates recorded on re-used blocks in the fort of Sacidava (Mi.58) almost certainly belong to the *municipium* of Tropaeum Traiani (R.VII.28).

The apparent prominence of the permanent clerk (*scriba*) in the record of municipal affairs in several places, for example at Napoca (D.92) in Dacia and at Delminium (R.IV.30) in the interior of Dalmatia, is taken to reflect the weakness in local administration caused by the shortage of individuals liable for the burdens of public office. More evidence has accumulated for the role of Pontarchs in the Black Sea cities, following the reorganization under Trajan. The special relationship with communities such as Tyras

(Mi.91) that lay outside the formal limits of the province lies behind several documents that have recently come to light. The well-known Severan restriction on that city's practice of conferring honorary citizenship on Roman provincials hoping for some exemption from taxes appears to have generated a number of embassies and petitions, as indicated by the record of honours conferred on a Bosporan who undertook more than one embassy in the years following the Severan embargo.

The long recognized importance of military towns (*canabae* and *vici*) is now reflected also in the extensive remains revealed in several places along the Danube. The most significant addition to our understanding of such settlements comes from a reconstruction by I. Piso of votives from the Pfaffenberg hill at Carnuntum (Ps.13) in which the inhabitants are formally described as 'Roman citizens dwelling within the first league' ('cives Roman consistentes intra leugam primam'), that is a defined area around the legionary camp to a distance of *c.* 2 km. This interpretation relates not only to the Carnuntum *canabae*, but seems also to be applicable as a definition of the areas reserved for the *canabae* of other legionary fortresses. Little is known of the quasi-municipal administration that appears to have developed in the *canabae* and also in the *vici*. At Matrica (Pi.18) a text has been restored to record a *m(agister) ca(nabarum)* for the Aquincum settlement. The role of isolated *vici* in the Dobrudja area of Moesia Inferior for the military economy is perhaps reflected in a votive to Antoninus Pius in A.D. 152 at Histria (RVII.8) by the *magistri* of a *vicus*, one of whom is a local Thracian who had completed his service in a local cavalry unit.

The prominent role of guilds (*collegia*) in the affairs of cities continues to be reflected in local records. At Virunum (RII.16) members of the guild of specialist building workers (*subaediani*) were inscribed on a commemorative plaque and at Ulpia Traiana (D.17) a monument was set up on behalf of the guild of apple-growers (*collegium pomarensium*), an otherwise unrecorded association. As already noted, the survival of the *civitas Eraviscorum* into the early third century A.D. remains a puzzle. Possibly it may have been incorporated into the *municipium* and *colonia* at Aquincum (Pi.5) but survived as a separate entity for purposes of religion because its original patron deity became assimilated to the Roman state cult as I.O.M. Teutanus. The restored record of a *pr(inceps) Boiorum* in the vicinity of Carnuntum (Ps.13) may be connected with a similar relic of the once-powerful Boii.

III ROADS AND STATIONS TO THE DANUBE (SEE APPENDIX A: RI–RVII)

Roman control of the Danube was based on a series of major roads across the mountain ranges that screened off its upper and lower basins. In the case of the former these were the eastern high Alps, the Tauern and Carnic Alps, and the Dinaric ranges behind the Dalmatian Adriatic coast, and for the latter the Rhodope and Balkan (Stara Planina) ranges. The driving of roads over high passes, through forests, across marshlands, and along river gorges was a huge effort of engineering during the first century A.D. Some of these great military roads were destined to fall into disuse as easier or more convenient routes requiring less upkeep came into use during the second and third centuries. The Via Claudia Augusta (RI), first opened by the Alpine campaign of the Elder Drusus in 15 B.C., was constructed in the reign of his son Claudius between the Po and the Danube via the upper Adige (Val Venosta) and across the Resia/Reschen (1504 m) and the Fern (1216 m) passes (RI.1–22). Among recent discoveries along its course are votives and other material at the Piller summit (RI.16) and an early imperial trading station at Dietringen near Foetes (RI.18). Later, once the difficult approach from the south along the Eisack valley had been negotiated, the more direct route over the Brenner pass (1374 m) came into regular use (RI.23–33) in place of the longer and more difficult Via Claudia Augusta, following reconstruction in the Severan period. An ancient transit from Aquileia and the Friuli basin to the upper valley of the Drau crossed the Carnic Alps by the Plöcken pass (1360 m). From

the junction with the road along the Drau valley at Oberdrauburg, where extensive remains of the roadside settlement have recently come to light (RI.46), a route ran west via the later city of Aguntum (RI.47) through the Pustertal to join the Brenner road near Bolzano (RI.37–49).

An ancient route from north-east Italy crossed the Carnic Alps by the Saifnitz passage to the Villach area of Carinthia (RII.1–5). From here two major routes led north across the Tauern Alps in the direction of the Danube. The more difficult in the west reached Iuvavum (Salzburg) and Lentia (Linz) by the Katschberg (1641 m) and the Radstadt (1739 m) passes (RII.6–13). Further east the so-called ‘Norican Highway’ crossed by the Hohentauern (1278 m) and Pyhrn (954 m) passes to Ovilava (Wels) and Lauriacum (Enns) on the Danube (RII.14–32). Recent studies have produced new evidence for the use of even the high mountain passes of Austria in both the pre-Roman and Roman periods. Remains of the road settlement at Immurium/In Murio (RII.8) have recently come to light and there is now a full publication of the extensive remains of the road station Gabromagus (RII.28) on the Norican Highway north of the Pyhrn pass.

The principal passage between north-east Italy and the Middle Danube basin across the Julian Alps by the Pear Tree pass (867 m) was controlled by the road settlement and later fortification Ad Pirum (RIII.5). The road, following the line of the ancient Amber Road between the Baltic and the Adriatic, reached the upper Sava in the Alpine basin of Emona (RIII.9), crossed the Drava at Poetovio (RIII.18), and skirted the eastern fringes of the Alps via Savaria (RIII.24), the Claudian veteran colony, to reach the Danube crossing at Carnuntum (Ps.12/13) below Vienna (RIII.1–25). Many of the settlements along this road had been well-established in pre-Roman times. Branches from Emona down the Sava valley (RIII.26–48) and from Poetovio (RIII.62–75) to Sirmium (RIII.43) and Mursa (Pi.44) formed part of the overland route between Italy and the East, a vital link for unified control of the Danube region that was broken late in the fourth century A.D. Road settlements examined include Nauportus (RIII.67), a well-established pre-Roman trading centre on the north side of the Julian Alps, Halicanum (RIII.21), and the later *municipium* Sala (RIII.23), both north of Poetovio. Along the Drava remains of Piretis (RIII.66) have been located. Sections of the road itself have been examined in the area of Atrans (RIII.12) and Poetovio. The topography and settlements of the Sava valley road between Siscia, Servitium, and Sirmium (RIII.49–56) have been examined in detail by I. Bojanovski.

The early military roads that traversed the Dinaric ranges and the Bosnian forests between the Adriatic and the Sava valley were constructed under Tiberius and Claudius (RIV). A route along the coast hinterland also served a military function during the first half of the first century A.D. Inscriptions at Salona record the construction of at least five roads by the two legions stationed in Dalmatia (VII and XI) under the governor P. Cornelius Dolabella in A.D. 16/17 and 19/20. Recent discoveries have not modified the identifications proposed by I. Bojanovski thirty years ago: (1) a road from Salona to the river Vrbas constructed by vexillations of the two legions is that recorded on later itineraries between Salona and Servitium (RIV.11–28); (2) a Via Gabiniana (named from Caesar’s commander Gabinus) linking Salona with the legionary camps at Burnum (RIV.8) and Tilurium (RIV.29); (3) a road from Salona to eastern Bosnia terminating at Hedum, a *castellum* of the Daesitiates (RIV.29–36); (4) a road as yet unidentified between Salona and the territory of the Breuci in the Sava valley; (5) a road to the foot of Mons Ulcius in the territory of the Ditiones, continuing the Via Gabiniana (2) beyond Burnum. Milestones of A.D. 47 indicate the later continuation of the road across western Bosnia towards the Sava valley and Siscia (RIV.8–10). Two other roads are likely to represent the continuing use of pre-Roman routes, from Narona to central Bosnia via the Neretva valley (RIV.37–41) and the ‘salt road’ between Epidaurum and the Drina valley (RIV.42–53), of which the first stage had been constructed by A.D. 47. The evacuation of most military camps in Dalmatia by the middle of the first century A.D. will have led to some of these roads falling into disuse. The general absence of milestones of later periods from northern Dalmatia appears to confirm this.

The most direct route between the southern Adriatic and the central Balkans is that from Lissus at the mouth of the Albanian Drin to Naissus in the Morava valley (RV.1–11). More than once it has been suggested that some of the early Roman expeditions into the Balkans may have followed this line, following the Drin valley to reach Kosovo and the later mining district around Ulpianum and then the Toplica valley to Naissus. Though recorded on the Peutinger Map, few of its named stations have been located and there is no indication of its being constructed as a military road in the early Empire. Further east the Axios–Morava corridor was from earliest times a transit between the Aegean and Central Europe. Starting from Thessalonica the road links a number of places likely to have figured in the Roman advance towards the Danube from Macedonia, including Stobi, Scupi, and Naissus (RV.12–24). A road starting from Heraclea on the Via Egnatia in north-west Macedonia crossed this road at Stobi then followed the Bregalnica north-eastwards to cross the Osogovo range at the Velbaždski pass (1192 m) to Pautalia in the upper Struma basin and Serdica on the Balkan highway (RV.25–30). An alternative route between Scupi and Naissus, avoiding the difficult upper Morava valley, ran up the Lepenac valley through the Kačanik defile (RV.31) to reach the Lissus–Naissus road at Ulpianum. From Naissus there were two routes north to the Danube — down the Morava and Mlava valleys to Viminacium (Ms.14) above the Danube gorges (RV.32–43), or down the Timok to Bononia (Ms.70) or Ratiaria (Ms.73) below the gorges (RV.44–47). During the first century A.D. the latter was of greater importance as a military road, but after the annexation of Dacia it seems that the former was developed and came into regular use as part of the overland link between Italy and the East, continuing beyond Naissus up the Nišava valley and over the Dragoman pass (1210 m) to Serdica (RV.48–57). There are milestones of Hadrian and later and several of the road stations were constructed with bricks from military factories.

The route along the Strymon/Struma valley, passing through the Roupel defile, to Serdica and then down the Iskar valley to Oescus (RVI.1–11) may have been used by early Roman expeditions. No record exists for a route from Serdica north to Montana (Mi.4) and Augustae (Mi.3) through the Haemus by the Petrohan pass (1420 m). Further east there were three routes through the Haemus linking places on or near the Balkan highway: down the Maritsa valley between Serdica and Hadrianopolis (RVI.12–27), between Philippopolis (RVI.19) and Oescus (Mi.12) by the Troian pass (1525 m); between Augusta Traiana (RVI.38), Nicopolis ad Istrum (RVI.41), and Novae (Mi.21) on the Danube (RVI.38–41) by the Shipka pass (1200 m); and from Kabyle/Diospolis (RVI.42) on the Tundža to Nicopolis ad Istrum by the Vratnik pass (1070 m). Only the second of these is recorded later with its stations. It was evidently the major link between Thrace and the lower Danube and the central section between Sub Radices and Ad Radices (RVI.29–32) is the subject of a recent study. There is evidence for several roads in this area being constructed as fortified military roads, with rest houses (*tabernae*) and police posts (*praesidia*), following the Claudian occupation of Thrace, and for their repair in the following century.

A coast road between Odessus and the mouth of the Danube served mainly to link numerous fortified sites generated by the increasing need for surveillance in the middle and later Roman periods (RVII.1–23), but it was from the major ports of Odessus (RVII.1) and Tomis (RVII.12) that roads led inland to the lower Danube. From the former there were roads via Marcianopolis and Abritus (RVII.24–27) to Sexaginta Prista (Mi.30) and Durostorum (Mi.48), and from the latter to Altinum (Mi.55) via Tropaeum Traiani (RVII.28), to Carsium (Mi.65) via Ulmetum (RVII.29), and to the fleet base at Novidunum (Mi.77) through inland settlements of the Dobrudja (RVII.30–32).

IV THE DANUBE MILITARY CORDON AND LATER HISTORY

Roman military deployment along the Danube between the Inn and the Black Sea has three historical phases: (A) an evolution in stages during the century between Augustus and

Hadrian, (B) an increasingly static and defensively-minded security cordon, originating under Hadrian, and (C) later modification until its disintegration late in the fourth century A.D. The archaeological evidence for these activities is vast and increases year by year, though more rapidly in the case of some countries (e.g. Austria, Hungary, and Romania) than others (Croatia, Serbia, and Bulgaria). A great part of the current research dwells, inevitably, on the minutiae of evidence recovered from hundreds of individual sites but the last decade has seen the publication of surveys covering military sites in Austria, Hungary, Romania, and Bulgaria, with details of topography and full bibliographies (Section 1 above). Historical reconstructions of the course of events tend to oversimplification, especially in the case of prolonged warfare such as that which occurred in the late first and early second centuries A.D. For all that, the fact that advances in excavation and the study of finds, above all pottery, tend to make what once seemed clear to appear obscure, and a neat pattern of historical development more confused, must be accepted as a welcome advance in our understanding of the Roman Danube.

*A. Evolution from Augustus to Hadrian*⁶²

Four phases can be identified in the evolution of the Roman Danube between Augustus and Hadrian: (1) military movements and other related activities in the context and aftermath of the Augustan wars of conquest; (2) a stationing of army units in bases along roads leading to the Danube and at crossings of the river commencing under Claudius; (3) the placing of legions and auxiliary mounted and infantry units in camps along the river resulting in the creation of a more or less continuous military cordon under the Flavians and Trajan; (4) the extension of the military system into Dacia north of the Danube and the changes resulting from that expansion.

Evidence on the ground for Augustan military activity remains elusive. Imported pottery recovered from places in the Sava and Drava valleys, whose role in the conquest of the Pannonias is historically documented — Emona (RIII.9), Poetovio (RIII.18), Siscia (RIII.31), Mursa (Pi.44), and Sirmium (RIII.43) — can reasonably be linked with a military presence. On the lower Danube the stationing of a legion and auxiliaries at Oescus (Mi.12) on the river, once suggested on the basis of early military epitaphs, appears now to have been confirmed by evidence for occupation in the Augustan period from levels beneath the remains of the later Trajanic veteran colony. The record of the legions in Moesia constructing some form of passage along the upper gorge of the Danube in A.D. 33/34 has been linked by Gudea with a series of earth-and-timber fortlets along the right bank of the river in the same area (Ms.20, 25–26, 29–30, 32–34, 36–37). They may be tangible evidence for the watch on the Dacians first established following the operations of Lentulus, but a more likely identification for these is the concentration of a legion and auxiliaries lower down the river at Oescus (see above).⁶³

The organization of new provincial commands, intervention in the affairs of Germans beyond the upper Danube, and extended control down the lower Danube that followed the annexation of Thrace under Claudius are marked by the first visible placing of army units at river crossings and along the roads leading to them. There is now no evidence to link the abandonment of oppida in the middle Danube area with this development nor is there any indication that the placing of Roman forts was influenced by existing centres of population. The former change was well underway before the end of the first century B.C. and was part of a process of social change rather than being caused by Roman or even

⁶² This outline is based on the following: Kandler and Veters, *op. cit.* (n. 18), for Austria; Jilek, *op. cit.* (n. 18), for Pannonia Superior; Tejral and Kolník, *op. cit.* (n. 19), for the Czech Republic and Slovakia; Visy, *op. cit.* (n. 20), for Hungary, and *op. cit.* (n. 21), for Yugoslav Pannonia; Gudea, *op. cit.* (n. 22), for Moesia Superior; Ivanov, *op. cit.* (n. 23) for Bulgaria; Gudea-Zahariade, *op. cit.* (n. 23), for Moesia Inferior; Sarnowski, *op. cit.* (n. 25), for the Black Sea coast and the Crimea; and Gudea, *op. cit.* (n. 26), for Dacia.

⁶³ Settlements in the area of the Danube gorges are reviewed in M. Vasić, *op. cit.* (n. 22, 1999).

earlier Dacian military activity.⁶⁴ Along the Amber Road an early fort has been identified at Sala (RIII.23), and there are likely to have been others at Savaria (RIII.24) and Scarbantia (RIII.25), and there was a legionary camp controlling its Danube crossing at Carnuntum (Ps.13). Downstream from there mobile units of *auxilia* were placed at Arrabona (Ps.22) and Brigetio (Ps.30), from where routes led into the territories of the Suebic Germans, and Solva (Ps.40). On the Sarmatian sector below the Danube bend a unit of auxiliary cavalry was placed at the Danube crossing at Aquincum (Pi.8). This was linked to Poetovio (RIII.18) by a branch from the Amber Road, along which lay a cavalry fort at Gorsium (RIII.91) and probably another at Tricciana (RIII.90). Below Aquincum, forts were placed at Lussonium (Pi.30) and Lugio (Pi.39) to control Danube crossings into the Sarmatian plain. In the west in Noricum both Lentia (N.15) and Lauriacum (N.16) are likely to have been occupied, since they lay at the Danube termini of major transalpine roads.⁶⁵

For Moesia the evidence for Claudian deployment is more limited. It is still not certain when the second legionary camp on the lower Danube was established at Novae (Mi.18). This lay on a section of higher ground some distance west of the river Yantra and was connected to the south by a road through the Shipka pass (RV.38–41). In the west there is evidence for three new forts, two in the area of the gorges at Novae (Ms.23) and Taliata (Ms.35) and one below the gorge at Davidovac-Karataš (Ms.45). These represent an extension of Roman control from the direction of the lower Danube, and there is currently no evidence for a Claudian deployment along the Moesian Danube above the gorges. Taliata lay at a Danube crossing between the upper and lower gorges, while the name of the first may be linked with that of the new legionary camp on the lower Danube.⁶⁶ The increased military deployment on the lower Danube depended on road links with Thracia and Macedonia to the south. Scupi (RV.21), Naissus (RV.11), and Serdica (RV.30) are likely to have been military bases in the pre-Flavian era.⁶⁷ A unit of auxiliary cavalry was placed at Timacum Minus (RV.45) in the Timok valley between Naissus and Ratiaria (Ms.73), another likely site of a military base where a veteran colony was established under Trajan. The pre-Flavian military role of the Morava valley route between Naissus and Viminacium (Ms.14) remains in doubt, although an early military occupation has been claimed for Velika Laole (RV.40), Kalište (RV.42), and Čuprija (RV.37). There is a suggestion that the initial occupation force of Belgrade (Ms.4) at the mouth of the Sava may have arrived from the direction of Pannonia. An early brickstamp of VIII Augusta might indicate its location between departing from Poetovio and arriving at Novae on the lower Danube. It remains far from certain that VII Claudia, transferred to Moesia from Dalmatia following the departure of IV Scythica for the East early under Nero, moved directly to its later permanent station at Viminacium (Ms.14) on the Danube above the gorges. The title of the latter legion suggests a sojourn in the Dobrudja region and there is some evidence to link it with Durostorum (Mi.49) and Tomis (RVII.12), and its replacement might be expected to have been located in the same area. Evidence for the early occupation of later auxiliary forts continues to be lacking but it seems reasonable to assume that the cavalry units known to have been active in the region were placed in the same area as the two legionary bases, at such locations as Augustae (Mi.3) and Utus (Mi.14). The Danube had been identified as a limit to Roman territory already under Augustus. Half a century later the placing of some legions and auxiliary units at crossings of the river does not yet indicate the concept of a frontier cordon based on the river. Down to the end of the Julio-Claudian period the visible Roman presence along the river itself and its major tributaries will have depended upon the fleets. Their role on both the upper

⁶⁴ S. Jilek, *Limes XVII* (op. cit. (n. 17)), 122.

⁶⁵ On this Claudian and early Flavian development see D. Gabler, *Limes XVI* (op. cit. (n. 17)), 85–92.

⁶⁶ M. Mirković in Petrović, op. cit. (n. 22, 1996), 27–40, on the Roman occupation from A.D. 33 to 117.

⁶⁷ On the role of Scupi, S. Dušanić in Petrović, op. cit. (n. 22, 1996), 41–52.

and lower Danube is well documented from Augustus onwards but material evidence for their function and organization is yet to come to light.

While the creation of a cordon of military bases at regular intervals along the river may never have been defined as a strategic concept, such an arrangement appears to have been the end result of prolonged warfare along the Danube under the Flavians and Trajan. In the twenty years between the outbreak of war with the Dacians in A.D. 86 and its annexation as a province of the Empire in A.D. 106, the middle and lower Danube witnessed major episodes of war, with Roman defeats and victories as huge armies crossed and re-crossed the Pannonian and Moesian Danube. Yet the next twenty years saw the Roman occupation of the Danube and Dacia set in a form that remained more or less unchanged for centuries. That process involved the evacuation of all legionary and auxiliary bases in the interior, several of which were chosen as sites for veteran colonies, and the stationing of all units along the river. The only exception to this was on the lower Danube where the need for interior forts and roads protected by fortified stations within and around the Haemus range appears to have been acknowledged from the outset.

In Noricum auxiliary forts of earth and timber are known at Lentia (N.15), Mautern (N.39), Traismauer (N.45), Tulln (N.52), Zwentendorf (N.50), and probably at Wallsee (N.20) and Zeiselmauer (N.54). The lack of forts west of Linz can be explained by the dense forests beyond the river, just as there was a concentration in the east facing the open ground of the Tullnerfeld. A significant discovery in several forts of Pannonia where evidence is available suggests that initial occupation ranged over a long period, from the early years of Vespasian to the period of Hadrian. Early in the Flavian period an auxiliary fort was established a short distance to the west of the Carnuntum fortress (Ps.12) and a cavalry fort was also placed upstream at Vindobona (Ps.2), close to the site of the Trajanic legionary base, while a second fort was added later *c.* 2 km to the east. A Flavian origin has also been suggested for Klosterneuburg (Ps.1) west of Vindobona and also for the fort at Schwechat (Ps.6) downstream from Vindobona. At Aquincum (Pi.7) a cavalry fort was under construction in A.D. 73 close to the site of the Domitianic legionary fortress. Above the Danube bend forts were placed to face German territory at Gerulata (Ps.15) under Domitian, and at Solva (Ps.40) in the Flavian period; but others, including Ad Flexum (Ps.17), Quadrata (Ps.20), and Ad Statuas (Ps.26), were evidently not occupied until Trajan. Below the bend, Ulcisia Castra (Pi.1) was a Trajanic fort but the occupation of Campona (Pi.16) occurred later than the occupation of Dacia in A.D. 106. The earliest levels at Matrica (Pi.18) have yielded South Gaulish samian that can be dated to either Trajan or Hadrian.

Though historical developments make it an admissible fact, little new evidence has come to light regarding Flavian military organization in Moesia. Reorganization following civil war, coupled with the aftermath of local emergencies at the start of the Flavian period, brought a significant increase of both legions and *auxilia*, but the location of most and even the identities of some remain in doubt. The division of the province on the outbreak of war in A.D. 85/86 may have resulted in the placing of legions at Singidunum (Ms.4) and Viminacium (Ms.14), along with the placing of auxiliaries on both banks of the river downstream as far as the river Alutus (Olt). An earlier occupation of Viminacium, in the past identified with the fortress described by Dio Chrysostom (*Or.* 12), has been suggested on the evidence of lead water pipes with stamps of both Legions III and VII. In addition to continuing occupation of the Claudian forts at Novae (Ms.23), Taliata (Ms.35), and Davidovac-Karataš (Ms.45), Flavian occupation seems likely at Tekija (Ms.42), Kostol (Ms.49), and Brza Palanka (Ms.58); and down the left bank in the same area at Pojejena (Ms.18), Drobeta (Ms.50), and other places. No further evidence has yet come to light to support an earlier suggestion by Tudor that the remains of a timber Danube crossing between Dolni Vadin (Mi.9) and Orlea date from the time of Domitian. Trajan's first campaign had been preceded by new construction at Novae (Ms.23), by the cutting of the towpath through the lower gorges in A.D. 100, the digging of the 3.2 km long by-pass canal 14 m deep at the Iron Gate below Orșova in A.D. 101, and construction of a

fleet base at Prahovo (Ms.63) in A.D. 99.⁶⁸ Evidence continues to be lacking for Roman military deployment on the lowest section of the Danube prior to the conclusion of Trajan's first Dacian war in A.D. 102.

After A.D. 102 both Moesian commands were extended northwards to include those areas of Dacia then under Roman occupation — the heartland around Sarmizegetusa and the south-west in Superior, eastern Transylvania and the plains of Oltenia and Wallachia in Inferior. In the former, a chain of forts across the Banat between Viminacium (Ms.14) and the region of Sarmizegetusa (D.17) via Tibiscum (D.15) was established along the main invasion route (D.6–17), with a possible screen of forts along the Mureş and lower Tisza defining the limit of occupied territory (D.1–5). This territory was controlled by a Moesian legion placed first at Sarmizegetusa (D.17) and subsequently at Berzovia (D.11) in the Banat. At the principal Dacian fortress Muncel inscribed blocks from the Roman camp established there have the initial letters of the legion's titles F(lavia) f(elix) inscribed to resemble curved Dacian swords. In the east the occupied territory was controlled from the Danube by a legion (XI Claudia) at the major crossing at Durostorum (Mi.49). Here three forts (D.45–47) were placed to control the transit between the lower Danube and eastern Transylvania into the Bîrza region and along the Teleacu valley north of Ploesti. Some of the forts in this annexed territory, Drajna de Sus (D.45), Breţcu (D.37), and Hoghiz (D.41), have a double-wall construction of their perimeter defences that is characteristic of forts in the lower Danube area.⁶⁹

The majority opinion holds that except for the Wallachian plain east of the Alutus, which remained attached to Moesia until early under Hadrian, all the Dacian territory occupied in A.D. 102 was included in the new province of Dacia established in A.D. 106 following the second war. What proved to be the final stage in the military organization of Roman Dacia, and of the Roman Danube as a whole, came in the early years of Hadrian, following a settlement with the Sarmatians restoring to them the Banat and Wallachian plains. The result was a less exposed, more compact and closely integrated deployment within the Carpathians that was to survive more or less unaltered in its essentials until the evacuation of the province in the third century.⁷⁰ Whether or not Hadrian actually demolished, rather than modified in some way, his predecessor's famous bridge over the Danube completed in the interval between the two Dacian campaigns, it was from Drobeta (Ms.50) at its northern end that the principal route led into Hadrian's reshaped province to the legionary fortress at Apulum (D.101), principal settlement of Dacia Superior (or Apulensis), from which roads led north to the major settlement at Napoca (D.92) and west into the gold-mining region around Alburnus Maior (D.19). Apulum lay on the river Mureş at the centre of an outer perimeter of forts placed to control the many passages through the enclosing mountains, on the north-west (D.20–24), the north (D.25–29), and the east (D.30–36). In the south-east a new command of Dacia Inferior (or Malvensis) was based on two security cordons between the Danube and the Carpathians facing east into the Wallachian plain. The inner line followed the river Alutus (Olt) through the Red Tower defile (D.63–81) and continued east along the upper course of the river through eastern Transylvania (D.44–37). An outer line lay between 10 and 50 km beyond the higher eastern bank of the river and consisted of a cordon of forts of varying dimensions between the Danube and the Bran pass into eastern Transylvania (D.48–62). In some areas of open plain the forts were linked by a continuous earth rampart. The two lines were complementary: an inner road followed the river valley (so-called 'Limes Alutanus') and linked a

⁶⁸ P. Petrović, 'New data on Trajan's buildings at Djerdap (Iron Gate)', in H. Forster (ed.), *Kulturraum mittlere und untere Donau* (1995).

⁶⁹ On the placing of forts at the southern approaches to passages through the Carpathians into Transylvania see C. C. Petolescu, *Limes XIII* (op. cit. (n. 17)), 510–13.

⁷⁰ On Roman strategies in Dacian deployment, M. Zahariade, *Limes XVII* (op. cit. (n. 17)), 603–8. He identifies the key river passages, Micia (D.18) and Tibiscum (D.15) on the Mureş and the Timiş; Porolissum (D.24) and thirteen forts for the Someş passage; facing east seven forts on an outer line and three on the inner for the upper Mureş and Târnava; in the south the Jiu, the Olt, and the Bran pass.

number of major settlements as well as military bases, while the outer cordon (so-called 'Limes Transalutanus') was essentially a tactical deployment in advance of the less easily protected river valley.⁷¹ The third command in Hadrian's reshaped Dacia (Dacia Porolissensis) was an area in the remote north-west detached from Dacia Superior and controlled from the strategic centre Porolissum (D.24). It acted from time to time in concert with the Sarmatian command of Pannonia Inferior (in A.D. 117–118 and 169–180), established in A.D. 106 at the same time as Trajan's Dacia. Though small in area the command held a powerful concentration of auxiliary cavalry (D.93–95) and infantry (D.20–29).

The occupation of Dacia north of the Danube impacted on three other areas of the Roman Danube: (1) evacuation of some forts along the section of the Danube where it now marked the border between Moesia Superior and Inferior and Dacia; (2) the placing of forts along the lowest section of the Danube between the Yantra and the Black Sea; (3) the reinforcement of Roman troops detached from Moesia Inferior stationed in places along the Black Sea coast between the Danube delta and the Crimea.

The two legions of Moesia Superior were now in what proved to be their permanent stations above the gorges at Singidunum (Ms.4) and Viminacium (Ms.14). Garrisons along the right bank in the area likely to have been maintained include Tricornium (Ms.8), Lederata (Ms.15), and Cuppae (Ms.19) where the upper gorge began. Several forts along the left bank were now attached to the Dacian command, including Banatska Palanka (Ms.16), Pojejena (Ms.18), Orșova (Ms.43), and Drobeta (Ms.50). Some of the forts on the Moesian bank in the area of the gorges appear to have remained in occupation — Čezava (Ms.23), Taliata (Ms.35), Tekija (Ms.42), Davidovac-Karataš (Ms.45), Kostol (Ms.49), and Brza Palanka (Ms.58). Below this point the numerous bends in the river make land passage difficult and there are no major crossing places. In this section military control is likely to have been based on the fleet, from bases at Aquae (Ms.62), Dorticum (Ms.65), Bononia (Ms.70), and Ratiaria (Ms.73).⁷²

On the lower Danube a new fortress at Durostorum (Mi.49) had probably been occupied by XI Claudia from A.D. 102 and for certain after A.D. 118. By that time also V Macedonia had been removed from Oescus to a new base at Troesmis (Mi.70) on the east of the Dobrudja. Mobile units of *auxilia* were placed wherever possible on high ground overlooking the plains beyond the river, close to major tributaries and river crossings. These included Dimum (Mi.19) west of the Yantra, Iatrus (Mi.24) at the mouth of the same river on its east bank, Sexaginta Prista (Mi.30) at the mouth of the Rusenski Lom, Appiaria (Mi.34), and Transmarisca (Mi.36), and Carsium (Mi.66). Some of these were placed to operate across the river along the valleys of the Argeș, Ialomița, and Siret. Along this section of the river, where the single channel often divides into two or three separate channels, bridgehead forts on the left played an important role. These included Pietrosani (Mi.26) facing Scaidava (Mi.27) and a possible bridgehead (Marisca? from the name Transmarisca (Mi.36)) that may be the site identified on aerial photographs at Ulmeni near the mouth of the Argeș. The fort at Barboși (Mi.75) occupied a key location on the Tirighina promontory overlooking the mouth of the Siret, where began the major route into Transylvania via the Oituz pass.⁷³

Hadrian's evacuation of the Wallachian plain was accompanied by a strengthening of the Roman military presence along the coast of the Black Sea. A mixed force of c. 1,500 troops drawn from the army of Moesia Inferior was commanded by a tribune based at Chersonesus (Mi.96), with detachments at Tyras (Mi.91), Olbia (Mi.94), and Charax

⁷¹ I. B. Cătănciu, *Limes XIII* (op. cit. (n. 17)), 461–8, for dating evidence from forts on the outer line.

⁷² On the re-occupation of forts in this area, M. Mirković, *Limes XVIII* (op. cit. (n. 17)), 757–64.

⁷³ On bridgeheads, A. Barnea, *Limes XVII* (op. cit. (n. 17)), 485–6, observing that the 'Trans-' names are found on the Roman right bank. On excavations, A. Dimitrova-Milčeva, *Limes XIV* (op. cit. (n. 17)), 863–74. On Roman-Sarmatian contacts north of the delta see L. Oța, *Limes XVII* (op. cit. (n. 17)), 885–94.

(Mi.97) in the southern Crimea.⁷⁴ Communication was based on a fleet detachment operating along the coast and it seems unlikely that there was any land link between these places, at least for military purposes. Based on long-established Greek cities their purpose will have been to maintain relations with the cities but also to observe and report on the movements of peoples across the Pontic steppes. The effectiveness of this modest deployment is perhaps indicated by the increasing and recurring threats to the lower Danube region following its withdrawal around the middle of the third century A.D.

B. *The Static Cordon*

An older tradition of excavation that tended to concentrate on the internal planning of legionary and auxiliary camps has now given way to a broader approach that studies camps and associated civil settlements (both military and civil towns) in all phases of occupation. Recent excavations along the Danube have not so far yielded any plans of legionary bases to match those of Lauriacum (N.16) or Carnuntum (Ps.13) recovered in earlier excavations. Urban rescue excavations continue to add valuable detail to the internal arrangements at Vindobona (Ps.2) and Aquincum (Pi.5). On the lower Danube decades of investigation have yielded the headquarters (*principia*), the hospital (*valetudinarium*), the perimeter defences and other elements of the fortress at Novae (Mi.18). The outline plans and some internal structures have now been revealed at Singidunum (Ms.4) and at Durostorum (Mi.49). Only the fortress at Troesmis (Mi.70), occupied for only half a century after c. A.D. 118, is yet to be located. Neither the earlier nor the later legionary bases at Ratiaria (Ms.73) and Oescus (Mi.12) have yet been traced. In Dacia north of the Danube the Trajanic legionary camps at Berzovia (D.11) and Ulpia Traiana Sarmizegetusa (D.17) have been located and defined but their phases of occupation by Legion III Flavia remain a matter of debate. Both of the permanent legionary fortresses in Dacia, Apulum (D.101) and Potaissa (D.102), have been defined and partly explored. The movements and activities of Danubian legions throughout the early Empire pose many problems that cannot properly be examined in a local context. Fortunately, the published proceedings of a recent conference have furnished an admirable supplement to Ritterling's classic Pauly-Wissowa article that covers almost all the Danubian legions. The Polish expedition to Bulgaria has furnished several useful catalogues of personnel for the Moesian legions, including legates and tribunes, though unfortunately in publications with a limited circulation.⁷⁵

Many of the auxiliary forts along the upper and middle Danube that lost their military function at the end of the fourth century A.D. have since remained unoccupied and, except where eroded by the river, remain to be explored. Along the lower Danube the occupation of many forts continued until the end of the sixth century, and sometimes into the middle Byzantine era and beyond. Exploration has also been inhibited by the remote situations of many forts, along a river that has for some of its course been an international frontier for more than century. The considerable military deployment in the hinterland of the lower Danube, notably in the mining areas and along the routes through the Haemus (Stara Planina), also remains largely unexplored. Conditions in Dacia, where forts were evacu-

⁷⁴ On the details of Pontic vexillations, T. Sarnowski in Y. Le Bohec (ed.), *La hierarchie de l'armée romaine* (1995), 323–8, and also *Limes XIX* (op. cit. (n. 17)), Abstracts 85–6, for recent finds and new evidence from aerial photographs.

⁷⁵ Y. Le Bohec and C. Wolff (eds), *Les Légions de Rome sous le Haut-Empire* (2000), with the following entries for legions stationed permanently in the area: II Italica (B. Lőrincz), X Gemina (J. Gomez-Pautoja), XIV Gemina (T. Franke), I Adiutrix (B. Lőrincz), II Adiutrix (B. Lőrincz), IV Flavia and VII Claudia in Moesia Superior (Y. Le Bohec and C. Wolff), I Italica (M. Absil), XI Claudia (R. Fellmann), V Macedonica and XIII Gemina in Dacia (I. Piso). Legates of I Italica: *AE* (1993), 1356 (J. Hatlas), V Macedonica: *AE* (1995), 1324 (M. Zyromski and J. Hatlas), VII Claudia: *AE* (1995), 1308 (M. Zyromski). Equestrian tribunes of I Italica: *AE* (1993), 1357 (T. Sarnowski), V Macedonica and XI Claudia: *AE* (1994), 1414–515 (J. Hatlas). Legionaries in Moesia in first century A.D.: *AE* (1995), 1307 (L. Mrozewicz).

ated in the third century A.D., have proved particularly favourable for the investigation of auxiliary forts and their associated settlements.

As with legionary fortresses, so the internal layout of auxiliary forts no longer commands the concentration of effort that was once the case. Still the total of fully explored forts remains small, although a notable recent addition has been the cavalry fort at Carnuntum (Ps.12), now fully published. The headquarters, several barracks, internal baths and other buildings have been revealed. A sequence of occupation has been established that appears to match that conjectured for other forts where excavation has been more limited. An initial construction in earth and timber under Vespasian was replaced in stone late under Trajan or early under Hadrian. The garrison unit (*ala I Thracum victrix*) is listed on provincial diplomas between A.D. 125 and 163. Demolition followed by reconstruction has been linked with the Marcomannic wars, after which the fort continued to be occupied for another century. Several enclosures outside the fort have been identified as paddocks and exercise pens for horses. At Gerulata (Ps.15) the timber barracks of a fort have been linked with military ditches located in the vicinity of a later fortification. The same site has also produced a section of stone wall belonging to a fort that was constructed not earlier than the mid-second century A.D. The process of converting earth-and-timber forts into stone, either in part or in their entirety, is a familiar pattern along the Danube as elsewhere in the Empire. This change is no longer seen as part of a concerted refurbishment but rather as a piecemeal or even haphazard process with local conditions and the availability of materials being the determining factors, a conclusion that has emerged from excavation in several Pannonian forts. Similarly the tidy arrangement of single auxiliary forts spaced at more or less regular intervals must now be questioned. Remains of more than one auxiliary fort have come to light at Carnuntum (Ps.12), where double ditches and a rampart have been identified north-east of the cavalry fort beneath the later civil settlement, and other possible duplications have been found in the same area of Pannonia. Some of these remains will have belonged to temporary construction camps and even of earlier forts in locations that proved unsuitable for one reason or another. In Dacia double forts, sometimes conjoined, have been identified along the eastern and western perimeters of the province. Here the smaller of a pair is generally identified as that of a smaller unit (*numerus*), introduced later as a supplement for the established garrisons of cavalry and infantry auxiliaries.⁷⁶

In Moesia Superior the total of forts explored to any significant extent remains small, with accurate data of perimeters, dimensions, and internal buildings not always available. For many forts, their very existence and the identity of a garrison depend on surface indications and stray finds. Many forts along the Moesian Danube have yet to produce any evidence whatsoever for an occupation prior to c. A.D. 275. In some cases the suggested location of a fort rests on little or no evidence. Some forts away from the river are known to have served a specific purpose, such as those established under Marcus Aurelius to protect the mining areas, manned at first by troops drawn from elsewhere but later by new locally-recruited auxiliary units.⁷⁷ Along the lower Danube in Moesia Inferior the garrison units of several forts have not yet been identified. The number of forts that appear to have been manned at one time or another during the late second and third centuries A.D. exceeds the number of units listed on provincial diplomas. There is a clear impression that both

⁷⁶ On the timber-to-stone conversion and the possibility of double forts, S. Jilek, *Limes XVII* (op. cit. (n. 17)), 123–4, with reference to evidence from the following: Carnuntum (Ps.12), Gerulata (Ps.15), Arrabona (Ps.22), Odiavum/Azaum (Ps.35), Quadrata (Ps.20), Ad Statuas (Ps.26), and Celamantia (Ps.32). Possible duplicate forts include Klosterneuburg (Ps.1), Ala Nova (Ps.6), and Gerulata (Ps.15). For a recent review of double forts in Dacia see F. Marcu, *Limes XIX* (op. cit. (n. 17)), Abstracts 56–7.

⁷⁷ According to Gudea, op. cit. (n. 22), forts examined in Moesia Superior are: Pojejena (Ms.18), Čezava/Novae (Ms.23), Donji Milanovac (Ms.35), Tekija (Ms.42), Davidovac-Karataš (Ms.45), Kostol (Ms.49), and Turnu Severin/Drobeta (Ms.50). The following have so far produced no evidence for occupation before A.D. 275: Višnjica (Ms.5), Seona (Ms.9), Dubravica/Margum (Ms.13), Banatska Palanka (Ms.16), Golubac/Cuppae (Ms.19), and Orşova/Dierna (Ms.43). On internal fort buildings, M. Vasić, *Limes XV* (op. cit. (n. 17)), 368–70.

legionary and auxiliary manpower was from the outset more widely dispersed than was the case, for example, along the middle Danube. The dispersal of auxiliary manpower in a larger number of smaller forts from the mid-second century onwards is reflected in the remarkable proliferation of bricks and tiles stamped by individual units.⁷⁸ In Moesia Superior the stamped bricks and tiles of Legion VII Claudia, manufactured presumably somewhere close to its base at Viminacium (Ms.14), have been found in almost every known fort of the province. Legionary and auxiliary soldiers are found not only in forts along the river but also in the interior and in the coastal and inland cities. The papyrus record of a unit roster (Hunt's Pridianum) drawn up in the autumn of A.D. 105 for a cohort based in Macedonia reveals already a dispersal of manpower engaged in different tasks across the Danube region at the height of Trajan's Dacian campaigns. So far the early levels of forts here have not been explored but it is clear that some began their existence with the regular perimeter typical of the late first and early second centuries A.D., while others clearly had irregular plans from the start, usually dictated by a situation on high ground overlooking the river.⁷⁹

The identities and movements of auxiliary units in the Danube region from the first to the third centuries A.D. rest on the evidence of unit lists on diplomas, stamped bricks, and inscriptions, including votives, construction records and epitaphs. There is now available a new synthesis for the *auxilia* of Pannonia and there are also lists for Dacia and both Moesian provinces. Each year brings new evidence that can either fill in gaps in our understanding or simply add to what is already a problem of confused and changing identities.⁸⁰

From the outset the Romans employed ships for transportation and movement along the Danube and its major tributaries (Strabo 7.3.13), at first procured from allies but later as Roman formations with permanent bases on the upper and lower courses of the river. The Pannonian fleet (*classis Flavia Pannonica*) was based at Taurunum (Pi.61), the last station in the province close to the Sava confluence, and will have been active not only on the river itself but on its major tributaries within Pannonia, the Drava and Sava. Beyond the Danube the increasing evidence for Roman military activities appears closely linked with the major rivers, notably the March/Morava and the Waag/Váh, and the role of the fleet in these operations can be assumed. Little is known of how the Danube fleet operated except for the existence of hundreds of jetties and landing places, most now long vanished, such as those in the region of Bassianae (RIII.45) along the lower stretch of the Pannonian Danube between Cusum (Pi.53) and Taurunum (Pi.61).⁸¹

The fleet operating along the lower Danube (*classis Flavia Moesiaca*) is a more visible presence throughout the Roman period, and its role between the first and sixth centuries A.D. is the subject of a recent study, covering organization, harbours, and the practical aspects of river shipping. Here geographical conditions, marshes along the left bank and undulating terrain along the right with an alternation of steep banks and broad river estuaries, make the river the most convenient means of passage. The probability is that even the smallest settlement and military post had some sort of access to the river, indicated by the results of investigations along the river bank in the area of the gorges and below prior to the raising of the river level. The role of the Moesian fleet above the gorges remains uncertain: it seems unlikely that the towpaths through the gorges, cut out and

⁷⁸ Zahariade and Gudea, op. cit. (n. 23).

⁷⁹ On the date of Hunt's Pridianum see R. Syme, *Danubian Papers* (1971), 122–34 (with the governorship of Fabius Iustus being subsequently confirmed by a milestone from Rasova (Mi.59), AE (1981), 746). Forts on the lower Danube with a regular perimeter include: Nigriniana (Mi.41), Sucidava (Mi.54), Altinum (Mi.56), Sacidava (Mi.58), Capidava (Mi.63), Barboși (Mi.75), and Salsovia (Mi.84).

⁸⁰ B. Lőrincz, *Die römischen Hilfstruppen in Pannonien während der Prinzipatszeit: I Die Inschriften* (2001). Units currently attested in Moesia Superior and Dacia are listed by Gudea, op. cit. (nn. 22 and 26), for Moesia Inferior (Bulgaria) by Ivanov, op. cit. (n. 23), and for Moesia Inferior (Romania) by Zahariade, op. cit. (n. 24).

⁸¹ On the Pannonian fleet, M. Zaninović, *Croatian Arch. Soc.* (n. 10, 1993), 53–8; on the harbours around Bassianae, D. Dimitrijević in Petrović, op. cit. (n. 22, 1996), 143–57.

maintained by the legions during the first century, or Trajan's canal to by-pass the Iron Gate completed in A.D. 101, remained in use after the occupation of Dacia: lack of any evidence tells against this. Legion I Italica stationed at Novae (Mi.18) included on its strength a unit of marines, while some of its stamps on bricks show the legion's titles set within the frame of a Roman warship. River and sea passage were essential for this and the other legions of Moesia Inferior in maintaining their detachments along the Black Sea coast and in the Crimea at various times during the second and third centuries A.D. Here the sea-going fleet was evidently a separate formation based on Chersonesus (Mi.96) that operated along the coast between the delta and the Crimea, with harbours at Tyras (Mi.91) and Charax (Mi.97). Records of fleet personnel are also found in the coastal ports south of the delta as far as the provincial boundary with Thracia where began the province of the Pontic fleet operating from the north coast of Asia Minor.⁸²

By the end of the second century A.D. a continuous land route had been created along the Danube between the Inn and the Black Sea, a passage recorded among the routes of the Antonine Itinerary, compiled in the third century A.D. The road had greater importance where the Roman bank posed few obstructions to traffic, except for the crossing of side valleys — in eastern Noricum, Pannonia Superior and Inferior except for the Danube bend, Moesia Superior below the gorges, and the lowest stretch of the Danube in Moesia Inferior. The road was regularly maintained and formed the axis for increasing local surveillance through the use of watchtowers that appear from the middle of the second century onwards. This association between the Danube road and the chain of towers has been clearly revealed for Pannonia on aerial photographs, some of which are included in recent studies by Hungarian scholars. Most traffic in Pannonia is likely to have by-passed the Danube bend by using the direct road between Brigetio (Ps.30) and Aquincum (Pi.5). Excavation of a villa on the outskirts of the latter revealed the make-up for this road, with several layers of surfacing and a coin of Hadrian from the earliest of these. In Moesia Superior the line of the road, along with the remains of several settlements, watchtowers, and a milestone, has been traced between Belgrade and Tricornium (Ms.8). The surviving traces of the towpaths through the upper and lower gorges were recorded prior to the raising of the Danube level. Below the gorges the Danube road regained a strategic importance following the evacuation of Dacia and remained important for the operations of Roman forces against the Avars in the last decade of the sixth century. The remains of Trajan's bridge were also recorded during recent investigations, but no further discoveries have been made relating to Constantine's bridge near Oescus (Mi.12).⁸³

⁸² O. Bounegru and M. Zahariade, *Les forces navales du Bas-Danube et de la Mer Noire aux Ier-VIe siècles*, *Colloquia Pontica* 2 (1996). On the Moesian fleet in Moesia Superior see P. Petrović, *Starinar* 40–41 (1989–1990), 207–16. On the warship stamps of Legion I Italica see T. Sarnowski, *Limes XIII* (op. cit. (n. 17)), 536–41. For the role of the fleet in army supply along the lower Danube see O. Bounegru, *Limes XVI* (op. cit. (n. 17)), 311–13. In addition to the legionary bases at Novae (Mi.18) and Durostorum (Mi.49), there were fleet stations at Sexaginta Prista (Mi.30), Appiaria (Mi.34), Altinum (Mi.56), Axiopolis (Mi.61), Dinogetia (Mi.74), and Aliobrix (Mi.79) on the left bank opposite the fleet's principal base at Noviodunum (Mi.78), and also the station at Barboși (Mi.75) on the left bank overlooking the mouth of the Siret. Fleet personnel are recorded down the coast at Histria (RVII.18), Tomis (RVII.12), Callatis (RVII.9), Dionysiopolis (RVII.3), and Odessus (RVII.1).

⁸³ For the road in Austria, see J. Stern, *Wo Romerräder rollten. Überlegungen zum Verlauf römische Strassen* (1994), also O. Harl, *Limes XV* (op. cit. (n. 17)), 225–9 (Vienna area). The Danube road in Hungary is fully documented by Visy, op. cit. (n. 20, 2003), with maps and aerial photographs. On the Aquincum-Brigetio diagonal, O. T. Lang, *Limes XIX* (op. cit. (n. 17)), Abstracts 51–2. For the road below Singidunum in Moesia Superior, D. Bojović, *Materijali* 17 (1980), 85–99, and for the section through the gorges, P. Petrović, *Limes XIV* (op. cit. (n. 17)), 883–99. Events in the sixth century are analysed in their local context by D. Janković, *La partie danubienne de la région d'Aquis au VIe et au début du VIIe siècle* (in Serbian) (1981). In A.D. 597 Priscus crossed the river either at Kostol (Ms.49) or Tekija (Ms.42), and then re-crossed upstream at Sapaja-Lederata (Ms.16–15). In A.D. 602 the Avars attempted to seize the Danube cataracts but were forced to retreat westwards to Kovin (Ms.12). The Timok valley road to Naissus was used by Slavs in A.D. 550 and again by Avars in 578–589. On the bridges, D. Tudor, *Les ponts romains du Bas-Danube* (1974).

In Moesia Inferior the preferred west–east route was not that along the river but rather an inner line between Montana (Mi.4) and Odessus (RVII.1) on the Black Sea. Fortified road stations were established at river crossings, including Discoduratera (RVI.4) on the Yantra, Melta (RVI.34), Shoumen (RVII.25), and Chomakovtsi (Mi.5) on the Iskar. Montana was the centre for a security operation protecting the mines, manned by legionaries and auxiliaries from the provincial garrison. The principal passages through the Haemus were controlled by a large number of fortified sites, around Vratsa (Mi.5), Pleven (Mi.13), Lovech and Gabrovo (Mi.22), Nikiup/Nicopolis ad Istrum (Mi.25), Shoumen and Abritus (Mi.32), and Dobrič (Mi.50). Here a system of local commands controlled the *praesidia Haemi montis*. A few sites explored by a recent survey suggest that some of the fortifications were occupied from early in the Roman period.⁸⁴

It may well be the case that when Hadrian decided to withdraw the garrisons of Dacia to a perimeter within the Carpathians, and to reduce in width the band of territory by which the province was linked to the rest of the Empire, the need for some form of surveillance beyond these limits was already foreseen. Over the next century this protection was achieved by two means: the construction of barrier walls with watchtowers across the main routes into and out of the province and a surveillance of the intervening hills through networks of intervisible watchtowers around fortlets that were linked to the major garrisons in the rear. At Porolissum (D.24) in the north-west a system of barrier walls and towers was established in advance of the two forts and the civil town. The continuous barrier, stone in some sections and earth elsewhere and with attached watchtowers and fortlets, extended for c. 4 km. For a length of c. 225 m the wall was duplicated, with a stone tower on each line. A double line also fronted the forts of Pomēt and Citera that, along with the earth rampart, were placed to control the route along the Ortelec valley, or the Meseş gate. This barrier linked the system of watchtowers in the Meseş hills on the west with that along the north side of the Samus (Someş) valley to the east. The former comprised at least sixty towers on high ground with fortlets down in the intervening valleys. These were linked to the mobile auxiliary units in the rear at Gilău (D.93), Gherla (D.95), and the principal command centre at Potaissa (D.102). That on the north extended for c. 180 km and consisted of a similar zone of towers and fortlets in advance of the forts at Tihău (D.25), Căşei (D.26), and Ilişua (D.27). A defensive barrier has also been identified fronting the Apuseni hills on the west between the Mureş and the Crişul Repede (D.18), earlier assigned to the system of late earthworks in the Hungarian plain (see below). There are indications that a similar system existed on the east, where some fortlets and towers have been identified. How the system was intended to function seems clear but so far there is no evidence of the personnel who manned the system. It seems likely that local groups were involved or conscripted from the settlements in the vicinity of garrison forts and also in the forward zone itself. The quantities of Roman material now being recovered from settlements beyond what had been accepted as the limits of Roman Dacia has been seen as evidence for an involvement in the security of the Roman province and that of its external allies. So far there is no evidence for any form of zonal defence in the south-east along the military cordon beyond the Alutus. Forts were concentrated to watch the main routes across the Wallachian plain. That along the Calamatri valley was watched by three forts, at Putineiu and Băneasa (D.49–50) and on the inner line at the river by the large cavalry base at Slăveni (D.66). On this front, and elsewhere in Dacia, there is increasing evidence for the introduction of new mobile formations originating from elsewhere in the Empire, notably Africa and the East. South of the Danube there are many examples of similar barrier systems across routes through hill country, notably in Moesia Inferior along the Haemus range. Few have been investigated but the most likely period for

⁸⁴ Zahariade and Gudea, op. cit. (n. 23), 39–42.

their creation is the late second and third centuries A.D. Some were evidently placed to control movement into and out of the mining areas of both Moesian provinces.⁸⁵

The tripartite complex of legionary fortress (*castra*), associated military town (*canabae*), and civil town (*municipium*) two or three miles distant is now seen to be more or less the standard pattern along the Danube that emerged after Hadrian. In recent years increased attention to both military settlements and civil towns has identified several new examples and also defined the extent and character of those already known. The same is the case for the single civil settlement (*vicus*) attached to auxiliary forts along the Danube that was from the outset an essential component in the Roman military organization, even for the smallest and most remote of military stations. The economic role is clear from the increasing evidence for pottery manufacture, metal-working, and the processing of crops and animal products (see Section VI below). Most settlements also included a religious precinct, and cemeteries serving military and civil personnel were provided in locations apart from the occupied areas. At Carnuntum (Ps.12) a renewed programme of excavation among the remains of the civil town intended to establish its historical phases has revealed its existence already in the late first century A.D. The phase of large-scale stone construction, with paved avenues flanked by porticos, is now dated to the Severan period (a shrine to Diana was inserted into one of these in the fourth century). Resumption of excavations on the site of the civil town at Brigetio (Ps.30) is revealing substantial houses with painted decoration including figures of animals. A closer association is also being revealed between the large centres at the river and the many smaller settlements in the near hinterland. Some of these include isolated villas that began in the second century A.D. and continued to prosper into the fourth. What now seems even clearer is that the Roman military cordon along the river was the core of a complex pattern of relationships based on settlements and installations on either side of the river. In that sense the river Danube was no longer a line of demarcation but rather the spine for a military and civil association that grew up in the second century and continued more or less intact until the later decades of the fourth century A.D.⁸⁶

C. The Late Roman Danube (Third to Fourth Centuries A.D.)

The first hint of threat in the official records of construction is associated with the forts (*praesidia*) and towers (*burgi*) established in the territories of the larger cities either side of the Haemus in Moesia Inferior and Thracia from the middle of the second century A.D., including Serdica (RV.30), Marcianopolis (RVII.23), Augusta Traiana (RVI.38), and other centres in Thrace at Deutum and Bizye. The proclaimed purpose was 'the safety of the province of Thracia' (*ob tutelam Thraciae provinciae*). Many of these centres were linked closely with the now much increased military deployment along the lower Danube that depended more than was the case elsewhere on the routes to the interior. The use of one of the passages through the Haemus by raiders in A.D. 170 was also a stimulus for the construction and repair of city defences in the region.⁸⁷ In Dacia the victory monument erected at Ulpia Traiana Sarmizegetusa in A.D. 157 marks the first sign of a developing insecurity in that quarter. The most direct route between central Dacia and the Danube,

⁸⁵ For a general summary, N. Gudea, *Limes XVI* (op. cit. (n. 17)), 13–23; on the Meseş, N. Gudea, *Der Meseş-Limes: die vorgeschobene Kleinfestungen auf dem westlichen Abschnitt des Limes der Provinz Dacia Porolissensis* (1997); on the Porolissum barrier, A. V. Matei, *Limes XVI* (op. cit. (n. 17)), 93–100; on northern defences, I. M. Ferenczi, *Limes XVII* (op. cit. (n. 17)), 443–61, also *ActArchHung* 41 (1989), 299–311. On the role of barriers in the mining region, M. Werner, *Limes XIII* (op. cit. (n. 17)), 561–4.

⁸⁶ On *canabae* in Pannonia Superior see S. Jilek, *Limes XVII* (op. cit. (n. 17)), 126. Settlements in the area of Carnuntum (Ps.12–13) and Vindobona (Ps.2) include Unterlaa, Hoflein, Halbturn, Bruckneudorf, and Deutschkreutz.

⁸⁷ Zahariade and Gudea, op. cit. (n. 23), 37–40. The approach to Marcianopolis (RVII.23) by the Aitos pass was guarded by a barrier wall with several towers.

from Dierna (Ms.43) to Tibiscum (D.15) by the Teregova pass, was now protected with new forts at Mehadia (D.13) and Teregova (D.14), an area where epitaphs record the mishaps of travellers at the hands of robbers (*latrones*). Security along the road from Drobeta (Ms.50) into Dacia via the Jiu valley and the Vulcan pass was increased with the new fort of Cătunele (D.87) at the crossing of the river Motru. Additional forts were also placed at the entrance to Dacia along the Mureş valley, including Micia (D.18) where a fort of exceptional size was constructed. In the same area there was increased protection for the gold mines at Alburnus Maior (D.19). In the south-east an increasing level of localized military activity is indicated by special commands created from time to time. The traces of large-scale destruction recorded in the past at a number of major centres, including Tibiscum (D.15), Micia (D.18), and Porolissum (D.24), have tended to be linked directly to the Marcomannic wars, though local insecurity seems to be just as likely an explanation. The transfer of a legion (V Macedonica) from the lower Danube to a new base in northern Dacia at Potaissa (D.102) may have taken place at the time of the Marcomannic wars but its location points to a threat from the east as much as from the direction of the Hungarian plain to the west.⁸⁸ Along the upper Danube the destructive impact of the prolonged conflicts with Suebic Germans and Sarmatians under Marcus Aurelius has been identified at many locations, including the disappearance of older army units and their replacement by new formations; Mautern (N.39) has, however, proved recently to be a notable exception. At the same time the overall concept of the single military cordon along the river remained unaltered, albeit with increased forces. New legions were placed on the Danube in Raetia and in Noricum with the newly raised II Italica at Lauriacum (N.16). Further west a new small fort was placed at Schlögen (N.8) on one of the serpentine river bends west of Linz, where it was the centre for a series of watchtowers. In Pannonia Inferior the military recovery resulted in the placing of some new and more powerful formations as garrisons in the older forts but no less significant was perhaps the replenishment of the interior by groups of Germans from beyond the Danube being permitted to settle within the province. Though apparently not directly affected by the Marcomannic wars there was a significant re-occupation of several forts and the construction of some new smaller posts along the river in Moesia Superior.⁸⁹

The impact of the third-century crisis along the middle and upper Danube continues to be a matter of debate. The high tide of civil and military construction that marks the Severan era in Pannonia seems to have given way to a gradual recession into impoverishment reflected in a general dereliction. At Carnuntum (Ps.12–13) burials were inserted into what had once been built-up areas of the military town. In Noricum raids by the Alamanni and other Germans, that impacted more on areas further west, have been held responsible for an extensive destruction at Lauriacum (N.16). The fate of Dacia appears to have been sealed by the repeated inroads of Goths and other groups, including the Carpi, across the lower Danube. In Dacia Inferior official inscriptions appear to cease under Philip and the circulation of coins does not seem to have continued after Decius. In Dacia within the Carpathians the circulation of coins appears to have ceased earlier, possibly after the fall of the Maximini (A.D. 238). These more recent discoveries appear to complement the already documented evacuation of Dacian garrisons around this time. It seems that many forts now abandoned were taken over by the civilian population, an occupation that was to continue long after the formal evacuation of the province by Aurelian twenty years later. That event was signalled by the return of Dacia's two legions to bases on the lower Danube at Ratiaria (Ms.73) and Oescus (Mi.12), although there is barely a trace of this redeployment at either of these places. The military collapse of Dacia and the aftermath of the Gothic raids brought the start of renewed military occupation along the entire course

⁸⁸ See Gudea, *op. cit.* (n. 26, 1997), for these changes; also D. Ruscu, *Limes XVII* (*op. cit.* (n. 17)), 477–84.

⁸⁹ Forts known to have been re-occupied include Novae (Ms.23), Taliata (Ms.35), and Davidovac-Karataš (Ms.45). New smaller forts were established at Saldum (Ms.26), Boljetin-Gradac (Ms.32), and Ravna (Ms.34).

of the lower Danube that was to increase in intensity well into the fourth century A.D.⁹⁰ The section of the river above Novae, hitherto more or less de-militarized since the occupation of Dacia, once more became a part of the military cordon, with several forts between the Lom and the Vit being established in this phase. Downstream Barboși (Mi.75) at the mouth of the Siret continued as a station for the fleet and renewed construction at several places in the area of the delta has been dated to the last quarter of the third century A.D.

In the longer term the loss of Dacia had profound consequences for the Roman position on both the middle and lower Danube. Along the two sections where the river passed through ranges of hills, the Danube bend in Pannonia between Esztergom and Budapest and the gorges in Serbia below Belgrade, the level of surveillance was increased from the Tetrarchy onwards by new forts and large numbers of closely-spaced watchtowers. Between these two areas, where the river traverses the open plain, there is a general absence of new fortifications along the Roman bank datable to this period. Instead several landing-stages with flanking walls and towers were constructed along the far bank and there are a small number of new forts of late Roman design in Sarmatian territory beyond the river. This state of affairs is seen as a new Roman strategy by which the lands of their Sarmatian allies were defined by the earthworks that run across the Hungarian plain and are connected to the Danube at either end at places where late forts were constructed on the left bank, at Gőd (Pi.2) below the Danube bend and at Kovin (Ms.11) facing the mouth of the Morava in Moesia Superior. The purpose of these earthworks (Ördögárok or 'Devil's Dyke') was to mark territory regarded as being under Roman protection from that of the German groups who had moved into Dacia since the Roman evacuation. The most likely occasion is the Sarmatian campaigns of Constantine after A.D. 324 or possibly those of his son Constantius II in A.D. 358. Moreover a similar definition of protected territory beyond the lower Danube is indicated by an earthwork of the same character (Brazda lui Novac) that crosses the plains of Oltenia and Wallachia between Drobeta (Ms.50) and the delta. As with Pannonia this arrangement is likely to have originated in the reign of Constantine, who bridged the Danube near Oescus and constructed at least one new fort, Daphne (Mi.37), on the left bank of the river near the mouth of the Argeș.⁹¹

In the forts along the middle Danube the only significant innovation of the early fourth century A.D. appears to have been the addition of fan-shaped external corner towers to the perimeters of existing forts.⁹² Around this time also two of the larger cavalry forts, Gerulata (Ps.15) and Arrabona (Ps.22), were reduced in area by a wall across the rear part of the fort (*retentura*). In Moesia two new designs of fortification appear under the Tetrarchy, a fortlet or tower (*praesidium*) with a central supporting pier and a larger square fort with massive square towers attached to the corners (*quadriburgium*). There was also extensive reconstruction of existing forts, both in the area of the gorges and

⁹⁰ Recent contributions on the end of Dacia include G. Gazdac, *Limes XVIII* (op. cit. (n. 17)), 737–56; and I. B. Cătănciu, *ibid.*, 719–36; P. Hugel, *Limes XIX* (op. cit. (n. 17)), Abstracts 39; D. Ruscu, *Acta Mus. Nap.* 35 (1998), 235–54 and 37 (2000), 265–75. Forts repaired along the St George arm of the delta include Salmorus (Mi.85), Aegyssus (Mi.81), and Novidunum (Mi.78). The late forts between the Utus and Durostorum are listed by R. Ivanov, *Limes XVII* (op. cit. (n. 17)), 507–22. Epigraphic evidence for new tetrarchic fortification has come from several places along the lowest section of the river, M. Zahariade, *Limes XIX* (op. cit. (n. 17)), Abstracts 101–2, and there is now evidence for the same phase at Chersonesus (Mi.96) in the Crimea.

⁹¹ The basic studies remain Soproni, op. cit. (n. 20, 1978 and 1985). On the counter-fortifications on the Ripa Sarmatica see G. Bertok, *Limes XVI* (op. cit. (n. 17)), 165–72. No new evidence has accrued to cast doubt on the general view that the earthworks across the Hungarian plain are of tetrarchic or, more likely, of Constantinian date, E. Istvanovits and V. Kulcsar, *Limes XVIII* (op. cit. (n. 17)), 625–8.

⁹² Among legionary bases fan-shaped towers are known only at Carnuntum (Ps.13) but appear in several auxiliary forts in Noricum, including Mautern (N.39), Traismauer (N.45), Tulln (N.52), and Zeiselmauer (N.54), and at many forts in Pannonia, listed by Visy, op. cit. (n. 20, 2003), 117–21.

further west in the direction of Belgrade.⁹³ At the site of Trajan's bridge below the gorges, what seems to have been a civilian occupation of Kostol (Ms.49) that continued well into the fourth century A.D. has been linked with the arrival of refugees from Dacia beyond the Danube.

A final phase in the Roman military cordon along the middle Danube is linked with the operations of Valentinian against the Sarmatians and Suebic Germans and is marked by new construction in the forts and by a new series of watchtowers. It seems possible that the security arrangement based on the earthworks had by now ceased (it will certainly not have survived the disaster of Hadrianopolis in A.D. 378) and that the bulk of Roman forces were based along the river. At the same time it has been argued that occupation of some of the forts across the river linked with the earthworks continued, including Góđ (Pi.2) and Hatvan (Pi.3), though by whom is not clear. Some of the fortified landing-places were also retained but now modified to function as watchtowers (c. 10 by 10 m). There was also a concentration of forces in the south around the river crossing at Lugio (Pi.39). The most distinctive innovation of this period on both the middle and lower Danube was the construction of small fortifications with massive enclosing walls in one corner of the older auxiliary forts. Many of the smaller towers were now given up and only the larger ones within a walled enclosure continued to be occupied. In Pannonia the general frailty of the river cordon is linked with the appearance of new fortifications in the interior, either in the form of new walls for the major towns such as Scarbantia (RIII.25), Savaria (RIII.24), and Sirmium (RIII.43), or new large perimeter fortifications at Fenékpuzsta (RIII.77), Alsóhéteny (RIII.89), and Ságvár (RIII.90), designed to contain large numbers of people and their moveable goods; these continued to be occupied into the following century. In Moesia new fortifications were still being added under Valentinian in the area of the gorges but in this area the picture is complicated by the re-occupation of many forts in the late fifth and sixth centuries.⁹⁴

By now the character and composition of communities along the Danube was much altered even from what it had been a century before. That change seems to be illustrated by the cemetery at Klosterneuburg (Ps.1) where there was a form of cohabitation between Romans and Germans — the latter perhaps *foederati* — that continued well into the fifth century A.D. Beyond the Danube north of Vienna a large residence resembling a Roman villa in the fortified Oberleisburg (Ps.57) has produced a mixture of Roman and German material dating from the end of the fourth century A.D., prompting a suggestion that this was one of the centres of the Marcomanni settled along the river between Klosterneuburg and Carnuntum. The last decades of the fourth century saw the end of the unified Roman Danube, a finality in the case of its middle course in Noricum and Pannonia. The restoration of Roman control along the lower Danube in the late fifth and sixth centuries marks the start of a new era as the first of a long succession of advances and withdrawals that form part of the history of Byzantium's Balkan frontier.⁹⁵

⁹³ P. Petrović, *Limes XII* (op. cit. (n. 17)), 757–73. *Praesidia*: Hajdučka Vodenica (Ms.41), Donje Butorke (Ms.47), Rtkovo (Ms.52), Ljubičevac (Ms.57), and Mora Vagei (Ms.61). *Quadriburgia*: Ravna (Ms.34), Porečka reka (Ms.36), Tekija (Ms.42) and Sip (Ms.44), and in the west at Pincum (Ms.17) and Cuppae (Ms.19). Late fortifications are also known at Viminacium (Ms.14), Seona (Ms.9), and Margum (Ms.13).

⁹⁴ Late fortifications in the angles of earlier forts include in Noricum, Wallsee (N.20), Mautern (N.39), and Zeiselmauer (N.54), and in Pannonia, Carnuntum (Ps.13), Brigetio (Ps.30), Arrabona (Ps.22), Odiavum/Azaum (Ps.35), Crumerum (Ps.37), Visegrád-Sibrik (Ps.48), and Cirpi (Ps.52). Similar constructions are known on the lower Danube at Nova Cherna (Mi.35), Durostorum (Mi.49), and Capidava (Mi.63). New forts in Moesia include Saldum (Ms.26) and Malo Golubinje (Ms.37), and massive new towers were added to the existing forts at Mihailovac (Ms.60) and Bordžej near Radujevac (Ms.64). For the late fifth–sixth-century occupation see P. Petrović and M. Vasić in Petrović, op. cit. (n. 22, 1996), 22–3.

⁹⁵ On this topic see now P. Stephenson, *Byzantium's Balkan Frontier: a Political Study of the Northern Balkans* (2000), 900–1204.

V SETTLEMENTS AND BURIALS

In comparison to that directed to the settlements associated with military camps along the Danube and in the immediate hinterland, there has been, with one or two notable exceptions, little attention given to the larger urban centres of the interior. The history and remains of the cities of Noricum are now fully described in the volume edited by M. Šašel Kos and P. Scherrer — the Claudian *municipia* at Virunum and its predecessor on the Magdalensberg (RII.16–17), Celeia (RIII.14), Aguntum (RI.47), Iuvavum (RII.13), Teurnia (RII.6), the Flavian *municipium* at Solva (RIII.57), the Hadrianic *municipia* at Ovilava (RII.32) and Cetium (N.40), and the Caracallan frontier city at Lauriacum (N.16). No comparable survey exists for any other Danubian province or region.

In Dalmatia the major centres of Salona (RIV.11) and Narona (RIV.37) continue to be explored and the first part of a corpus of the latter's inscriptions has appeared. Problems persist regarding the location of Malvesia (RIV.50), at Skelani in the Drina valley or further east in the Užice region of the western Morava valley. In Pannonia recent studies have revealed more of the topography of the early cities on the Amber route, the Claudian colony Savaria (RIII.24) and the Flavian *municipium* at Scarbantia (RIII.25). The inscriptions of Neviodunum (RIII.29) form the first part of the corpus of texts from the territory of Slovenia. The problems of the later development of cities in the interior of Pannonia have been examined recently with reference to the *municipium* Volgum (RIII.77), and there is a useful general account of the remains at Sopianae (RIII.78), capital of the later province Valeria. For Macedonia the sites of several places on the road between Thessalonica (RVI.12) and Scupi (RVI.21) have been examined, with new locations suggested for Bylazora (RVI.19), Antigoneia (RVI.16), and Stenas (RVI.15). The evidence for the emergence of urban centres in inland Thrace and Illyria during the Hellenistic period, including Philippopolis (RVI.19) and Cabyle (RVI.42), has recently been reviewed.⁹⁶ In Moesia Inferior the defences and major buildings of the colony Oescus (Mi.12) continue to be the subject of publications though not of large-scale excavation. The major Anglo-Bulgarian excavations at Nicopolis ad Istrum (RVI.41) have revealed the history and character of the *castrum* constructed in the middle of the fifth century and some new detail of the development of the agora complex and of the defences of the Trajanic city in the second and third centuries A.D. There is also a survey of the history, topography, and defences of Pautalia (RV.28) in western Thracia. For the Black Sea cities of Moesia and Thrace there is now the useful catalogue of classical *poleis* from the Copenhagen centre, also a study of the history and political organization of the western Pontic cities, a collective account by Romanian scholars of the history and remains of Histria (RVII.18), and a study of the territory of Callatis (RVII.9) as defined in the reign of Trajan.⁹⁷ For the Bosphorus region there is a study of the impact of landscape changes on settlement on the Pontic coast, focusing on Olbia (Mi.94), and in the same volume reviews of recent work in Ukraine on the cities of Tyras (Mi.91) and Chersonesus (Mi.96). In Dacia the remains of Ulpia Traiana Sarmizegetusa (D.17), the original colonial settlement out of whose territory it seems that most of the later *municipia* developed, have been the scene of large-scale excavations that have radically altered the interpretation of the major public buildings.⁹⁸ There has also been new work on the civil areas of Porolissum (D.24), its population, economy, cults, and major buildings. It now seems clear that the absence in Dacia of native 'proto-urban' centres comparable with those in other provinces is to be explained by the major role played by the *vici* attached to permanent military stations for the provincial population as a whole. Several of these, for example Samum (D.26) on the

⁹⁶ Chr. Popov, *Urbanisierung in den inneren Gebieten Thrakiens und Illyriens im 6–1 Jahr. v. Chr.* (2002).

⁹⁷ A. Avram, J. Hind and G. Tsetschladze in M. H. Hansen and T. H. Nielsen (eds), *An Inventory of Archaic and Classical Poleis* (2004), 924–73; K. Nawotka, *The Western Pontic Cities: History and Political Organisation* (1997).

⁹⁸ I. Piso, *Ephemeris Napocensis* 5 (1995), 63–82 (AE (1995), 1280).

northern perimeter, have recently been excavated, with the remains and finds reflecting their quasi-urban role for the region, both administrative and economic. One settlement apparently not linked with the military deployment is Feldioara-Marienburg (D.41) north of Braşov, where the remains indicate continuity of occupation in a naturally fortified site through the prehistoric, Roman, and medieval periods.

The private provision of public amenities (euergetism) has been the subject of recent studies, for Salona (RIV.11), Histria (RVII.18), Ulpia Traiana Sarmizegetusa (D.17), and the province of Dacia in general. Using parallels from other Trajanic colonies in the Empire, it has proved possible to restore the original forum dedication at Poetovio (RIII.18) as the traditional 'gift' of the emperor, in this instance Trajan, between A.D. 103 and July 106. The same element has also been identified for the original Trajanic forum of Ulpia Traiana Sarmizegetusa (D.17), formerly identified as the 'shrine of the Augustales' (*Aedes Augustalium*), on which a major monograph is due to appear. In addition to the original complex, a second precinct contained the colony's Capitolium and, in accordance with arrangements elsewhere, a third forum-type precinct that enclosed the altar of the imperial cult for Dacia lay outside the bounds of the city. Recent discoveries here also include the lead pipes of the colony's water-supply dating from the period of Trajan and Hadrian. There has also been a recent study of the aqueduct constructed in the second century A.D. that conveyed water for a distance of 14 km from the Fruška gora to the Flavian colony at Sirmium (RIII.43), of which traces were first observed by Marsigli at the end of the seventeenth century. In Dacia there has been a monograph on the three known amphitheatres of the province at Micia (D.18), Porolissum (D.24), and Ulpia Traiana Sarmizegetusa (D.17).⁹⁹ The amphitheatre of Virunum (RII.16), which has an unusual elongated plan, has recently been examined; fragments of a marble plaque record its renovation, probably in the time of the Severi (A.D. 198–209), by the magistrate (*Ilvir*) Sextus Sabineus Maximus ('muros amphitheatri opera tectorio renovavit item aditus et portas novas de suo fecit').

The condition and even the continuing existence of many of the lesser urban centres during the fourth century A.D. remain uncertain. One view sees their function as no more than local administrative agents of the provincial authorities, though in the lower Danube region there is more tangible evidence for their existence, as for example at Ratiaria (Ms.73) or Augustae (MI.3), though not necessarily for their continuing role as a local social and economic centre. There is no doubt that many places, especially those on or near the major roads, will have had a military function, as has been shown for several major settlements in the territory of Slovenia, including Emona (RIII.9), Neviodunum (RIII.29), and Poetovio (RIII.18).¹⁰⁰

The remains of several road stations (*mansiones* and *mutationes*) have been located and investigated, notably in the eastern Alps. Along the Amber route these include Ad Pirum (RIII.5), at the summit of the Julian Alps, Nauportus (RIII.7), already a transit centre in pre-Roman times, Halicanum (RIII.21), and Sala (RIII.23) where the settlement that grew up following the removal of the military garrison was later incorporated as a city (*municipium*). In Noricum these settlements, on major roads and elsewhere, such as Gleisdorf (RIII.57), the textile-producing centre at Kalsdorf (RIII.57), Kugelstein (RIII.58), Immurium (RII.8), Gabromagus (RII.28), Mösendorf (RII.45), and Oberdrauburg (RI.47), generally exhibit a similar pattern of development. In the first and early second centuries A.D., the time when long-distance traffic to the camps along the Danube was at its height, the finds reflect the passage of imports. Later there is often a contraction but the settlements continued, serving a more localized role for the surrounding communities. A similar

⁹⁹ On euergetism in Dacia: AE (1995), 1279 (L. Ţeşosu-Marinescu) and (1998), 1071 (R. Ciobanu). D. Alicu and C. Opreanu, *Les amphithéâtres de la Dacie romaine* (2000). On the spectacles, AE (1996), 1271 (C. Opreanu).

¹⁰⁰ A. Poulter, 'The use and abuse of urbanism', in J. Rich (ed.), *The Late Roman City* (1992), 99–135. On the military role of settlements in Slovenia, I. Siveč, *Limes XVII* (op. cit. (n. 17)), 663–5.

function was served by the road station at Idimum (RV.39) in Moesia Superior on the main road between Naissus and Viminacium. Here the role of the settlement for traffic and supplies to the Danube garrisons and settlements continued into the fourth century A.D. The totals of coins recovered from the site far exceed those for other sites in the area and match those of road stations in the frontier zones of other provinces. A similar state of affairs is suggested for the road stations in the hinterland of the lower Danube, for example Carassura (RVI.23) on the Balkan highway between Philippopolis and Hadrianopolis, from which the coin lists run from the fourth to the seventh centuries. This prolonged role in long-distance traffic is also evident in the settlements recently examined in the mountain section of the road between Philippopolis (RVI.19) and Oescus (Mi.12). Where it can be observed, the development of settlements in more remote locations appears to be different. In Noricum east of Salzburg there was a small settlement, perhaps a single dwelling, in the early Roman period on the Gotschenberg near Bischofshofen (RII.13) but from the third century A.D. onwards there was a rapid expansion into a small defended hill town that survived until the seventh century. A similar pattern is apparent among the many hill settlements in the territory of Slovenia.¹⁰¹

For rural settlement in general the current state of affairs for Noricum and the Austrian area of Pannonia Superior is fully described in the recent volume by V. Gassner and others (see n. 4), along with a detailed bibliography. Rural settlement of the early Roman period in the Dobrudja region has been the subject of a recent catalogue registering 258 sites, including 68 identified as *villae rusticae*. In the north-east area of the province of Dalmatia, around the middle and lower course of the river Drina, the current picture of Roman settlement, based almost entirely on inscriptions and burials, is reviewed in the recent study by R. Zotović. The isolated but well-appointed *villa rustica*, that most distinctive Roman imprint on the rural landscape, continues to attract attention in many areas though nowadays less in isolation from its local context than was the case. There are recent registers of identified villas for Noricum and for the Danube-Balkan province, the latter a pioneering effort for a region where few syntheses have been available.¹⁰²

In Pannonia the problem of the transition from local La Tène settlements to a Roman pattern continues to attract attention, notably in a succession of studies by D. Gabler. The impact on local settlement of the arrival of large numbers of Roman troops along the Danube appears now to have been less than was believed to be the case in the past, as archaeologists are now less willing to rely on simple external explanations for the end of this or that settlement. This is all the more the case for the interior of the province where even the longer-term effects of being in the Empire for centuries are in some areas hard to detect. Beyond the Pannonian Danube the nature and function of the stone buildings resembling villas is still a topic for discussion. The evidence of finds, including coins, pottery, and brick stamps, suggests an occupation over a long period, with a peak in the early third century A.D. that matches the pattern of many sites on the Roman side of the river. There now seems little doubt that the Pannonian 'Vorland' across the Danube was an intermediate or third zone between province and *barbaricum* in which highly productive areas were exploited through a villa system not very different from that known on the Roman side. A similar pattern is suggested by the excavation of settlements in the territory

¹⁰¹ S. Ciglencčki, *Hohenbefestigungen aus der Zeit vom 3. bis 6. Jh. im Ostalpenraum* (1987).

¹⁰² M. Barbulescu, *La vie rurale dans la Dobroudja romaine (Ier–IIIe s. ap. J.-C.)* (2001); R. Zotović, *Population and Economy of the Eastern Part of the Roman Province of Dalmatia*, BAR int. ser. 1060 (2002); H. Bender and H. Wolff (eds), *Landliche Besiedlung in den Rhein-Donauprovinzen des römischen Reiches*, Passauer Univ. zur Arch. 2 (1994); St. Traxler, *Römische Guts- und Bauernhöfe in Oberösterreich*, Passauer Univ. zur Arch. 9 (2004); L. Mulvin, *Late Roman Villas in the Danube-Balkan Region*, BAR int. ser. 1064 (2002).

of the Quadi where the structures are of German rather than Roman design but where the finds, including domestic pottery, are of Roman character.¹⁰³

What was once the highly contentious topic of the Roman impact on the native population of Dacia is now being more rationally addressed by analysis of an increasing body of evidence for rural settlement recovered by various methods, including aerial photography. The debate is no longer conducted between the extremes of systematic elimination and symbiotic harmony. The broader role of the *vici* at Roman forts, with their many highly visible groups of immigrants, as centres of production for the local economy as a whole is being revealed through excavation, of which a valuable survey by A. Oltean is now available. There is also some significant new evidence for communities bordering the Roman province. In the area of Arad, on the west of the province, settlements identified as belonging to the once semi-nomadic Sarmatians suggest an increasing sedentarization, beginning in the second century A.D. and continuing into the fourth. On the north-west frontier of Dacia the move to abandon hillforts had already taken place by the first century A.D., some time before the Roman occupation of the province. In the late second century new groups with more weapons appear in the area and have been identified with the German Buri, whose move into this area took place with Roman approval. Settlements now appear within 500–700 m of the barrier at Porolissum and even closer to some of the watchtowers in the Meseş hills. Signs of contact with the Roman province appear in a number of settlements that, it is suggested, belonged to Dacians and Buri and also to the first groups of Vandali to reach the area. An assimilation of Dacians and Germans took place during the third century A.D. Settlements on terraces above the Crasna valley reflect increasing contacts between the Dacian population and the Roman province during the second century.¹⁰⁴ South of the lower Danube a survey of the hinterland south of Novae (Mi.18) and Iatrus (Mi.24) has recorded 119 sites occupied in the early Roman period and 150 in the later period, with little change in the pattern of settlement discernable between the second and fifth centuries A.D. Villas recorded in the vicinity of Novae appear to exhibit a regular spatial planning of the countryside that prevailed until the shocks of the Hunnic period when most occupation was confined either to the Danube forts or to the defended sites of the interior.¹⁰⁵

While it may be that the memorials for Galerius and his Caesar Maximinus in the remote hills of eastern Serbia are perhaps the most significant burial finds from the Danube region, it is the single princely grave at Mušov (Ps.55) in the Pannonian Vorland that seems to have attracted most attention. The question recently posed ‘friend or foe’ sums up the argument over the context of this remarkable find.¹⁰⁶ In general the excavation of cemeteries now involves more than the simple procuring of intact and portable objects suitable for museum display (though an illicit trade does persist in some places). One welcome development has been the investment of time and effort in the publication of finds obtained from earlier cemetery excavations, sometimes in very large quantities, one example being the large cemetery at Histria (RVII.18) retrieved during rescue excavations more than forty years ago. When properly examined the contents of a cemetery can display the character of its associated community more vividly than any other relics. Examples include that of the isolated alpine community at Salurno (RI.11) south of the Brenner or that at Dietringen (RI.18) on the Via Claudia Augusta in the Lech valley engaged in the

¹⁰³ D. Gabler, *Limes XV* (op. cit. (n. 17)), 424–31; and in Tejral-Pietá-Rajtár, op. cit. (n. 7, 1995), 63–81; S. Jilek, *Limes XVII* (op. cit. (n. 17)), 122–3. Beyond the Danube: T. Kolník, *Limes XIV* (op. cit. (n. 17)), 779–87; K. Elschek, *Limes XVI*, 226–32; V. Varsík, *Limes XVII*, 629–42 and *Limes XIX*, Abstracts 96. For the hinterland of Carnuntum, H. Zabečlický, *Limes XVII*, 623–7.

¹⁰⁴ I. A. Oltean in Hanson and Haynes, op. cit. (n. 16); M. Barbu, *Limes XIX* (op. cit. (n. 17)), Abstracts 11–12 (Arad area); I. Stanciu and A.V. Matei, *Limes XIX*, Abstracts 89–90 (settlements west of Meseş hills); H. Pop, E. Pripon and Zs. Czok, *Limes XIX*, Abstracts 73–4 (Crasna valley).

¹⁰⁵ S. Conrad, *Limes XIX* (op. cit. (n. 17)), Abstracts 21.

¹⁰⁶ C. von Carnap-Bornheim, *Festschrift Tejral*, op. cit. (n. 7), 59–65.

production of textiles. In the Adriatic hinterland of Dalmatia an epitaph in the small cemetery at Imotski (RIV.29) reveals a surprising link with Germany. Cemeteries recently published from the Danube hinterland in Noricum include Bedaium (RII.40) and Leonding on the frontier road near Linz (N.15), the latter containing seven cremations and three inhumations of the second to third centuries A.D. In the south of the province there are family tombs near Klagenfurt (RII.16) and a larger cemetery at Katsch in the territory of Solva (RIII.57), where several other cemeteries are known. The well-known monuments in the cemetery at Sempeter near Celeia (RIII.14) preserved by a flood of the river Sava continue to attract attention as one of the most vivid records of a native Roman élite, in this instance of Claudian Celeia. The great western cemetery at Poetovio (RIII.18) is now published after around a century in the museum store at Graz, and that at Praetorium Latobiorum (RIII.27) on the road between Emona and Siscia is also now fully published. After twenty years the catalogue of Roman cemeteries from the territory of (former) Yugoslavia compiled by A. Jovanović remains a useful point of reference.¹⁰⁷ Recent additions to the list include the cemeteries at the legionary fortresses and towns of Singidunum (Ms.4) and Viminacium (Ms.14). The contents of the cemeteries at Sase can be related to the growth of the mining town Domavia (RIV.51) in north-east Dalmatia; along with others from Municipium S. (RIV.47) and Malvesia (R.50), they have been examined in detail by R. Zotović (see n. 102). Chamber tombs of eastern design at the fort of Intercisa (Pi.24) in Pannonia Inferior can be linked with the Syrian auxiliaries stationed there following the Marcomannic wars. In the same area recent excavations at Matrica (Pi.18) have revealed a Hunnic grave dated A.D. 380–430. Beyond the Danube a cemetery in the upper Tisza basin at Tiszadob-Sziget has been identified as belonging to Sarmatian groups in the period immediately prior to the arrival of the Huns (late fourth to early fifth century).¹⁰⁸ Publications continue to appear on the rich and varied cemeteries at Carnuntum (Ps.12–13), and the same is the case for those at Gerulata (Ps.15) a little downstream. A major report on the two large cemeteries at Mautern (N.39), both c. 500 m from the fort, reveals their different characters. Most of the 330 inhumations from the east cemetery, commencing in the second century A.D., have few or no grave goods of the sort found in either Roman or German graves of the fourth century. The earliest remains in the south cemetery date from the end of the third century A.D. and it continues in use into the middle of the fifth century. In the south the inventory of graves in the Croatian area of Pannonia includes wagon burials (comparable with that west of Budapest at Zsambek (RIII.84)), tumulus burials, and level cemeteries.¹⁰⁹ A tumulus in Pannonia north of Lake Balaton (RIII.80) has produced several inscribed stelai recording enfranchised Roman citizens (Ti. Claudii), including a decurion of the Claudian colony at Savaria, who may have been linked with the nearby villa at Baláca. It has been suggested that groups of tombs were placed along the main roads in Pannonia Inferior to attract the attention of passing travellers.¹¹⁰ Their contents indicate a continuing tradition of placing large quantities of items in the grave, until the arrival of new groups in the area around the end of the first century A.D. In the matter of orientation the graves of an early fourth-century rural cemetery at Deutschkreutz (RIII.25) in Burgenland west of Scarbantia, containing fifteen inhumations of males, females, and children, confirm an earlier observation that the burials at *vici* and isolated villas were generally aligned from the sky while those in towns generally followed the line of roads or similar local alignments.

Several of the larger published cemeteries have been examined for their external associations and for the identification of intrusive ethnic elements. In the case of the extensive

¹⁰⁷ A. Jovanović, *Rimske nekropole na teritoriji Jugoslavije* (1984).

¹⁰⁸ E. Istanovits, 'Das Graberfeld aus dem 4–5 Jahrhundert von Tiszadob-Sziget', *ActArchHung* 45 (1993), 91–141.

¹⁰⁹ Z. Demo, 'Burial rite in north Croatia, Podravina, Koprivnica', *Materijali* 20 (1985), 111–25; also Z. Gregl and I Šarić in *Croatian Arch. Soc.* (n. 10, 1990) (on tumulus burials in Croatia).

¹¹⁰ L. Nagy, *Alba Regia* 31 (2003), 7–13.

Emona (RIII.9) cemeteries the dominance of Italian influence during the early generations of the *colonia* later gives way to influence from the Western provinces, despite the fact that from the Flavian or Hadrianic period the city was formally a part of Italy. An examination of the Poetovio cemeteries (RIII.18) concluded that there was little evidence of Roman influence emanating from the first-century A.D. military garrison in the area and in the later colonial period few indications of any association with centres along the Danube. The presence of different ethnic groups has been identified in the early cemeteries at Sirmium (RIII.43). Pre-Flavian burials in the east cemetery include army veterans of Celtic origin and local Romanized Illyrians. Cremations in the west, south-west and north-east cemeteries of the first to mid-second centuries A.D. are identified as representing the local Illyrian Amantini. Further east in Moesia Superior Dacian forms in early burials at locations along the Danube, including Viminacium (Ms.14), Boljetin (M.30) and Dobra (Ms.32), have been linked with the organized transportations of Dacians that are recorded to have taken place under Augustus and Nero.¹¹¹ Similar discussions have concerned the contents of the Pannonian cemeteries. Here the population was predominantly Celtic (Boii, Arabiates, and Eravisci), with Illyrian Azali transported from the south to the Brigetio area under Tiberius. This was followed by the settlement of Vannius and his followers from the German Quadi beyond the Danube in the area of Lake Balaton around the middle of the first century A.D. The dominant burial rite is cremation with local variations, including the use of grave pits and the ways of depositing the remains. A general conclusion is that Celtic elements continued to be dominant in the north and Illyrians in the south, with grave goods indicating increasing differences in wealth. The evidence of brooches has been used to define Celtic Eravisci from local Pannonian-Illyrian and South-west Pannonian groups. Non-Roman materials begin to appear in Roman graves from the early fourth century A.D. Many of the cemeteries continuing in use after Valentinian contain bone combs, chessboard (Sarmatian) brooches, silver hair pins, etc., indicating Suebic Germans. The last identifiable Roman groups had disappeared some time before the end of the fifth century A.D.¹¹²

VI PRODUCTION AND TRADE

Studies of plant and animal remains from the region are now being undertaken at a number of sites but as yet the results are fragmented with few overall patterns emerging. The hunting and the domestication of animals in Noricum has been the subject of a recent exhibition at Klagenfurt. The procuring of Paeonian bulls (bison) at Montana (Mi.4) for the Roman anniversary games under Pius has already been noted. The large deposit of human and animal bones, including those of horses, recovered from a ditch at Mušov (Ps.55) is judged to be a relic of the Marcomannic wars. The examination of harness, bits, and bridles, illustrated by remains from wagon burials in Pannonia and Dacia, has led to the identification of Celtic and Roman types.¹¹³ In the area of textile production major centres have been identified in the eastern Alps, at Dietringen (RI.18) in the Lech valley on the Via Claudia Augusta and at Kalsdorf north of Graz (RIII.57). Here 131 lead tags inscribed with names in cursive were connected with the production and processing of cloth (*fullonicae*). Bone was, it can be assumed, widely used and a large quantity of worked objects was collected from the older excavations at Brigetio (Ps.30). The value of plant and faunal remains for determining not only the diet but also the fuels and construction materials used in the military and civil communities along the Danube has been demonstrated in both Pannonia, at the bridgehead fort Celamantia (Ps.32) opposite

¹¹¹ A. Jovanović, *Materijali* 20 (1985), 127–40.

¹¹² J. Topál, *Limes XVI* (op. cit. (n. 17)), 537–45.

¹¹³ S. Palágyi, *Limes XIII* (op. cit. (n. 17)), 389–97; XIV, 575–81; XVI, 467–71; C. Gazdac, *Limes XVII*, 743–53 (for Dacia).

Brigetio, and on the lower Danube at Iatrus (Mi.24), where a large quantity of animal bone (2,241 items) was recovered, and also at the legionary fort of Novae (Mi.18). A comparative analysis of the remains from the latter and from Chersonesus (Mi.96), including Balaklava, in the Crimea, indicates the problems of sustaining a newly arrived legion in an area where the economy was based mostly on livestock and fishing. For around half a century it seems that supplies were conveyed from the west but by the early second century A.D. older supply routes had been revived to obtain more and more supplies from the Black Sea region and from the Aegean. Basic rations of grain and oil were conveyed to these places, though in the Crimea the latter was replaced by lard. In due course grain was produced locally in both areas and the lower Danube was supplied with quantities of salt fish; this was obtained from the Bosporan kingdom and oil was imported from Asia Minor. Cattle were bred at Novae (34 per cent pig, 19 per cent cattle) and fish were consumed (20 per cent). In the Crimea the proportions were significantly different (65 per cent sheep/goat, 30 per cent cattle, and pigs only 4 per cent). Here the locally bred animals were significantly smaller than those reared at Novae. Oil from Spain and wine from Italy reached both centres but never, it seems, in any significant quantities.

Neither the art nor the architecture of the Danube provinces figures prominently in the overall picture for the Empire as a whole, and in many instances they tend to be ignored more or less completely, with the exception of a few choice items such as Trajan's Danube bridge or Diocletian's retirement villa near Split in Dalmatia. At Carnuntum (Ps.12) the still-standing great four-way arch (Heidentor) has been dated on the evidence of spolia recovered from the structure to the last decade of Constantius II (A.D. 351–361) and may have been erected to mark the successful conclusion of campaigns against the Sarmatians. At Aquincum (Pi.5) it has proved possible to reconstruct the imposing façade of the principal gate (*porta praetoria*) of the fortress on the evidence of an architrave and pilaster capital recovered from the fortress ditch. On the lower Danube the ornate architecture of the forum in the Trajanic colony at Oescus (Mi.12) remains exceptional for the area. At Novae (Mi.18) the baths of the fortress, dated A.D. 130–160, were based on the gymnasium type common in the cities of Asia Minor and the influence may have come in the first instance from the Greek-speaking city of Nicopolis ad Istrum founded by Trajan following the Dacian wars. Several sets of baths, both public and private, have been identified in recent excavations of the *canabae* at Durostorum (Mi.49). Another example of eastern influence in architecture appears in the wall construction (*emplekton*) using orthostats in the fourth-century fort at Sacidava (Mi.58). Specific architectural elements have recently been the subjects of study, including Corinthian and non-Corinthian capitals at Carnuntum (Ps.12–13) and in the rest of Pannonia, and also palm-capitals in Dacia.¹¹⁴ The late antique and early Christian architecture in Dalmatia has been the subject of a major study (see n. 12), linked with recent work on the major Christian remains at Salona (Riv.11). For Noricum most of the figured sculpture is now catalogued in volumes of the international standard series (*CSIR*, see n. 29), while that from Histria (Rvii.18) is the subject of one of the series of monographs devoted to the remains of the city.

At Carnuntum (Ps.13) the different manifestations of the god Jupiter between the official *Optimus Maximus* in the precinct on the Pfaffenberg hill and that in the shrine of the Syrian Jupiter Heliopolitanus in the precinct of eastern gods attached to the *canabae* are fully represented in the surviving cult statues, presumably locally produced. At Lauriacum (N.16) the command area of the legionary base in the fourth century A.D. has been inferred from the distribution of a distinctive ('three-figure') relief sculpture produced there found up to a distance of 25 km away. A distinctive tradition of portraiture has also been identified on the lower Danube around Durostorum (Mi.49). Despite the absence of high-quality stone in many areas, the Danube region displays a rich diversity in types of grave monument. These have been catalogued for Noricum as have the figured monuments

¹¹⁴ Em. Bota, *Acta Mus. Nap.* 36 (1999), 163–8.

of Moesia Superior which show strong influences from Macedonia during the middle Roman period.¹¹⁵ In Pannonia traditions in the design of military monuments have been identified, one originating from Italy or the Rhineland, notably at Intercisa (Pi.24) and at Gorsium (RIII.91), the other of local origin common at Carnuntum and Aquincum. In Dacia a subject of recent study has been the details of dress and equipment of military figures on grave monuments, and in Pannonia the popularity of rosettes and lunettes.¹¹⁶ A comprehensive classification of grave monuments has been undertaken by C. Ciongradi in the recent volume on Roman Dacia (see n. 16), and the same scholar has also examined the aniconic stelai from Ulpia Traiana Sarmizegetusa (D.17). Finally there is a new study of the early cylindrical monuments found in the Liburnian area of Dalmatia, based on a study of examples from the area of Asseria (RIV.7).

The most notable addition to the meagre total of wall-paintings from the area is that on the walls of the Mithraic shrine in the tribune's residence at Aquincum (Pi.5), created in the early third century A.D and including scenes of Mithraic ritual and initiation. There has been a reconstruction of the wall-painting found in a residence at Gorsium (RIII.91) and there are new finds from the villa at Baláca (RIII.82) in northern Pannonia. Painting and stucco decoration are among new finds from Singidunum (Ms.4). For mosaics there is now an excellent catalogue of floor-mosaics from Croatia, many of the later period, but for the rest of the territory of the former Yugoslavia there is little to report since the *Materijali* 1978 volume.¹¹⁷ Recent finds of moulds suggest that large-scale production of votive terracotta statuettes, depicting gods, people, and animals, was carried on in Dacia at Tibiscum (D.15) and at Drobeta (Ms.50). For jewellery there is now a catalogue of items found in the forts of Dacia Porolissensis.¹¹⁸

During the past thirty years the rapid advance in pottery studies in the Danube region has provided clear pictures of the importing, distribution, and manufacture of all types of utensil. The emergence of pottery specialists and the increased opportunities for international contacts through colloquia and workshops have all contributed to this progress. The studies of imported fine wares, mainly terra sigillata from Italy and the West, bulk oil and wine containers (amphorae), and lamps can now draw on sites throughout the Danube region. The same is also the case in identifying the production and distribution of local wares through excavations that pay increased attention to the industrial zones of *canabae*, *vici*, and other settlements. Fabric analysis, for both pottery and brick, is now being conducted as a matter of routine in several areas. The value of terra sigillata in the study of military movements and the deployment of individual units in the first and early second centuries A.D has long been acknowledged. For Pannonia the major advances of recent years have been led by D. Gabler; through studies of late Italic sigillata and that from south and central Gaul, a refined chronology has now been established for the Flavian and Trajanic eras, both key periods in the military history of the region.¹¹⁹ This state of affairs also reveals the likely military stations along the major routes to the Danube and provides historical contexts for the large-scale traffic of goods to areas outside the Empire. Pottery dating has also added firm dating evidence for large-scale destructions and demolitions observed in many places, though nowadays there is a reluctance to characterize such events as the deeds of invading tribes. The supply of late North Italian sigillata to the military bases along the lower Danube can be traced though the products of individual

¹¹⁵ C. Kremer, *Antike Grabbauten in Noricum* (2001); N. Proeva, *AE* (1998), 1114 (Moesia Superior).

¹¹⁶ N. Hurpuzeu, *Limes XIX* (op. cit. (n. 17)), Abstracts 39 (Dacian funeral monuments); M. Nagy, *AE* (1993), 1281 (rosettes, etc., in Pannonia).

¹¹⁷ J. Meder, *Podni mozaice u Hrvatskoj 1. od 6. stoljeća* (2003).

¹¹⁸ A. Isac, *Limes XVII* (op. cit. (n. 17)), 755–76.

¹¹⁹ Studies by D. Gabler include: *ActArchHung* 38 (1986), 93–104 (Danube imports and Western imports compared); *RÖ* 17/18 (1989–1990), 87–97 (proportions of TS in pottery imports); in Friesing-Tejral-Stuppner, op. cit. (n. 7), 355–70 (on Marcomannic destruction levels); *ActArchHung* 48 (1996), 49–69 (late Italian TS in Pannonia); 54 (2003), 81–100 (workshop of L. Mag. Vir. producing late Italian sigillata).

workshops in such centres as Singidunum (Ms.4), Viminacium (Ms.14), and Transdierna (Ms.42). Another discovery is that the supply of Gallic sigillata was not simply an extension of the Western system of supply that appears to have stopped at the border of Raetia. Supplies of the late products from Westerndorf were conveyed by river, as indicated by the epitaph of a shipper at Brigetio (Ps.30) who originated from Pons Aeni (RI.36) on the river Inn.

Beyond the Danube it emerges that the large-scale import of fine wares into the Sarmatian plains between Pannonia and Dacia did not begin until after the Marcomannic wars. The earlier traffic across the river into the territory of the Suebic Germans was carried out on a local basis: Carnuntum supplied the Morava/March basin, Gerulata the Gran, and Brigetio the valleys of the Waag/Váh and Nitra. Here the volume of traffic in all kinds of goods increased steadily during the second century A.D. to reach a peak in the early third century, falling away somewhat but still continuing until the end of the century. In Slovakian territory more than 2,000 items have been catalogued from around 200 sites, with some vessels being produced for the local market. Many of the bronze vessels were apparently re-used following repair (356 from 25 sites). A survey of Austrian territory north of the Danube registers terra sigillata beginning in the Flavian period with a concentration along the river March originating from Carnuntum. Other surveys of recent finds have appeared for Mähren and for the Krakow region of southern Poland.¹²⁰ Within the Empire, reports of the pottery finds from both older and recent excavation have been published for Siscia (RIII.31), Sala (RIII.23), Gorsium (RIII.91), and from sites on the Danube at Schlögen (N.8), Lentia (N.15), Mautern (N.39), Vindobona *canabae* (Ps.2), Carnuntum *canabae* (Ps.13), Brigetio (Ps.30) and its bridgehead Celamantia (Ps.32), and Aquincum (Pi.5). On the lower Danube the presence of North Italian and South Gaulish sigillata in the early levels of Novae indicates the initial source of fine wares for the newly arrived legion that was very soon replaced by local products. For the later period the survey of imported and locally produced pottery in the Dobrudja region of Moesia Inferior has illuminated the essentially local distribution of wares from the fourth to the sixth centuries A.D.¹²¹ In Noricum a petrological examination of late pottery from graves at Teurnia (RII.6) and the Hemmaberg has identified local sources for the fabrics.

At Carnuntum (Ps.13) a kiln has been found producing 'legionary ware', a distinctive early production that imitated closely metal and terra sigillata forms and which has been found also at Brigetio (Ps.30), Aquincum (Pi.5), and Novae (Mi.18). This pottery appears to be linked with a group of legions that came to the Danube from the Rhineland (X Gemina, XI Claudia, I Italica, and I Adiutrix) where the tradition of production developed. There have also been several new studies and surveys of the Roman glazed wares produced in Pannonia, recently identified in large quantities in the pre-Trajanic and Trajanic levels of the fort at Diana (Ms.45) in Moesia Superior, and also in the same area at Novae (Ms.23), Ravna (Ms.34), and Transdierna (Ms.42), and in the fourth century at Tokod (Ps.38).¹²² The increased attention to the production areas has resulted in the identification of the sources for locally produced wares in a number of centres, including Magdalensberg (N.17), Ovilava (RII.32), Mautern (N.39), Vindobona (Ps.2), Carnuntum (Ps.12–13), Menföcsanak (RIII.87), near Arrabona (Ps.22), Brigetio (Ps.30), Singidunum (Ms.4), Praetorium (D.13), and Tibiscum (D.15). The continuity of local traditions in the pottery produced in the civil settlements at Roman forts in Dacia points to an indigenous

¹²⁰ D. Gabler and A. H. Váday, *ActArchHung* 44 (1992), 83–160 (imports to Sarmatian plain); K. Kuzmová, *Limes XVI* (op. cit. (n. 17)), 237–9 and XIX, Abstracts 49 (imports among Suebic Germans); K. Elschak, *Limes XVII* (op. cit. (n. 17)), 859–65 (March/Morava basin); E. Krekovič, *Limes XVI* (op. cit. (n. 17)), 233–6 (Slovakia); A. Stuppner in Tejral-Pietá-Rajtár, op. cit. (n. 7), 199–215 (Austria north of the Danube); E. Droberjar, *ibid.*, 21–37 (Mähren); K. Godłowski, *ibid.*, 83–90 (Krakow region).

¹²¹ A. Opař, *Local and Imported Ceramics in the Roman Province of Scythia (4th to 6th centuries AD): Aspects of Economic Life in the Province of Scythia*, BAR int. ser. 1274 (2004).

¹²² For finds of the ware in Pannonia see the contributions to the exhibition catalogue *Glazirte Keramik* (1992); T. Cvjetičanin, *Rei Cret. Acta* 35 (1997), 17–25 on the ware as a late Roman military commodity.

element in the populations, for example at Gherla (D.95), while in the town of Napoca (D.92) pottery continued to be produced in the La Tène tradition of the preceding Dacian settlement. Recent studies have revealed the penetration of Roman provincial pottery among the communities bordering Dacia, but without coins or prestige goods, suggesting perhaps a commodity exchange (salt?) rather than any politically inspired acculturation of the local élite such as is known to have been the case with the Germans to the west.¹²³

Though the use of wooden barrels is well attested, it seems the long-distance bulk traffic in wine and oil used amphorae, many of which bear not only the impressed stamp of their manufacturer but also incised or painted descriptions of their contents. The lower Danube and Dacia depended on supplies from the Aegean via the Black Sea, indicated by a deposit of at least a hundred vessels from Cos, along with a few from Rhodes, in the legionary fortress at Potaissa (D.102). Similar imports are known elsewhere in the province, at Drobeta (Ms.50) and Romula (D.67). At Histria (RVII.18) a recent catalogue lists large numbers from Thasos and Sinope. Five late Roman amphorae from Novae (Mi.18) in Moesia Inferior bear Greek numerals, presumably denoting the volume of their contents, ranging from 43 to 56. Amphorae from forts in the Iron Gate area of Moesia Superior illustrate how the supplies conveyed from a long distance in the early period soon gave way to local products, resulting in changes in military diet reflected in the forms of domestic pottery. In Pannonia the surveys compiled by M. Kelemen have been followed up with several studies by T. Beszeczky, including a comparison of the early finds from Magdalensberg (RII.17) with those from Pannonia as a whole.¹²⁴ The same scholar has also demonstrated, through a study of graffiti and dipinti on garum amphorae, the role of centurions in procuring supplies for their immediate commands. New inventories of amphorae have also been compiled for Iuvavum (RII.13) and Solva (RIII.57). The remarkable range of imports at Magdalensberg continues to grow. Among recent finds is a record that wine of the A.D. 34 vintage arrived there in A.D. 38. The import of wine from different regions of Italy and of oil from the large estates of Istria is also well documented in recently identified dipinti. The earliest stages of this traffic into southern Noricum and beyond have now been documented for Slovenian territory by a study of amphorae and associated black-glaze tablewares.¹²⁵ It seems that the majority of ceramic lamps were, like the oil they consumed, imported, as indicated by large deposits at Magdalensberg (RII.17), Carnuntum (Ps.12–13), and Poetovio (RIII.18). Surprisingly imported lamps reached Dacia, where the use of other lighting materials might be expected, in large consignments and there was some local production early in the Roman occupation of Ulpia Traiana (D.17); some of the many lamps found recently at Mehadia (D.13) may also have been local products of a later period.¹²⁶

Window and bottle glass is fairly widespread in the region and there is evidence for local production at Carnuntum (Ps.12). Most of the vessels recorded tend to be prize items of the late Roman period found in graves; these were certainly imports, such as the gold-encrusted vessel from Lugio (Pi.39) bearing a Christian message ('semper gaudeatis in nomine dei'). The moulded inscriptions on glass containers at Lentia (N.15) recording manufacture at Aquileia may refer to their content rather than to the vessels.

Most of the bricks and tiles with stamps indicating their origin were produced either directly by or on behalf of units of the Roman army, including the fleets. There is little evidence to identify large-scale private or even municipal production during the period

¹²³ M. Negru, *The Native Pottery of Roman Dacia*, BAR int. ser. 1097 (2003); C. Opreanu, *Limes XVI* (op. cit. (n. 17)), 247–52 (imports outside Dacia).

¹²⁴ T. Cvjetičanin, *Limes XIX* (op. cit. (n. 17)), Abstracts 22 (amphorae and food supply in the Iron Gates area); M. H. Kelemen, *ActArchHung* 39 (1987), 3–45; 40 (1988), 111–50; 42 (1990), 147–93; 45 (1993), 45–73 (on amphorae as food containers).

¹²⁵ J. Horvat, *Festschrift G. Ulbert* (1995), 25–40.

¹²⁶ C. L. Bălută, *Act. Mus. Nap.* 33 (1996), 89–113; *AE* (1996), 1273 (imports and local manufacture of lamps in Dacia).

when bricks were being produced and stamped, that is from around the middle of the first century until the late fourth century A.D. Except for a small number of military factories of the later period, few centres of production have been excavated. Among the legionary products in Moesia Inferior, fourteen types have been identified for I Italica, ten for XI Claudia, and eight for V Macedonica (moved away in A.D. 167). Some of these can be dated closely to the Flavian, Trajanic, and Hadrian-Pius periods but the later production only to the century from Marcus Aurelius to Aurelian. It seems clear that some factories may have produced bricks to be stamped by different units, including the Moesian fleet. Despite the large quantities of stamped products in the region, no kilns have yet been located, although the place name Tegulicium (Mi.47) on the Danube west of Durostorum might be related to brick manufacture.¹²⁷ There continue to be many studies seeking to identify supply zones for individual legions or auxiliary units but generally the patterns that emerge are too haphazard, as is the case in Pannonia where attempts to define military territory from the distribution of stamps have now been discarded.¹²⁸ There are cases where the appearance of stamped bricks can furnish primary evidence for military and provincial organization, such as those found at the fort of Drajna de Sus (D.45) and others in the area indicating that the Wallachian plain was occupied by the army of Moesia Inferior from the Dacian wars until evacuation early under Hadrian. In Dacia the products of XIII Gemina bear the names (35 known so far) of those in charge of the *figlinae* somewhere near Apulum (D.101), where, in addition to bricks and roof-tiles, pipes and box-flues were also made. Generally military movements cannot be established on the evidence of stamps alone, and an attempt to revive the old suggestion that all or a part of I Adiutrix was stationed at Apulum from the evidence of a stamped brick should be treated with caution. The same arguments apply to bricks stamped by auxiliary units, often dispersed in several locations. There can be exceptions, as in the case of the stamp ‘n(umerus) M(aurorum) O(ptatianensium)’ which confirms the identification of the fort at Sutor (D.94) with Optatiana. Stamps of the later period are generally more informative, sometimes including the names of military commanders, command areas, and fort names. That is the case with many bricks in the province of Dacia Ripensis and for the forts at Diana (Ms.45) and Drobeta (Ms.50). Another stamp appears to identify the fort on the right bank opposite that at Kostol (Ms.49) as ‘Tra(n)sdrub(eta)’. In Pannonia, where the late stamps for Inferior have recently been catalogued,¹²⁹ an important find has been the discovery of a stamp of ‘figulinas I(u)vensianas leg(ionis) primae Nor(icorum)’ in a circular kiln at Rajka between the forts of Gerulata (Ps.15) and Ad Flexum (Ps.17). A database for the stamp dies and fabric analysis of bricks produced at Vindobona (Ps.2) and Carnuntum (Ps.12–13) has recently been made available on the internet as a point of reference for identifying non-local finds, including the many examples found beyond the Danube. Finally the unpleasant working conditions at the kilns seem to be indicated in an inscription on a brick from Ulcisia Castra (Pi.1) near the Danube bend referring to the long life that can be expected by one (overseer?) who enjoys a ‘special position’ (*officium dedicatum*).

Most of the marble used in sculpture and in architecture, externally and internally, in the Danube region was imported, in the case of the lower Danube in large quantities from Proconnesos, the island in the Sea of Marmara. A recent contribution to a conference on the creation of art has drawn attention to the use of local marbles, notably that from the eastern Alps in Carinthia.¹³⁰ Quarries for local stone in Dacia and the evidence for the extraction of salt have also been the subjects of recent studies. The role of mining and metalworking, long acknowledged as major elements in the Danube provinces, had proved

¹²⁷ T. Sarnowski, *Limes XVI* (op. cit. (n. 17)), 497–501.

¹²⁸ B. Lőrincz, *Limes XV* (op. cit. (n. 17)), 244–7.

¹²⁹ B. Lőrincz, noted in *AE* (1999), 1255.

¹³⁰ B. Djurić, ‘Eastern alpine marble and Pannonian trade’, in B. Djurić and I. Lazar (eds), *Akten des IV. Int. Kolloquiums über Probleme des provinzialrömische Kunstschaftens*, Situla 36 (1997).

difficult to characterize, on account of the meagre remains which were often difficult to date, until the spread of metal analysis opened the possibility of identifying origins.¹³¹ At the same time there has been more archaeological fieldwork on the remains of workings and their associated settlements — iron in the eastern Alps, gold in Dacia, silver and lead in Dalmatia, Moesia Superior, and Thracia. In Carinthia the settlement at Feldkirchen (RII.6) was a major centre of ironworking in Noricum, with finds including a set of weights, ranging from 1 oz to 20 lbs, certified at the Temple of Castor in Rome. The fortress at Ras (RV.6) was a settlement in the remote mining region of southern Serbia throughout the Roman era and the *statio* of a *beneficiarius consularis*. Recent developments involving the gold-mining area of Roşia Montana in the Apuseni mountains of western Dacia have attracted international attention, much of it hostile, but the archaeological campaigns of 2000 and 2001 are described in a recent monograph on Alburnus Maior (D.19). The identifiable products of local mines include numerous ingots, some with stamps indicating their origins, as well as finished products such as the silver bowl found at Wieselberg (N.30) near the Danube in Austria. The unusually large number of lead coffins in the central Balkans can be explained by the availability of the metal from local sources.¹³²

In the matter of metalworking it is now suggested that the well-known centre at Magdalensberg (RII.17) was not so much a wholesale market for traders coming from different parts of the Roman world as a depot for the collection and supply of equipment to the Roman army. At the same place gold from the Tauern Alps was processed into gold ingots, some moulds for which are dated to the reign of Caligula. A recent inventory of bronze objects from the Magdalensberg excavation of 1948–1977 includes almost every variety of object, many bearing the names of those who made them, including strigils, tweezers, and a double inkwell for red and black ink, most dated to the late first century B.C. and the early decades of the first century A.D. Evidence for bronze-working has come to light in several places, including Carnuntum (Ps.13), Solva (RIII.57), Virunum (RII.16) and also several smaller centres.¹³³ At Intercisa (Pi.24), a Danube fort in Pannonia Inferior, the importing of bronze vessels from Italy and Gaul was replaced by large-scale local production. At Vindobona (Ps.2) evidence has recently come to light for the manufacture of iron swords in the *canabae* during the middle and later Empire and there is evidence for production of a similar character at Brigetio (Ps.30). In Dacia a large hoard of scrap metal at the fort of Jidava (D.60) assembled around the middle of the third century A.D. reflects the high rate of recycling even in a mining area. Inventories of finished bronze products, including statuettes, brooches and other dress attachments, and weapons have recently been published for several places, including Novae (Mi.18), Virunum (RII.16), Solva (RIII.57), and Singidunum (Ms.4). Some of the items from the last place appear to indicate the transplantation of groups from Dacia into Moesia Superior during the second and third centuries A.D.¹³⁴ The identities of few individuals engaged in metalworking are known but a recent addition to the list is a Cretan *fabricalis* at Callatis (RVII.9), perhaps an armourer based there in the third century.

Roman occupation did not introduce the use of coinage to most areas of the Danube but a monetarized economy, however unevenly spread, became a distinguishing feature of Roman provincial society, in this case the main input being the pay and other rewards received by the soldiers. A graffito from Boiodurum (N.4) records the purchase of a mortarium for half a denarius, while from the fort settlement at Teregova (D.14) in Dacia

¹³¹ V. Wollmann, noticed in *AE* (1996), 1272.

¹³² S. Golubović, *Limes XVIII* (op. cit. (n. 17)), 629–40 (lead coffins).

¹³³ K. Gschwantler and H. Winter, 'Bronzwerkstätten in der Austria Romana', *RÖ* 17/18 (1989–1990), 107–42.

¹³⁴ A. Váday, *ActArchHung* 54 (2003), 315–421 (Roman cloisonné brooches in the Carpathian basin); V. Soupault, *Les éléments métalliques du costume masculine dans les provinces romaines de la Mer Noire, IIIe–Ve s. ap. J.-C.*, *BAR* int. ser. 1167 (2003); S. Cocis and C. Opreanu, *Acta Mus. Nap.* 35 (1998), 195–228, and *Limes XIX* (op. cit. (n. 17)), Abstracts 20.

comes the record of a contract of sale. A money-changer (*nummularius*) at Ulpia Traiana Sarmizegetusa (D.17) in the same area may be an official of the state treasury (*fiscus*) rather than a private trader. Sums of sestertii and denarii are regularly recorded on inscriptions throughout the Danube area and have recently been catalogued. In recent years less attention has been given to coin hoards, once thought to be primary evidence for historical events, and more to the evidence of coins lost in normal daily life. This has resulted in a clear picture of coin circulation, not only within the Empire but also in areas beyond the Danube.¹³⁵ In Dacia a study of coin-loss reveals a steady increase, and by implication of coins in circulation, on both sides of the frontier with an increasingly larger proportion of lower denominations. Conclusions on whether or not the province as a whole was a source of profit for the rest of the Empire are surely as suspect as the question itself. More significant is the increasing evidence for the use of 'replica' coins, not to be dismissed as 'counterfeit' but rather an officially countenanced remedy for the prevailing shortage of coin from the official mints.¹³⁶

VII SOCIETY AND RELIGION

During the past century many personal names recorded on inscriptions in the Danube provinces have been associated with the principal ethnic groups known to have dwelt in the region — Celts, Illyrians, Dacians, and Thracians. The distribution of these names has been employed to associate material remains with these same ethnic groups, a practice some specialists suggest has exceeded reasonable limits. There are also doubts, though less strongly expressed, over the reliability of assuming the origin of an individual to be the same as that of the name that he or she bears. Nevertheless the persistence of local names through several generations is a striking feature of family history in Celtic Noricum, Illyrian Pannonia and Dalmatia, Thracian Moesia, and Geto-Dacian Dacia. The four-volume dictionary of names attested in the European provinces, planned by the late A. Mócsy, is now complete.¹³⁷ Several catalogues of names recorded in individual provinces and cities, including those on the Black Sea coast, have been compiled. There are also registers of names of Greek origin, of pre-Roman and Celtic names in Noricum, Roman imperial family names (*gentilicia*), and names formed from those of deities. Other lists have been compiled of names of different ethnic groups in Dacia and for the same province the prominent role of Palmyrenes in the fort garrisons and associated settlements and of the small number of Jews recorded in Dacia and Pannonia.¹³⁸

¹³⁵ P. Kos, *The Monetary Circulation in the Southeast Alpine Region ca. 300 BC–AD 1000*, Situla 24 (1986); J. Fitz, *Der Geldumlauf der römischen Provinzen im Donaugebiet des 3. Jahrhunderts* (1978), vols I–II; E. Kolnikova, 'Münzfunde und die historischen Ereignisse im nördlichen Mitteldonauraum um der Zeitwende', in Tejral-Pietá-Rajtár, op. cit. (n. 7), 103–19; for the later period: G. L. Duncan, *Coin Circulation in the Danubian and Balkan Provinces of the Roman Empire* (1993).

¹³⁶ V. Mihailescu-Bîrliba, *Limes XVI* (op. cit. (n. 17)), 241–5; XVII, 807–12 (coins and the wealth of Dacia); C. Gazdac and A. Alföldy-Gazdac, *Limes XIX* (op. cit. (n. 17)), Abstracts 30 (plated coins).

¹³⁷ B. Lórinz and F. Redó, *Onomasticon Provinciarum Europae Latinarum (OPEL)*, vol. 1 (1994), 2 (1999), 3–4 (2000–2002).

¹³⁸ A. Paki, *AE* (1998), 1069 (Palmyrenes; also D. Benea, *AE* (1996), 1270), (2001), 1700 (population of Dacia Porolissensis); I. Piso, *AE* (1993), 1321 (population of Sarmizegetusa and Apulum); L. Ruscu, *AE* (1998), 1070 (Greek names in Dacia); H. Musielak, *AE* (1993), 1359; (1999), 1324 (Black Sea cities); P. Anreiter, *Die vorrömische Namen Pannoniens* (2001) (pre-Celtic place names); M. Hainzmann, *AE* (2001), 1573 (local names in western Pannonia and eastern Noricum); Z. Mrdita, *Vjesnik Arb. Muz. Zagreb* 30–31 (1997–1998), 37–45 (theophoric names in Dardania); E. Gyorgy, *Acta Mus. Nap.* 36 (1999), 111–28 (slaves and freedmen in Dacia); C. C. Petolescu, *AE* (1993), 1323 (Dacians at Napoca); A. Husar, *Celti și Germani in Dacia română* (1999); R. Ciobanu, *AE* (1999), 1273, and M. Zaninović, *AE* (1995), 1224 (both on Illyrians in Dacia); N. Gudea, *AE* (2001), 1701 (Jews in Dacia); H. Solin, *ActArchHung* 41 (1989), 233–6 (Jews in Pannonia).

It is now accepted that recorded ages on epitaphs do not furnish valid statistics for life-expectancy overall, although they appear useful for Noricum, for legionaries at Carnuntum, centurions in Pannonia, and slaves and freedmen in the Illyrian provinces.¹³⁹

The higher classes of Roman imperial society are not a visible group in many places, except where they are recorded on official duty. There are few additions to the meagre totals of senators and equestrians known to have been linked with the area in the period before the emergence of the Illyrian soldier-emperors in the second half of the third century A.D.¹⁴⁰ New records of municipal officer-holders with equestrian rank are confined to the early *municipia* and veteran colonies, Claudian Celeia (RIII.14) and Savaria (RIII.24) and Trajanic Poetovio (RIII.18). At a lower social level there are studies of Roman citizens in the Greek cities on the Black Sea, on the status of women in Pannonia, and on the slaves and freedmen in Dacia. Individual records can often be more instructive, as in the case of the imperial slave and *vilicus* Achilles with his impressive family in the early third century A.D.¹⁴¹

In the early period the epitaphs of legionaries record their often distant origins; several new members of Legion VII, stationed at Tilverium (RIV.29) near Salona (RIV.11) in Dalmatia, have come to light from Macedonia (Heraclea and Edessa) and Asia Minor (Pessinus, Laranda, and Ancyra). On the lower Danube early records of legionaries at Novae (MI.18) include recruits from Ariminum in Italy, Colonia Agrippinensium in Germany, and Clunia in Spain. An early epitaph at Ratiaria (MS.73) of an individual from Sagalassus in Pisidia specifies no military service but the deceased was probably a serving legionary or possibly a veteran settled in the Trajanic colony. By the middle of the second century A.D. local recruitment appears to have become the rule, though a veteran of I Italica at Novae (MI.18) in the early third century came from Colonia Septimia Carnuntum. Several soldiers are named on family epitaphs in the interior of Dalmatia (RIV.23) and in Pannonia in the area of Lake Balaton (RIII.80); a veteran of the Aquincum Legion II Adiutrix originated from Sirmium. In the Salona area of Dalmatia there are also new records of the Syrian archers stationed there early in the first century A.D.¹⁴² In the military sphere there is a votive altar to Asclepius set up by the legion's Greek doctor in the hospital at Aquincum (PI.5). From the courtyard of the synagogue in the *canabae* of the same fortress comes the epitaph of a legionary tribune originating from Urbs Pala(e)stina that records his two sons who were both equestrians, and from the same period there is a votive erected by a senatorial tribune originating from Utica in Africa. Among auxiliaries the epitaph of the garrison commander at Capidava (MI.63) reveals his origin as Aquae Statiellae in northern Italy. In the fourth century A.D. the epitaph at Viminacium (MS.14) of a twenty-two-year-old 'civis Germaniceus' — probably a soldier serving in the area — records his origin in the village (unidentified) Abdarmisus.

The presence of merchants and the like from Italy is well attested in Noricum and Pannonia, including Celeia (RIII.14) and Savaria (RIII.24). A recent examination of the inscriptions on the Helenenberg bronze statue from Magdalensberg (RIII.17) has identified three freedmen, one citizen, and a slave belonging to Aquileia families. Later at Augusta

¹³⁹ W. Scheidel, *RÖ* 19/20 (1991–1992), 143–59 (Noricum and Carnuntum legionaries); J. Fitz, *AE* (1998), 1097 (centurions in Pannonia); L. Mihailescu-Birliba, *Act. Mus. Nap.* 38 (2001), 87–102 (slaves, freedmen, etc.).

¹⁴⁰ J. Fitz, *AE* (2000), 1184 (equestrians in Pannonia); J. Hatlas, *AE* (1995), 1325 (equestrians in Moesia Inferior); A. Diaconescu, *Acta Mus. Nap.* 36 (1999), 203–43 (symbols of status in Dacia after evacuation); T. Nagy, *Festschrift Betz* (1985), 417–24 (Pannonians as *iudices*); H. Devijver, *Festschrift J. Fitz*, op. cit. (n. 6), 61–5 (equestrian symbols on monument at Poetovio).

¹⁴¹ M. Musielak, *AE* (1994), 1530 (Roman citizens in the Black Sea cities); O. Harl, *AE* (1993), 1282 (status of women in Pannonia); E. Gyorgy, *AE* (1999), 1274 (slaves and freedmen in Dacia); L. Mihailescu-Birliba, *Acta Mus. Nap.* 36 (1999), 129–33 (imperial slave and household).

¹⁴² On the social background of soldiers see M. Mirković (*AE* (2001), 1261) and J. J. Wilkes (*AE* (2000), 1171); also J. J. Wilkes in A. Goldsworthy and I. Haynes (eds), *The Roman Army as a Community*, JRA suppl. ser. 34 (1999), 95–104 (VII Claudia).

Traiana (RVI.38) a priest of Syrian origin records his business as wine merchant for Dacia, and another is recorded at Histria (RVII.18). Other occupations recently attested include the Greek masseur of the garrison commander at Klosterneuburg (Ps.I) and a freedman valet (*lixa*) in the legion at Oescus (Mi.12) who may be of local origin.

Overall, population in the Danube provinces changed little over four centuries, except for settlements along the main roads, along the Danube, and in some of the mining areas including Dacia, where the proportion of immigrants seems to have been higher than elsewhere. A recent study of the Carnuntum (Ps.12) cemeteries identifies several distinct groups, including soldiers, peoples of the *canabae*, and natives from the surrounding country. The distinctions are clearest in the first and early second centuries A.D., gradually disappearing into the homogeneity of the third and fourth centuries.

In many Danube communities Roman cults were dominant, generally with little or no assimilation to local pre-Roman deities. An exception were the eastern alpine regions of Noricum and Pannonia where, as in other parts of the Celtic-speaking world, local deities survived in equation with Roman gods. In Austria a past emphasis on the continuity of belief through the Roman period into the Christian era and beyond has been challenged. The cosmopolitan range of cults in Pannonia — Roman, local, and eastern — has been displayed in the catalogue for an exhibition at Székesfehérvár in 1998. There is a comparable variety in the cults at Viminacium (Ms.14) in Moesia Superior, a contrast with the adjacent mining areas where deities of nature and the underground and protective spirits dominate. A high proportion of votives were apparently made in the context of official duty, whether to traditional Roman or to imported eastern deities. Similarly the decorative figures on military equipment are entirely traditional — Mars, Minerva, Victoria, eagles, Ganymede, Dioscuri, Tritons, dolphins, etc. — despite the worship of newer eastern deities in the same communities.¹⁴³

Some of the most significant recent discoveries illustrate the political associations of major cults. The altars recovered from the bed of the Danube at Bölske (Pi.29) were set up to I.O.M. Teutanus, deity of the Pannonian Eravisci, for the well-being of the *civitas Eraviscorum* on the 11 June of each year by magistrates of the *colonia* at Aquincum. They derive from the major provincial shrine somewhere in the area of Aquincum and can be matched with votives at Carnuntum (Ps.13) to I.O.M. C(arnuntinus) also erected on 11 June in the precinct on the Pfaffenberg hill. The Roman state deity Iuppiter Optimus Maximus appears everywhere and often in official contexts but there are a few instances of association with local gods. There is a rare example of the Capitoline Triad on an altar erected late in the third century A.D. by a prefect of Legion II Adiutrix stationed at Aquincum (Pi.26) and another at Novae (Mi.18) erected in A.D. 227 in the *principia* of the fortress. The state cult in association with the reigning emperor was a focus of corporate loyalty for each unit in the army, as recently revealed at Micia (D.18) in western Dacia. At Singidunum (Ms.4) the deity is coupled with the ‘spirit of the camp’ (Genius Castrorum) by its prefect and at the fleet base Halmyris (Mi.85) on the Danube delta by the ‘vicus classicorum’. Among several dedications at Apulum (D.101), one addressed to Jupiter Fulgurator marked the site of a lightning strike (‘hic fulg(ur) cond(itum est)’). At Cibalae (RIII.37) a votive of the late third or early fourth century A.D. was addressed to Minerva Perpetua on an altar constructed of brick erected in a storehouse (*horreum*), and another

¹⁴³ P. Scherrer, *Grabbau-Wohnbau-Turmburg-Praetorium. Angeblich römerzeitliche Sakralbauten und behauptete Heidnisch-Christliche Kultkontinuitäten in Noricum*, Öst. Arch. Inst. Berichte und Materialien 4 (1992); J. Fitz (ed.), *Religions and Cults in Pannonia* (1998), with chapters on Croatian Pannonia (Segvić), native deities at Emona and Poetovio (Šašel-Kos), Carnuntum (Jobst et al.), Gorsium (Fitz), I.O.M. Teutanus (Póczy), eastern cults at Carnuntum (Jobst), and Christianity (Gáspár); L. Zotović, *Starinar* 47 (1996), 127–37 (cults at Viminacium); S. Dušanić, *AE* (1999), 1176 (cults in mining regions); L. Petulescu, *Limes XIX* (op. cit. (n.17)), Abstracts 11–12 (religious figures on military equipment). Other surveys: *AE* (1994), 1516 (votives by veterans in Moesia Inferior); (1996), 1354 (cults in Odessus); (2000), 1239 (temples in Dacia), *Limes XIX* (op. cit. (n. 17)), Abstracts 74–5 (cults at Apulum), 90 (cults of auxiliaries in Dacia).

was dedicated to Minerva Augusta in the time of Caracalla by a clerk (*actarius*) of the local garrison at Tibiscum (D.15) in Dacia. Votives to Venus are rare, with recent finds limited to the shrine of the Julio-Claudians at Narona (RIV.37), but Diana was widely worshipped among the hills and forests of the central Balkans, and recent finds include a shrine at Montana (Mi.4), in association with her twin Apollo, and in the guise of Diana Augusta at Timacum Minus (RV.45). Mercurius appears with a single altar at Teurnia (RII.6) in Carinthia and Vulcan appears at Chersonesus (Mi.96), including a celebration of the Volcanalia festival. For Asclepius the votive by the legion's Greek doctor at Aquincum (Pi.5) has already been noted and there is another in the hospital at Novae (Mi.18), along with votives to Asclepius and Hygiaea by senior officers thankful for restored health. No new evidence has been forthcoming to support the notion that the popularity of the Italic deity Silvanus was to any degree based on his identification with local cults, at Carnuntum (Ps.12) and around Ulmetum (RVII.29). A votive to African Saturnus at Potaissa (D.102), probably by a native of Numidia, links the god not with one of the traditional associates but with Leto, mother of Diana and Apollo, perhaps in accordance with local religious sentiment. The Italic deities of wine and fertility Liber and Libera appealed to the Danubian communities more than the traditional Dionysus with whom they are often associated. Votives to Liber Pater and Libera Augusta were erected by imperial slave officials at Solva (Ps.40) in Pannonia Superior and in the sanctuary east of the Carnuntum (Ps.13) *canabae*. In Dacia shrines to the pair were established in the second century A.D. with votives from troops and higher officials at Tibiscum (D.15) and Apulum (D.101). A recent list of collective feminine deities in Dacia includes Nymphae (38 votives), Parcae (8), Silvanae (9), Maenades (15), Musae (3), Horae (3), and Gratiae (1); those of Celtic or German origin include Matronae (2), Quadriviae (5), Campestris (1), Suleviae (2), and Badones Reginae (1).¹⁴⁴ The cult of Aeternus, linked with that of Urbs Roma, popular in Dacia, also appears, with a statue at Novae (Mi.18) in Moesia Inferior. Isolated votives include an altar to Terra Mater, usually associated with miners, by a magistrate of Aquincum (Pi.5), Luna at Novae (Mi.18), and Somnus at Ratiaria (Ms.73). More personal is perhaps the graffito on a vessel from a woman's grave at Kalsdorf near Graz (RIII.57) invoking the Nixae, protective deities of childbirth. Several altars are devoted to spirits of hope or aspiration, including Aequitas and Bona Valetudo at Carnuntum (Ps.12), and Tempus Bonum in the Severan period at Tyras (Mi.91). Otherwise unattested are the 'Dii Itine[rarii] utriusque [viae]' to whom an altar was erected at Savaria (RIII.24) on the Amber route by an individual and his family with no official or other association to explain the motive.

A recent survey of pre-Roman divinities in the eastern Alps and the northern Adriatic includes Romanized versions of local cults, notably I.O.M. Depulsor at Celeia and Aecorna at Emona, possibly of Latin origin.¹⁴⁵ In Noricum there are the well-known equations of Mars Latobius at Iuenna (RII.36) and Apollo Grannus at Teurnia (RII.6). In addition to the shrine of the equine deity Epona at Carnuntum (Ps.13), recent finds include the base of a bronze statuette of Aesus in Gailtal (RII.4) and an altar to Eboner[i] (?) from Kalsdorf near Solva (RIII.57). In Dacia there is a recent study of the Epona cult, and of the equations of Deus Sucellus to Dis Pater and Proserpina to Nantosuelta.¹⁴⁶ There are a few additions to the known plaques of the Danube Rider god and a larger number for the Thracian horseman cult. The latter's shrine at Glava Panega (RVI.11) flourished in the Roman era, and was later linked with the healing deities Asclepius and Hygiaea.¹⁴⁷

¹⁴⁴ I. Nemeti, *Act. Mus. Nap.* 36 (1999), 135–53 (*AE* (1999), 1275); I. Glodariu, *AE* (1998), 1073 (Nymphae in Dacia).

¹⁴⁵ M. Šašel-Kos, *Pre-Roman Deities of the Eastern Alps and Adriatic*, Situla 38 (1999).

¹⁴⁶ T. Lobuscher, *AE* (2001), 1703 (Epona); S. Nemeti, *AE* (1998), 1072 (Sucellus, etc.).

¹⁴⁷ K. Gschwantler, *RÖ* 11/12 (1983–1984), 107–43 (Danube rider-cult in Austria); M. Mackintosh, *Oxf. Arch. Journ.* 16 (13) (1997), 363–74 (Rider cult); Z. Gočeva, *AE* (1995), 1327 (Glava Panega); V. Najdenova, *Limes XV* (op. cit. (n. 17)), 291–4 (lower Danube); S. Nemeti, *AE* (2000), 1238 (Thracian horseman with lyre in Dacia).

Despite the known sympathies of the Severi, the Egyptian deities Isis and Serapis appear to have had relatively little appeal in the Danube provinces. Some votives along the Danube in Pannonia Superior, at Carnuntum (Ps.13), Ad Statuas (Ps.26), and Solva (Ps.40), have been linked with the passage of Caracalla through the area on his journey to the East in A.D. 213. The same lack of interest appears to prevail towards Magna Mater-Cybele, with only a few items noted in recent surveys. Particular deities were honoured by immigrants, including Zeus Syenos in the mining settlement at Guberevac (Ms.1), probably by a native of Synnada in Phrygia, and Dea Syria at Tomis (RVII.12), but no such explanation can be advanced for the altar to Apollo Gangrensis near Valjevo in western Serbia (RIV.52).¹⁴⁸

The remains of the shrine at Balaklava near Chersonesus (Mi.96) dedicated to Jupiter of Syrian Doliche (I.O.M. Dolichenus) are now published, along with several votive altars set up by officers of the garrison drawn from the army of Moesia Inferior. Established in the second century A.D., the shrine continued in use until its destruction in the middle of the third century. Construction of a Dolichenum is also attested in Thracia at Cabyle (RVI.42) in the time of the Severi. From Novae (Mi.18) there is a fragment of the cult bull in marble relief dedicated by a detachment of Legion XI Claudia, based further down the river at Durostorum. For Mithras, the Persian god of light, the most spectacular recent discovery has been the painted shrine in the house of the senatorial tribune at Aquincum (Pi.5) but for the practice and beliefs of the cult the plaque recording members of the cult at Virunum (RII.16) has attracted more interest. In addition to a small Mithraeum near Prutting (RII.13) on the western border of Noricum near the river Inn, which continued in use until the end of the fourth century A.D., the existence of another Mithraeum at Carnuntum (Ps.13) has been identified by cult vessels with the serpent motif. The Mithraeum at Novae (Mi.18), destroyed around the middle of the third century, contained several votives, including one from the camp prefect. Away from the Danube there is a Greek votive from Nicopolis ad Istrum (RVI.41), probably of the early third century A.D. At Apulum (D.101) in Dacia an altar to Invictus Deus was set up by the slave agent (*actor*) of a local official.¹⁴⁹ The influx of mobile units from elsewhere in the Empire as Danube garrisons following the Marcomannic wars is reflected in a variety of ways, including evidence for the practice of camel sacrifice at Intercisa (Pi.24) that can be linked to the unit of mounted archers from Emesa in northern Syria stationed there from the late second century A.D.

Evidence for Christian belief is now available in surveys covering several areas, including Noricum, Hungarian and Croatian Pannonia, and the central Balkans.¹⁵⁰ The extent of Christian belief in Danube society remains a matter of debate. There is little evidence from outside the major cities and a number of areas along the river remain a blank. The hill settlement at Hemmaberg (RII.36) in Noricum containing a number of churches can be matched elsewhere in the eastern Alps and another has been identified at Kučar (RIV.3) on the river Kupa on the border of Slovenia and Croatia. Among recent isolated finds there is the epitaph of an *exorcista* in a Sirmium (RIII.42) cemetery dated to the fourth or fifth century A.D. On the borders of Dalmatia and Moesia Superior around fifteen fragments of early Christian epitaphs have been recovered from the excavation of a

¹⁴⁸ J. Medini, *AE* (1994), 1339 (Cybele in Liburnia); M. Šašel-Kos, *AE* (1994), 1348 (Cybele in Salona area); Z. Mrdita, *AE* (2001), 1724 (eastern cults in Dardania).

¹⁴⁹ Z. Mrdita, *AE* (1999), 1310 (Mithras in Dardania); V. Najdenova, *AE* (1999), 1329 (Mithras on the lower Danube); M. Pintilie, *AE* (2001), 1702 (Mithras in Dacia).

¹⁵⁰ F. Glaser, *Frühchristliche Denkmäler in Karnten* (1996); *Frühes Christentum in Alpenraum. Eine archäologische Entdeckungsreise* (1997); D. Gáspár, *Christianity in Roman Pannonia: an Evaluation of Early Christian Finds and Sites from Hungary*, BAR int. ser. 1010 (2002); B. Migotti, *Evidence for Christianity in Roman Southern Pannonia (N. Croatia): Catalogue of Sites and Finds*, BAR int. ser. 684 (1997); R. Popović, *Le Christianisme sur le sol de l'Illyricum oriental jusqu'à l'arrivée des Slaves* (1996); R. Sorries, 'Wie weit war die Christianisierung der Donauprovinzen in der Spätantike wirklich fortgeschritten?', *RÖ* 19–20 (1991–1992), 161–75.

Byzantine fortification near Čačak (RIV.50). At Pautalia (RV.28) in western Thracia the donor of a Christian basilica bears the Thracian name Bitus. The most substantial early Christian structure recently excavated on the lower Danube is the large episcopal basilica constructed over the remains of the legionary baths in the fortress at Novae (Mi.18), now fully published.

In a region where inscriptions, on stone and brick and on all manner of portable objects, are abundant in many areas, there remain notable gaps in the plains of Pannonia and some of the valleys and forests of the southern Balkans. Recent estimates of the level of literacy have tended to be lower than in the past, in part because the impressive quantities of casual graffiti now appear to be confined to narrower groups and occupations rather than being a reflection of a general familiarity with reading and writing. An inscription in Celtic on a vessel of the second to third century A.D. from Poetovio (RIII.18) is a rarity. Some social groups had a taste for metrical texts in epitaphs, though often the result contains mistakes. Where a literary source can be identified, the popular choices are Virgil and Ovid but the mistakes in imitation are judged to be more the result of poor education than any striving for originality. Bilingual texts are not usually found outside the zone of the Greek-Latin linguistic frontier in Thrace (RVI.41). The appearance of Greek forms of individual letters in Latin-speaking areas is generally attributed to the technical background of craftsmen who migrated to the Danube from Greek-speaking areas.¹⁵¹

APPENDIX A: ROADS AND STATIONS TO THE DANUBE

RI. North-East Italy to the Upper Danube by Alpine Passes

Verona to Augusta Vindelicum by Reschen and Fern Passes (Via Claudia Augusta)

On this road, see Gassner *et al.*, op. cit. (n. 4), 94.

Verona to Tridentum

1. *Verona* (Verona ITL) [B19C4]
2. *Vennum* (Volvargne? ITL) [B19C4]
3. *Ad Palatium* (Ala ITL) [B19D4]
4. *Sarnis* (Serravalle d'Adige ITL) [B19D4]
5. *Trident(i)um* (Trento ITL) [B19D3]

Altinum to Tridentum

6. *Altinum* (Quarto di Altino ITL) [B19E4]
7. *Ad Cerasias* (Valdobbiadene ITL) [B19E4]
8. *Feltria* (Feltre ITL) [B19D3]
9. *Ausucum* (Borgo di Valsugana ITL) [B19D3]
10. *Tenna* ITL [B19D3]

Tridentum to Augusta Vindelicum

11. *Salurnis* (Salorno ITL) [B19D3]

R. Noll, *Das römerzeitliche Gräberfeld von Salurn* (1963)
12. *Endidae* (Egna? ITL) [B19D3]
13. *Pons Drusi* (Bolzano? ITL) [B1D3]
14. *Maiensis Statio* (Merano? ITL) [B19D3]
15. *Reschen Pass* AUS [B19C3]
16. *Pillerhöhe* AUS [B19C2]

¹⁵¹ B. Fehér, *AE* (1997), 1233 (Latin in Pannonian inscriptions); (1998), 1036 (verse inscriptions in Pannonia); N. Sharantov, *Limes XIX* (op. cit. (n. 17)), Abstracts 87–8 (verse inscriptions from the lower Danube); P. Kovács, *AE* (1999), 1242 (Greek letter forms in Pannonia). A tile from Budapest with two word squares in different hands has recently been re-read by M. Mayer and J. Veloza, *AE* (2000), 1221: 'Roma tibi subi[to motibus ib]it a[mor]' and 'Rotas opera tenet arepo sator'.

17. Fern Pass AUS [B19C2]
 18. *Foetes* (Füssen GER) [B19C2]
Dietringen: Gassner *et al.*, op. cit. (n. 4), 209. Cemetery: E. Römer-Martijnse, *Jahrbuch des historischen Vereins Alt Füssen* (1997), 5–48.
 19. Altenstadt GER [B19C2]
 20. *Abodiacum* (Epfach GER) [B19C2]
 21. *Ad Novas* (unlocated) [B19C1]
 22. *Augusta Vindelicum* (Augsburg GER) [B12D4]
- Bolzano to Augusta Vindelicum by Brenner Pass**
23. *Sublavione* (Ponte Gardena or Chiusa ITL) [B19D3]
 24. *Sabiona* (Tre Chiese ITL) [B19D3]
 25. Bressanone ITL [B19D3]
 26. *Vipitenum* (Sterzing? ITL) [B19D3]
 27. Brenner Pass AUS [B19D2]
 28. *Matreium* (Matrei? AUS) [B19D2]
 29. *Veldidena* (Wilten/Innsbruck AUS) [B19D2]
Road tower and late fort: Gassner *et al.*, op. cit. (n. 4), 307.
 30. *Teriolis* (Zirl AUS) [B19D2]
 31. *Scarbia* (Scharnitz? GER) [B19D2]
 32. *Parthanum/Tartenum* (Partenkirchen? GER) [B19D2]
 33. *Urusa?* (Raisting GER) [B19D2]
- Veldidena down Aenus (Inn) valley to Pons Aeni**
34. *Mastiicum* (Brixlegg? AUS) [B19D2]
 35. *Albianum* (Ebbs? AUS) [B19E2]
 36. *Pons Aeni* (Pfaffenhofen am Inn GER) [B19E2]
- Aquileia by Plöcken Pass and Pustertal to Brenner Pass**
37. *Aquileia* (Aquileia ITL) [B19F4]
 38. *Ad Tricce(n)simum* (Tricesimo? ITL) [B19F3]
 39. *Ad Silanos* (Artegna? ITL) [B19F3]
 40. *Glemona* (Gemona? ITL) [B19F3]
 41. *Iulium Carnicum* (Zuglio ITL) [B19F3]
 42. Sutrio ITL [B19F3]
 43. *Statio Timaviensis* (Timau? ITL) [B19E3]
 44. Plöcken Pass AUS [B19E3]
 45. *Loncium* (Mauthen or Maria Schnee AUS) [B19E3]
 46. Oberdrauburg AUS [B19E3]
Road settlement: Gassner *et al.*, op. cit. (n. 4), 321.
 47. *Aguntum* (Dölsach/Nussdorf-Debant AUS) [B19E3]
E. Walde in Šašel-Kos and Scherrer, op. cit. (n. 9), 149–63.
 48. *Littanum* (S. Candido ITL) [B19E3]
 49. *Sebatum* (S. Lorenzo di Pusteria ITL) [B19D3]

RII. North-East Italy to the Upper Danube by Carnic and Tauern Alps

Aquileia (RI.37) to Iuvavum by Saifnitz, Katschberg, and Radstadt Passes

Roads and milestones in Austria: G. Winkler, *Die römischen Strassen und Meilensteine in Noricum-Österreich* (1985); *Pro Austria Romana* 50 (2000), 11–12; Gassner *et al.*, op. cit. (n. 4), 95–8. Pre-Roman and Roman use of high passes: R. Breitweiser and A. Lippert, *Mitt. Anthropolog. Gesellschaft Wien* 129 (1999), 125–31.

1. *Statio Plorucensis* (Resiutta ITL) [B19F3]
2. *Larice* (Campolavo? ITL) [B19F3]
3. *Statio Bilchimiensis* (Camporosso? ITL) [B19F3]
Customs station: C. Zaccaria, *Festschrift Pittioni*, op. cit. (n. 4), 207–17.
4. *Meclaria* (Maglern AUS) [B19F3]
Votive bronze to Aesus: C. Piccottini, *Carinthia* I 186 (1996), 97–103.
5. *Santicum* (Villach AUS) [B19F3]

6. *Teurnia* (St Peter in Holz AUS) [B19F3]

F. Glaser in Šašel-Kos and Scherrer, op. cit. (n. 9), 135–47. Shrine of Apollo Grannus: H. Birkham and F. Glaser, *JÖAI* 52 (1978/1980), 121–7. Settlements in territory: C. Cugl, *Arb. Vestnik* 52 (2001), 303–49. Mining settlement at Feldkirchen: A. Galik *et al.*, *Denkschrift Öst. Akad.* 314 (2003); certified bronze weights: *AE* (2001), 1582; Mercurius: 1578. Governor of Noricum Mediterraneum: I. Piso, *ZPE* 107 (1995), 299–304. Pottery analysis: A. Gastgeb, *Carinthia I* 185 (1995), 205–49.

7. *Katschberg Pass* AUS

8. *In Murio* (Moosham AUS) [B19F2]

R. Fleischer and V. Moucka-Weitzel, *Die römische Strassenstation Immurium-Moosham* (1998).

9. *In Alpe* (Radstadt Tauern Pass AUS) [B19F2]

10. *Anisus* (Anif nr. Altenmarkt? AUS) [B19F2]

11. *Vocarium* (Pfarrwerfen? AUS) [B19F2]

12. *Cucullae* (Kuchl AUS) [B19F2]

13. *Iuwavum* (Salzburg AUS) [B10F2]

W. F. Kovacovics in Šašel-Kos and Scherrer, op. cit. (n. 9), 165–201. Wealthy villas on road to Passau: V. Gassner *et al.*, op. cit. (n. 4), 201–4. Mithraeum at Prutting in Inn: J. Garbsch, *Limes XII* (op. cit. (n. 17)), 621–6. Hill settlement near Bischofshofen, occupied in early and late Roman periods: A. Lippert, *Mitt. Präh. Komm. Akad. Wiss.* (1992). Amphorae graffiti and dipinti: *AE* (1999), 1207–11.

Santicum to Ovilava by Hohentauern and Pyrh Pass

14. *Tasinemeti* (St Georg am Sternberg AUS) [B19G3]

15. *Saloca* (Krumpendorf AUS) [B20B3]

16. *Virunum* (Zollfeld AUS) [B20B3]

G. Piccottini *et al.* in Šašel-Kos and Scherrer, op. cit. (n. 9), 103–34. Mithras: G. Piccottini, *Mithrastempel in Virunum* (1994); on marble plaques listing congregation: R. Gordon, *JRA* 9 (1996), 424–6; R. Beck, *The Phoenix* 52 (1998), 335–44. Votive altar by guild of building craftsmen (*subaediani*): H. Dolenz, *Festschrift Piccottini*, op. cit. (n. 4), 399–410. Epitaph of *haruspex*: *Carinthia I* 189 (1999), 123–7. Amphitheatre inscription A.D. 198–209: *AE* (2001), 1587 ((1999), 1197). Inscriptions: *AE* (1995), 1193–5; (1994), 1214 (Lendorf), 1215 (Kading), 1216–18; (2001), 1584–6. Brooches catalogue: C. Cugl, *Die römischen Fibeln aus Virunum* (1995).

17. *Magdalensberg* AUS [B20B3]

Moulds for gold ingots: *Germania* 72 (1994), 467–77. Manufacture of iron goods for Roman military use: H. Dolenz in W. Czysz *et al.*, *Festschrift G. Ulbert* (1995), 51–80. Bronze objects excavated 1948–1977: M. Deimel, *Die Bronze-Kleinfunde von Magdalensberg* (1987). Lamps: Chr. Farka, *Die römischen Lampen von Magdalensberg* (1977). Local pottery: E. Schindler *et al.* in Tejral-Pietá-Rajtár, op. cit. (n. 7, 1995), 177–98.

Inscriptions, stamps, dipinti and graffiti. Helenenberg Youth: *AE* (2000), 1152 a–b. Double inkwell for red and black ink: *AE* (1998), 1013. Tokens (tesserae): *AE* (1997), 1220 a–b. Strigil: *AE* (1999), 1199. Tweezers (2) dated A.D. 30–45: *AE* (1997), 1222 and (1998), 1017 a–b. Amphora stamps: *AE* (2001), 1590 a–d. Graffiti: *AE* (2000), 1153 a–f. Stamp and dipinto recording vintage of A.D. 34 shipped in 38: *AE* (1997), 1221. Other wine imports: *AE* (2000), 1154–68, and graffito: *AE* (2001), 1586.

18. *Matucaium* (Stammersdorf AUS) [B20B3]

19. *Candalicae* (St Stefan bei Dürnstein AUS) [B20B3]

20. *Ad Pontem* (Lind AUS) [B20B2]

Votive plaque from Mariahof: *AE* (1999), 1200.

21. *Monate* (Nussdorf AUS) [B20B2]

22. *Viscellis* (Möderbrugg AUS) [B20B2]

23. *Sabatinca* (St Johann am Tauern AUS) [B20B2]

24. *Tartursanis* (Hohentauern AUS) [B20B2]

25. *Surontio* (Trieben AUS) [B20B2]

26. *Stiriate* (Liezen AUS) [B20B2]

27. *Pyhrn Pass* AUS

28. *Gabromago* (Windischgarsten AUS) [B20B2]
Chr. Schwanzer (ed.), *Die römische Strassenstation Gabromagus (Windischgarsten), Ausgrabungen und Funde* (2000).
29. *Ernolatia* (Sankt Pankraz AUS) [B20B2]
30. *Tutatatio* (Kremsdorf/Georgenberg AUS) [B20B2]
31. *Vetonianis* (Voitsdorf AUS) [B20B1]
32. *Ovilava* (Wels AUS) [B12H4]
R. Miglbauer in Šašel-Kos and Scherrer, op. cit. (n. 9), 243–56. Local production of stamped fine ware: *AE* (1998), 1012 a–b. Brick and tile stamps: *AE* (1996), 1194.
- Virunum (16) to In Murio (8)**
33. *Beliandrum* (Altenmarkt AUS) [B20B3]
34. *Tarnasici* (Flattnitz AUS) [B20B3]
35. *Graviacis* (Kirchbichl AUS) [B20A2]
- Virunum (16) to Poetovio (RIII.18)**
36. *Iuenna* (Globasnitz AUS) [B20B3]
F. Glaser, *Die römische Siedlung Iuenna und die frühchristlichen Kirche am Hemmaberg* (1982), also *Carinthia I* 182 (1992), 19–45; 183 (1993), 165–86; and *Arb. Vestnik* 45 (1994), 165–73. Votive to Mars Latobius: E. Weber, *Festschrift A. Betz* (1985), 649–58.
37. *Colatio* (Stari Trg pri Slovenj Gradcu SVN) [B20C3]
Inscriptions from the area: M. Šašel-Kos, *Festschrift Piccottini*, op. cit. (n. 4), 193–205.
38. *Upellis* (Stara Vas pri Velenju SVN) [B20C3]
- Iuvavum (13) to Augusta Vindelicum (RI.22)**
Marble milestones of A.D. 200–201 from Untersberg quarry near Salzburg: *AE* (1999), 1212.
39. *Artobriga* (Traunstein? GER) [B19E2]
40. *Bedaium* (Seebruck GER) [B19E2]
P. Fasold, *Das römisch-norisch Gräberfeld von Seebruck-Bedaium* (1993)
- Pons Aeni (RI.36)**
41. *Isinisca* (unlocated) [B19D2]
42. *Bratananium* (Brauting GER) [B19D1]
43. *Ambrae* (Schöngeising GER) [B12E4]
- Iuvavum (13) to Ovilava (32) and Lentia (N.15)**
44. *Laciacis* (Frankenmarkt AUS) [B19F2]
45. *Tarnantone* (Neufahrn AUS) [B19F2]
Probable road station of first–fourth century A.D.: L. Eckhardt, ‘Die “mutatio” von Moesendorf, Völkabruck’, *RÖ 3* (1975), 65–71, with milestone m.p. 31 from Iuvavum.
46. *Tergolape* (Schwanenstadt AUS) [B19F1]

RIII. North-East Italy by Julian Alps to Middle Danube

Aquileia to Carnuntum (‘Amber Road’)

Roman roads in Slovenia: J. Šašel, *ANSI*, op. cit. (n. 9), 74–99. Continuity in settlements along this route from prehistoric times: I. Mikl-Curk, *Materijali* 17 (1980), 35–7. Landscapes and sites: J. Gömöri (ed.), *Symposium Sopron-Eisenstadt* (1995).

1. *Ad Undecimum* (Gradisca ITL) [B19F4]
2. *Pons Sonti* (Mainizza ITL) [B19F4]
3. *Ad Fornulos* (Prvačina? SVN) [B19F4]
4. *Fluvio Frigido/Castra* (Adjovščina SVN) [B20A4]
5. *In Alpe Iulia/Ad Pirum* (Hrušica SVN) [B19G4]
T. Ulbert, *Ad Pirum (Hrušica): spätromischen Passbefestigung in den julischen Alpen* (1981).
6. *Longaticum* (Logatec SVN) [B20B4]
7. *Nauportus* (Vrhnika SVN) [B20B4]
J. Horvat, *Nauportus (Vrhnika)* (1990).
8. *Ad Nonum* (Log pri Brezovici SVN) [B20B3]
9. *Emona* (Ljubljana SVN) [B20B3]
Italian and Western cultural influences in the Emona cemeteries: Lj. Plešnicar-Gec, *Materijali* 20 (1985), 151–68.

10. *Ad Quartodecimum* (Groblje pri Mengšu SVN) [B20B3]
11. *Ad Publicanos?* (Lukovica SVN) [B20B3]
Frontier posts: P. Ørsted, *ActArchHung* 41 (1989), 175–88.
12. *Atrans* (Trojane SVN) [B20B3]
13. *Ad Medias* (Ločica pri Šempetru SVN) [B20C3]
14. *Celeia* (Celje SVN) [B20C3]
I. Lazar in Šašel-Kos and Scherrer, op. cit. (n. 9), 71–101. *Statio* of bf. cos.: R. L. Dise, *ZPE* 113 (1996), 286–92. Inscriptions: *AE* (1995), 1190–1212; (1997), 1224–6; (2001), 1592 (analysis of imperial votives). North Italian merchants: *ActArchHung* 41 (1989), 227–32. Šempeter cemetery: P. Kranz, *Bonn. Jahrb.* 186 (1986), 193–239.
15. *Ad Lotodos* (Stranice SVN) [B20C3]
16. *Ragando* (Spodnje Grušovje SVN) [B20C3]
17. *Pultovia* (Stražgojncina SVN) [B20C3]
18. *Poetovio* (Ptuj SVN) [B20C3]
J. Istenić, *Poetovio: the Western Cemetery Vols I–II* (1999); I. M. Curk, *Limes XIV* (op. cit. (n. 17), 133–41.
Inscriptions: *AE* (2000), 1189 (dating of forum inscription, A.D. 103–6); H. Erchner *et al.*, *Arb. Vestnik* 45 (1994), 131–42 (Celtic inscription on second–third-century vessel); *AE* (1993), 1283 (votive altars), 1284 (municipal benefactions), 1285 (marble sarcophagus of local equestrians; cf. *ZPE* 95 (1993), 236–40), 1286–8 (votives); blocks with reliefs of *sella curulis* and equestrian shield (*parma equestris*), H. Devijver, *Festschrift J. Fitz*, op. cit. (n. 6), 61–5.
19. *Ramista* (Formin SVN) [B20C3]
20. *Curta* (Ormož SVN) [B20C3]
21. *Halicanum* (Sv. Martin na Muri SVN) [B20D3]
B. Kerman, *Halicanum* (1994).
22. *Ad Vicesimum* (Veržej SVN) [B20D3]
23. *Sala* (Zalalövő HUN) [B20D3]
On the Hungarian section of the Amber Road: V. Cserményi and E. Tóth, *Savaria* 16 (1982), 283–90. Excavations: F. Redó *et al.*, *ActArchHung* 41 (1989), 405–33, 435–75 (*Terra Sigillata*); 42 (1990), 77–96 (brooches), 97–110 (local glazed wares), 111–45 (lamps).
24. *Savaria* (Szombathely HUN) [B20D2]
Urban topography: O. Sosztarits in Hajnócsi, op. cit. (n. 5), 233–41. South gate inscription: *AE* (2000), 1195 (A Rom(a) S(avarium) m.p. DCLXXV); 1191 (votive to Dii Itine[rarii] utriusque [viae]). Inscriptions: *AE* (1995), 1240–55 (revision of *RIU*, op. cit. (n. 30) entries); (1997), 1259; (2000), 1190, 1193–4. Emona merchants at Savaria: P. Kovács, *Munster Beiträge zur antiken Handelsgeschichte* 17 (1998), 100–20.
25. *Scarbantia* (Sopron HUN) [B20D2]
Urban topography: J. Gömöri in Hajnócsi, op. cit. (n. 5), 251–61. Deutschkreutz AUS. Late Roman cemetery: T. Braun, *RO* 19/20 (1991/1992), 29–76.
- Emona (9) to Sirmium and the Danube by the Sava valley**
26. *Acervo* (Stari trg pri Višnji gori SVN) [B20B4]
27. *Praetorium Latobiorum* (Pristava pri Trebnjem SVN) [B20B4]
Chronology of bf. cos. altars A.D. 158–257: *AE* (1995), 238. M. Slabe, *The Roman Cemetery at Pristava near Trebnje* (1993).
28. *Crucium* (Groblje pri Šentjerneju SVN) [B20C4]
29. *Neviodunum* (Drnovo pri Krškem SVN) [B20C4]
Inscription catalogue: *Inscriptiones Latinae Sloveniae. Neviodunum* (ed. M. Lovenjak) (1998) (200 entries).
30. *Romula* (Ribnica SVN) [B20C4]
31. *Siscia* (Sisak CRO) [B20D4]
Archaeology of Siscia and region: *Croat. Arch. Soc.*, op. cit. (n. 10) (1986). R. Košćević and R. Makjanić, *Finds of Terra Sigillata and Metal-working in Siscia*, BAR int. ser. 621 (1995). Lead curse tablet (third century A.D., Greek) with 29 names: J. Curbera and D. Jordan, *Tyche* 11 (1996), 45–50. Inscriptions: *AE* (1997), 1257–8 (early Christian); (1999), 1245 (sarcophagus); (2000), 1188 (lead tags from river); (2001), 1631 (*clarissima femina*).
32. *Varianis* (Kutina CRO) [B20D4]

33. *Aquae Balissae / Municipium Iasorum* (Daruvar CRO) [B20E4]
Christian plaque: *AE* (1996), 1222. Epitaph of soldier stationed in Pannonia: *AE* (2001), 1659 (near Pakarac).
34. *Incerto* (Treštanovačka gradina near Tekić CRO) [B20E4]
35. *Stravianis* (Gradac near Našice CRO) [B20F4]
36. *Picentino* (Ruževo) [B20F4]
37. *Leucono?* (Donji Andrijevci CRO) [B20F4]
38. (= Pi.44). *Cibalae* (Vinkovci CRO) [B20F4]
39. *Causilena* (Orolik CRO) [B20F4]
40. *Ulmo* (Tovarnik CRO) [B21B4]
41. *Spaneta* (Bačinci YUG) [B21B4]
42. *Budalia* (Martinci YUG) [B21B5]
43. *Sirmium* (Sremska Mitrovica YUG) [B21B5]
Late mosaics: O. Brukner, *Materijali* 18 (1978), 161–8; M. Parović-Pešikan, 169–85. Cemeteries: *Materijali* 20 (1985), 177–85 (early burial rites). Aqueduct: RÖ 17/18 (1989/1990), 189–94. Jupiter shrine with 79 bf. cos. altars: M. Mirković, *Chiron* 24 (1994), 345–403; on consular names, O. Salomies, *ZPE* 110 (1996), 278–82. Late Roman administration: *AE* (1998), 1051 (revised *ZPE* 134 (2001), 287–95), 1052–4; (1996), 1256 (*exorcista* from NE cemetery).
44. *Fossae* (Sasinci? YUG) [B21B5]
Roads and settlements: *Materijali* 17 (1980), 101–7.
45. *Bassiana* (Donji Petrovci YUG) [B21B5]
46. *Idimum* (Vojska? YUG) [B21C5]
47. *Noviciani* (Šimanovci YUG) [B21C5]
48. *Altina* (Surčin YUG) [B21C5]
- Siscia (31) to Sirmium (43) via Servitium**
On this road and location of settlements: I. Bojanovski, *Annual of the Centre for Balkan Studies, Sarajevo* 24 (1984), 145–265; *Croat. Arch. Soc.*, op. cit. (n. 10) (1993), 59–70.
49. *Ad Praetorium* (Suvaja near Bosanska Dubica BOS) [B20E4]
50. *Servitium* (Bosanska Gradiška BOS) [B20E4]
M. Bulat, *Croat. Arch. Soc.* op. cit. (n. 10) (1993), 173–80
51. *Urbate* (Srpac BOS) [B20E4]
52. *Marsonia* (Slavonski Brod CRO) [B20E4]
53. *Cirtisa* (Štrbinci near Djakovo CRO) [B20F4]
54. *Ad Basante* (Bosut, near Županja? CRO) [B20F4]
55. *Saldis* (Posavski Podgajci? CRO) [B20F5]
56. *Drinum fl(umen)* (Brodac BOS) [B21B5]
- Poetovio (18) to Poedicum**
57. *Solva* (Leibnitz AUS) [B20C3]
Inscriptions: M. Hainzmann and E. Pochmarski, *Die römischen Inschriften und Reliefs von Schloss Seggau bei Leibnitz* (1994) (433 entries). Brooches: RÖ 21–22 (1998–1999), 167. Amphorae from Insula XLI: RÖ 19–20 (1991–1992), 127–41.
Lead tags from Kalsdorf, cloth production centre: E. Römer-Martijnse, *Römische Bleiticketten aus Kalsdorf, Steiermark*, *Denkschr.* 205, Öst. Akad. Wiss. (1990), with revisions by G. Alföldy, *Festschrift J. Untermann* (1993), 1–32. Graffito on pot from grave of votive to Nixae, protective deity of childbirth: *AE* (1999), 1203. Votive to Eboner[i]: *AE* (2001), 1595.
Gleisdorf rural settlement at road junction: T. Lorenz et al., *Der römische Vicus von Gleisdorf: Bericht über die Ausgrabungen 1988–1990* (1999) (inscriptions: *AE* (1995), 1213–14; (1999), 1204–5). Katsch cemetery: S. Ehrenreich, RÖ 32 (1993), 9–40.
Inscriptions from territory: *AE* (1994), 1337, cf. (1997), 1223 (Zell near Stubenberg, Hartberg); (1995), 1215 (Grafenberg near Hartberg); (1998), 1019 (St Ulrich am Ulrichsberg); (1999), 1206 (Victoria Augusta relief from Peggau, north of Graz); (2001), 1596 (Mühlendorf, Eppenstein, Judenberg).
58. *Poedicum* (Bruck an der Mur AUS) [B20C2]
Kugelstein settlement: RÖ 37 (1998), 101–36.
- Poetovio (18) to Siscia (31)**
59. *Andautonia* (Ščitarjevo CRO) [B20D4]

- B. Vikić-Belančić, *Croat. Arch. Soc.*, op. cit. (n. 10) (1978), 159–76; (1979), 129–54.
60. *Aqua Viva* (Petrijanec CRO) [B20D3]
I. Sarić, *Croat. Arch. Soc.*, op. cit. (n. 10) (1978), 177–95.
61. *Pyrrhi* (Komin CRO) [B20D3]
- Poetovio (18) to Mursa (Pi.43) by Drava valley
Aqua Viva (60)
62. *Populi* (East of Varaždin CRO) [B20D3]
63. *Aquae Iasae* (Varaždinske Toplice CRO) [B20D3]
B. Vikić-Belančić (No. 59 above). Votives: *AE* (1993), 1289; (1998), 1044 (plaque to Sol).
64. *Iovia* (Ludbreg HUN) [B20F3]
65. *Sonista* (Kunovec Breg CRO) [B20D3]
66. *Piretis* (Draganovec CRO) [B20D3]
67. *Lentulis* (near Gradac CRO) [B20E3]
68. *Cardono/Iovia* (Gradina CRO) [B20E4]
69. *Cocconis* (Sopje CRO) [B20E4]
70. *Serota* (Verőce HUN) [B20E4]
71. *Serena* (Viljevo near Našice CRO) [B20F4]
72. *Marinianis/Magniana* (Donji Miholjac CRO) [B20F4]
73. *Vereis* (Podravski Podgajci CRO) [B20F4]
74. *Iovalia* (Valpovo CRO) [B20F4]
75. *Mursella* (Petrijevci CRO) [B20F4]
- Savaria (24) to Mursa (Pi.43)
76. *Mestrianis* (Zalaszentgrót HUN) [B20E3]
77. *Volgum* (Fenekpuszta HUN) [B20E3]
I. Tóth, *Folia Archaeologica (Budapest)* 37 (1986), 163–81.
78. *Silicenis* (Beleg HUN) [B20E3]
79. *Limusa* (Szigetvár HUN) [B20E3]
80. *Sopianae* (Pécs HUN) [B20F3]
F. Fülep, *History of Pécs in the Roman Era* (1984). Inscriptions: *AE* (1996), 1258 (bf. cos.); (2000), 1218 (epitaph of soldier in Legion III Italica).
81. *Antiana* (Popovac CRO) [B20F4]
- Savaria (24) to Aquincum (Pi.4)
82. *Moge(n)tiana* (Tuskevár HUN) [B20E2]
Inscriptions: *AE* (1994), 1388–91 (since *RIU*, op. cit. (n. 30) vol. 2); (2001), 1632–8. Epitaphs of Ti. Claudii from tumulus linked with villa at Baláca: *AE* (1996), 1223–32; (1998), 1049. New wall paintings from Baláca: S. Palágyi, *Kölner Jahrbuch* 24 (1991), 199–202.
83. *Caesariana* (Szentkirályszabadja HUN) [B20E2]
84. *Floriana* (Csakvar, Bicske area HUN) [B20F2]
Roman finds in Eraviscan wagon burial at Zsambek, E. Bónis, *Festschrift J. Fitz*, op. cit. (n. 6), 53–9.
85. *Lussomana* (Bicske HUN) [B20F2]
- Savaria (24) to Arrabona (Ps.21)
86. *Bassiana* (Sárvár HUN) [B20D2]
87. *Mursella* (Kisárpás HUN) [B20E2]
Milestones (3) from Menfőcsanak (A.D. 218 (2) and 244/247) indicating provincial boundary: *AE* (2000), 1183 (J. Fitz, *Alba Regia* 29 (2000), 160–1). Local pottery in early Roman settlement: E. Szőnyi in Tejral-Pietá-Rajtár, op. cit. (n. 7, 1995), 217.
- Scarbantia (25) to Vindobona (Ps.2)
88. *Muteno* (Leithaprodersdorf AUS) [B20D2]
I.O.M. votive by *speculator* of X Gemina, early third century A.D.: *AE* (2001), 1645 (Mullendorf near Eisenstadt).
- Sopianae (80) to Gorsium and the Danube
89. *Iovia* (Heténypuszta HUN) [B20F3]
90. *Tricciana* (Ságvár HUN) [B20F3]
91. *Gorsium* (Tác HUN) [B20F2]

Auxiliary camp: *Limes XIII* (op. cit. (n. 17)), 316–21. Problem of imperial cult: *AE* (1993) (E. Tóth and J. Fitz). Revised reading of votives: G. Alföldy, *ZPE* 115 (1997), 225–41. Votive to Eraviscan deity Deus Teutanus dated 1 May A.D. 211: *AE* (2001), 1692. Papers on Gorsium topics in *Festschrift J. Fitz*, op. cit. (n. 6), 15–21 (early auxiliary tombstones); 71–80 (imports of Italian sigillata); 29–45 (wall-paintings).

Epitaph from villa at Csákberény north of Gorsium: P. Kovács, *ZPE* 121 (1998), 287–90 (third-century *eques n(umeri) III T(h)rac(um)*).

92. *Iasulones* (Baracska HUN) [B2oF2]

RIV. Adriatic Coast to Sava Valley through Dinaric Range

I. Bojanovski, *Dolabellas Strassensystem in der römischen Provinz Dalmatien* (1974). On early date of Burnum-Tilurium-Narona military road: M. Sanader, *Limes XVIII* (op. cit. (n. 17)), 713–18.

Senia to Siscia (RIII.31)

1. *Senia* (Senj CRO) [B2oB5]

Epitaphs and votives: *AE* (1994), 1369; (1998), 1032–4.

2. *Terponus* (Gornje Modruš CRO) [B2oC4]

3. *Metulum* (Viničića near Ogulin CRO) [B2oC4]

Late epitaph on local type of cremation chest: *AE* (1993), 1275 (Vujasković south of Karlovac). Early Christian hill settlement at Kučar on river Kupa near Metlika: Ciglencečki, op. cit. (n. 101), 96–8.

4. *Ad Fines* (Buševac near Velika Gorica CRO) [B2oD4]

Iader to Burnum and Siscia (RIII.31)

5. *Iader* (Zadar CRO) [B2oC5]

Urban population: *AE* (1993), 1272; 1273 (epitaph). Proconsul Cn. Baebius Tamphilus Vala Numonianus, c. 27–25 B.C.: *AE* (2000), 1181.

6. *Nedinum* (Nadin CRO) [B2oC5]

7. *Asseria* (Podgradje, Benkovac CRO) [B2oC5]

Liburnian conical tombstones: *AE* (1993), 1257–69. Magistrate: *AE* (2001), 1624.

8. *Burnum* (Ivoševci near Kistanje CRO) [B2oC5]

Inscriptions: *AE* (1999), 1233–9 (authentication of eighteenth–nineteenth-century MS record). Aqueduct: *Materijali* 17 (1980), 109–22.

9. *Ninia* (Knin CRO) [B2oD5]

On the area see *Croat. Arch. Soc.*, op. cit. (n. 10), (1992).

10. *Splonum* (Gornje Vrtače near Drvar BOS) [B2oD5]

From Salona to Servitium

11. *Salona* (Solin near Split CRO) [B2oD6]

E. Marin (ed.), *Longae Saloniae* 1–2 (2002); *Salona Christiana* (1994); I Babić (ed.), *Zbornik Tomislava Marasovića* (2002).

Rock-cut boundary inscriptions of P. Cornelius Dolabella (A.D. 14–20) in Trogir area: *AE* (1995), 1229–30.

Inscriptions and epigraphic studies: N. Cambi, *RÖ* 17/18 (1989–1990), 61–72 (early epitaphs of Legion VII); Cautes relief: M. Šašel-Kos, *Tyche* 8 (1993), 145–7 (*AE* (1993), 1252); fragments of martyrium table: *AE* (1993), 1253; private benefactions: *AE* (1994), 1346; cult of Cybele: *AE* (1994), 1348. New inscriptions: *AE* (1994), 1345–53 (Kastel Sućurac); 1355–9 (early legionary and auxiliary epitaphs re-used in chamber tomb), 1360 (Lečevica); (1996), 1207–15 (Japirko SW cemetery); (1997), 1230–2 (Silvanus altars); (1999), 1227–8 (Grudina), 1229; *AE* (2001), 1606–21, cf. (1996), 1209–15 (catalogue of private collection), 1622 (gladiator monuments), 1623 (Grudine).

Oneum (Omiš): *AE* (1996), 1206 (votives to Augustus and head of Tiberius linked with visit of Drusus in A.D. 17–20).

12. *Setovia* (Sušan near Sinj CRO) [B2oD6]

13. *Osinium* (Sinj CRO) [B2oD6]

14. *Aequum* (Čitluk near Sinj CRO) [B2oD6]

15. *In Alperio* (Prolog BOS) [B2oD6]
 16. *Pelva* (Lištani BOS) [B2oB6]
 Cremation urn of veteran of I Adiutrix: *AE* (1998), 1028.
 17. *Salvium/Salvia* (Vrba, Glamočkopolje/Halapić near Glamoč BOS) [B2oD5]
 18. *Sarnade* (Pecka near Mrkonjić Grad BOS) [B2oE5]
 19. *Aemate* (Dobrnja on Vrbas BOS) [B2oE5]
 20. *Castra* (Banja Luka BOS) [B2oE5]
 21. *Ad Ladios* (Trn near Banja Luka BOS) [B2oE5]
 22. *Ad Fines* (Laktaši BOS) [B2oE5]
 Longer variant route between In Alperio and Aemate
 23. *Bariduum* (Livno BOS) [B2oE6]
 24. *Ionnaria* (Stubo-vrelo BOS) [B2oE5]
 25. *Sarute* (Strojice BOS) [B2oE5]
 26. *Indenea* (Mujdžići BOS) [B2oE5]
 27. *Baloie* (Šipovo on Pliva BOS) [B2oE5]
 28. *Leusaba* (Mrkonjić Grad BOS) [B2oE5]
 Salona (II) to Bathinus (Bosna) valley
 29. *Pons Tiluri/Tilurium* (Trilj/Gardun CRO) [B2oD6]
 Excavations: M. Sanader, *Opuscula Archaeologica (Zagreb)* 25 (2001), 183–94. Early military tombstones: *AE* (1995), 1231–2; (1999), 1230–2. On soldiers of Legion VII: *AE* (1996), 1216.
 Epitaphs from Prološac, Imotski: *AE* (1998), 1029–31.
 30. *Delminium* (Lib, Borčani BOS) [B2oE6]
 Magistrate and *scriba*: A. Škegro, *ZPE* 101 (1994), 287–98 (*AE* (1994), 1361–4).
 31. *In Monte Bulsinio* (Privala BOS) [B2oE6]
 32. *Bistue Vetus* (Duvno BOS) [B2oE6]
 33. *Ad Matricem* (Otinovci, Kupres BOS) [B2oE5]
 34. *Bistue Nova* (Bugojno BOS) [B2oE5]
 35. *Stanecli* (Mali Mošunj BOS) [B2oE5]
 Epitaph of child from near Kiseljak: *AE* (1997), 1229.
 36. *Aquae S.* (Ilidža near Sarajevo BOS) [B2oF6]
 Narona to upper Narenta (Neretva) and Bathinus (Bosna) valleys
 37. *Narona* (Vid CRO) [B2oE6]
 E. Marin *et al.*, *The Rise and Fall of an Imperial Shrine: Roman Sculpture from the Augusteum at Narona* (1994). E. Marin *et al.*, *Vid (Narona)* (1999) (reprinting of articles from 1902–1998).
 Inscriptions: E. Marin *et al.*, *Corpus Inscriptionum Naronitarum I: Erešova Kula, Ichnia 4, Naron 2* (1999) (*AE* (1999), 1221). Five new votives: *AE* (1998), 1021–5. Dolabella votive: *AE* (1999), 1223.
 Unpublished texts and stamps from military base at Bigeste: *AE* (2000), 1174–80.
 38. *Ad Turres* (Tasovčići near Čaplinja BOS) [B2oE6]
 39. Nevesinje BOS
 40. Gačko BOS
 Stele: *AE* (1994), 1342 (Temus B(a)tonis f. Narensai).
 41. Konjic BOS
Aquae S. (No. 36)
 Epidaurum to Drinus (Drina) valley and Sirmium
 42. *Epidaurum* (Cavtat CRO) [B2oF7]
 43. *Asamum* (Trebinje BOS) [B2oF7]
 44. *Ad Zizio* (Mosko north of Trebinje BOS) [B2oF7]
 45. *Plana* (Plana near Bileća BOS) [B2oF7]
 46. *Ustikolina* BOS [B2oF6]
 47. *Municipium S.* (Komino YUG) [B21B6]
 Settlements and cemeteries: Zotović, *op. cit.* (n. 13, 2002). Cults: *AE* (2001), 1604. Name of city: *AE* (1998), 1026. Votive by imperial procurator A.D. 270(?): *AE* (1998), 1027.
 48. Goražde BOS [B21A6]

49. *Ris*(?) (Rogatica BOS) [B2oG6]

50. *Malves(i)a* (Skelani on Drina) [B2IB6]

Inscriptions from Karan and area: P. Petrović, *Rimski kameni spomenici iz Karana, Titovo Užice* (1986); *AE* (1994), 1340 (Claudii from Pannonia); from excavation of Byzantine fort near Čačak: *AE* (2001), 1605, cf. (1996), 199–1204.

51. *Domavium* (Gradina) [B2IB5]

52. *Ad Drinum* (Zvornik?) [B2IB5]

Votive (third-century) to Apollo Gangarensis from Sitarice south of Valjevo: *AE* (1994), 1341.

53. *Gensis* (Lesnica on Iadra) [B2IB5]

RV. South Adriatic and Aegean to Danube by Morava and Timok Valleys

B-L = Biernacka-Lubańska, op. cit. (n. 23, 1990)

Lissus to Naissus by Drin valley, Kosovo and Toplica valley

On the location of stations Nos 4–6 in Kosovo see E. Dobruna-Salih and Z. Mrdita, *Materijali* 17 (1980), 53–68 and 163–7. The Augustan origin of this route is argued by Syme, op. cit. (n. 38), 130 and 206.

1. *Lissus* (Lezha ALB) [B49B2]

2. *Ad Picaria(s)* (Puka? ALB) [B49B1]

3. *Creveni* (Vau i Dejes? ALB) [B49C1]

4. *Gabuleum* (Prizren? YUG) [B49C1]

5. *Theranda* (Suva Reka? YUG) [B49C1]

6. *Ulpianum* (Gračanica YUG) [B49D1]

On the Raška mining region see M. Vasić (ed.), *The Fortress of Ras*, Arch. Inst. Monogr. 34 (1999).

7. *Vindenis* (Glavnik YUG) [B2ID7]

8. *Ad Fines* (Kuršumlja? YUG) [B2ID6]

On lead ingot: *AE* (1994), 1512 (Q. Gn(orii?)). Milestone of Gordian A.D. 242: *AE* (1998), 1117.

9. *Hammeum* (Prokuplje YUG) [B2ID6]

10. *Ad Herculem* (Žitoradja YUG) [B2ID6]

11. *Naissus* (Niš YUG) [B2ID6]

Thessalonica to Naissus (11) by Axios/Vardar and Morava valleys

On the centrally organized military control of roads in Macedonia in the late Roman period: A. Dunn, *Limes XVIII* (op. cit. (n. 17)), 705–12.

12. *Thessalonica* (Saloniki GRE) [B49E3]

13. *Ad Decimum* (Nea Anchialos GRE) [B49E3]

14. *(E)Idomene* (Isar Marvinci MAC) [B49E2]

V. Sokolovska, *Isar-Marvinci and the Vardar Valley in Ancient Times* (1986), with different locations for Nos 16 (Gradista, Negotino) and 19 (Knezje NE of Velez).

15. *Stenas* (Gradec MAC) [B49E2]

16. *Antigoneia* (Tremnik? MAC) [B49E2]

17. *Stobi* (Gradsko MAC) [B49D2]

Late mosaics: *Materijali* 18 (1978), 19–34 and 219–30.

18. *Gurbita* (unlocated) [B49D2]

19. *Bylazora* (Titov Velez? MAC) [B49D2]

20. *Adcephalon* (near Basino Selo MAC) [B49D2]

21. *Scupi* (Skopje MAC) [B49D1]

22. *Aquae* (Vranjska Banja YUG) [B49E1]

23. *Anausaro* (Vladičin Han YUG) [B49E1]

24. *Ad Fines* (near Džep YUG) [B2IE7]

Stobi (17) to Serdica

For settlements along this route: Beldedovski, op. cit. (n. 13).

25. *Astibos* (Štip MAC) [B49E2]

26. *Bargala* (Goren Kozjak MAC) [B49E2]
Late mosaics: *Materijali* 18 (1978), 35–46.
27. *Tramušpara* (Kratovo? MAC) [B49E1]
28. *Pautalia* (Kjustendil BUL) [B49E1] (B-L, 250)
L. Rusena-Slokoška, *Pautalia I: Topographie, urbanisme et système de fortifications* (1989).
Inscriptions: *AE* (1999), 1398–1401; (2000), 1292; (2001), 1753 (early fifth century).
29. *Spinopara* (Konjavo BUL) [B49E1]
30. *Serdica* (Sofia BUL) [B21E7] (B-L, 256)
Inscription of A.D. 152 from Balgarski Izvor near Teteven (Sofia): ‘praesidia et burgos ob tutelam provinc(iae) Thraciae ... per fines civitatis Serd(ic)nesium regione Dyptens(ium) praesidia n(umero) IIII, burgi n(umero) XII, phruri n(umero) CIX’, *AE* (2000), 1291 (cf. (1957), 279).
- Scupi (21) to Ulpianum (6) by Lepenac and Stinica valleys**
31. *Kačanik* (YUG)
Naissus (11) to Viminacium (Ms.14) by Morava valley
On the Hadrianic Via Nova from Viminacium south to Dardania: M. Mirković, *Limes XII* (op. cit. (n. 17)), 745–55, discussing *IMS* (op. cit. (n. 35)) II no. 50; not accepted as a new construction by M. P. Speidel, *Arh. Vestnik* 34 (1984), 339–41.
32. *Gramrianae* (near Draževac YUG) [B21D6]
33. *Praesidium Pompeii* (Neriča Han, Rutovac? YUG) [B21D6]
34. *Cametas* (Ražanj YUG) [B21D6]
35. *Dasmin(i)um* (Bračin? YUG) [B21D6]
36. *Sarmates* (Gornje Vidovo? YUG) [B21D6]
37. *Horreum Margi* (Čuprija YUG) [B21D6]
Possible early legionary base, from time of Dacian wars, with stamps of VII Claudia: Gudea, op. cit. (n. 22, 2001), 19 with n. 102.
38. *Ad Octavum* (Glogovac YUG) [B21D5]
39. *Idimum* (Medvedja YUG) [B21D5]
M. Vasić and G. Milošević, *Mansio Idimum: Roman Post Station near Medvedja* (2000) (review J. J. Wilkes, Prehistoric Society web site www.ucl.ac.uk/prehistoric/reviews/04_02_vasic.htm).
40. *Bao* (Velika Laole? YUG) [B212D5]
41. *Iovis Pagus* (Veliki Popovac YUG) [B21D5]
42. *Municipium* (Kalište YUG) [B21D5]
43. *Ad Nonum* (Nabrdje YUG) [B21D5]
- Naissus (11) to Bononia (Ms.70) by Timacus (Timok) valley**
44. *Timacum Maius* (Knjaževac YUG) [B21E6]
45. *Timacum Minus* (Ravna YUG) [B21E6]
Fort on left bank of river Timok; earth and timber, *coh. I Montanorum* c. A.D. 68–80; *coh. I Thracum Syriaca* Vespasian–Trajan; stone by A.D. 112–114; *coh. I Thracum Syriaca* Trajan; *coh. Aurelia Dardanorum* late second century (Gudea, op. cit. (n. 22, 2001)). On the activities of robbers (*stationarii*) in the area: *AE* (2001), 1728. Votive to Diana Augusta: *IMS*, op. cit. (n. 35), III/2, n. 4.
46. *Castra Martis* (Kula BUL) [B21E6]
Imperial villa and mausolea at Romuliana (Gamzigrad): D. Srejić (ed.), *Roman Imperial Towns and Palaces in Serbia* (1993); with C. Vasić, *Imperial Mausolea and Commemoration Memorials at Gamzigrad, East Serbia* (1994). A similar complex, linked with Maximinus, has been identified in the same area at Šarkamen, D. Srejić *et al.*, *Starinar* 47 (1996), 232–43.
- Timacum Maius (44) to Ratiaria (Ms.73)**
47. *Combustica* (Kladorup BUL) [B21E6]
- Naissus (11) to Serdica by Dragoman pass**
48. *Mediana* (Brzi Brod YUG) [B21E6]
P. Petrović, *Mediana: Residence of Roman Emperors* (1994). Votives to Asclepius: *AE* (1997), 1305–7.

49. *Radices* (Jelašnica? YUG) [B21E6]
50. *Ulmo* (Ostrovica YUG) [B21E6]
51. *Remesiana* (Bela Palanka YUG) [B21E6]
52. *Latina* (near Crnoklište YUG) [B21E6]
53. *Turres* (Pirot YUG) [B21E6]
54. *Translitis* (Dimitrovgrad? BUL) [B21E6]
55. *Ballanstra* (Kalotina BUL) [B21E6]
56. *Meldia* (Dragoman BUL) [B21E7]
57. *Scretisca* (Kostinbrod BUL) [B21F7]

RVI. Strymon (Struma) and Hebrus (Maritsa) Valleys across Haemus (Stara Planina) to Lower Danube

B-L = Biernacka-Lubańska, op. cit. (n. 23, 1990); ZG = Zahariade and Gudea, op. cit. (n. 23)
 An instructive comparison with travel in this region in the Roman period is provided by K. Belke, 'Roads and travel in Macedonia and Thrace during the middle and late Byzantine period', in R. Macrides (ed.), *Travel in the Byzantine World* (2002).

Amphipolis to Oescus (Mi.12) by Strymon and Oescus (Iskar) valleys

1. *Amphipolis* (Amphipolis GRE) [B49F3]
2. *Drabeskos* (Draveskos? GRE) [B49F3]
3. *Sirra* (Serres GRE) [B49F2]
4. *Skotoussa* (Siderokastro GRE) [B49 F2]
5. *Paroikopolis/Parthikopolis* (Sandanski? BUL) [B49F2]
6. *Neine* (Ilindenci BUL) [B49F2] (B-L, 248).
7. *Scaptopara* (Blagoevgrad BUL) [B49F1]
8. *Germania* (Sapareva Banja BUL) [B49F1] (B-L, 255)
9. *Serdica* (RV.30)
10. *Opletnja* BUL [B21F6]
10. *Mezdra* BUL [B21F6] (B-L, 236).
11. *Vicus Trullensium* (Kounino? BUL) [B22B5]

Shrine of the Thracian horseman at Glava Panega, later associated with Asclepius and Hygiea: *AE* (1995), 1327.

Serdica to Hadrianopolis by Maritsa valley

12. *Extuomne* (Kazičane BUL) [B21F7] (B-L, 263).
13. *Burgaraca* (Lesnovo BUL) [B21F7]
14. *Sparata* (Vakarel BUL) [B21F7]
15. *Helice* (Ihtiman BUL) [B22A6] (B-L, 248).

Construction of *tabernae et praetoria per vias [militares]* in A.D. 61, already recorded elsewhere, *IGBulg*, op. cit. (n. 36), V 5691 (*AE* (1999), 1397).

16. *Soneio/Succorum Claustra* (Trajanovi vrata BUL) [B22A6] (B-L, 245 and 256).
17. *Egerica* (Mirovo BUL) [B22A6]
18. *Bessapara* (Pazardjik BUL) [B22B6]
19. *Philippopolis/Trimontium* (Plovdiv BUL) [B22B6] (B-L, 253)
20. *Sernota* (Manole) [B22B6] (B-L, 251).
21. *Parembole/Castra* (Belozem? BUL) [B22C6] (B-L, 243).
22. *Cillis* (Cherna Gora BUL) [B22C6]
23. *Carassura* (Rupkite BUL) [B22C6] (B-L, 254)

M. Wendel (ed.), *Thracian Settlement Karasura II* (2002) (prehistoric burials and coins of fourth–seventh century from excavations of 1981–1997). Inscriptions found since 1981: *Klio* 73 (1991), 468–73, 481–8; 74 (1992), 401–5.

24. *Pizus* (Dimitrievio BUL) [B22C6] (B-L, 245)
25. *Arzus* (Kalugerovo BUL) [B22C6]
26. *Burdepa* (Svilengrad BUL) [B51G1] (B-L, 258)
27. *Hadrianopolis* (Edirne TKY) [B51H1]

Philippopolis (19) to Oescus (Mi.12) by Troian Pass

M. Madjarov, *Arheologiya (Sofia)* 32 (1990), 18–29; I. Christo *et al.*, *Roman Roadside Stations on the Oescus–Philippopolis Road (Ad Radices-Montemno-Sub Radices)* (2004).

28. *Viamata* (Mihitsi BUL) [B22B6]

29. *Sub Radices* (Hristovo Danovo BUL) [B22B6] (B-L, 248)

30. *Diocletianopolis* (Hisariya BUL) [B22B6] (B-L, 247–8)

31. *Monte Haemo* (Kartsovija Bouk BUL) [B22B6]

Major settlement and fort controlling Troian Pass, second–third-century inscriptions, A.D. 234, *coh. II Mattiacorum* after A.D. 145, *coh. I Cisipadensium* A.D. 236/238–240/241 (ZG114).

32. *Ad Radices* (Popina Leka, Kamene Most BUL) [B22B6] (ZG113)

33. *Sostra* (Lomets BUL) [B22B6] (B-L, 236; ZG112)

Excavations of auxiliary fort, with votives to Pius and Severus (A.D. 198–202): *AE* (2001), 1747–8.

34. *Melta* (Lovech BUL) [B22B5] (B-L, 236; ZG111)

35. *Doriones* (Slatina/Pleven BUL) [B22B5] (B-L, 237; ZG110)

36. *Storgosia* (Kalik BUL) [B22B5] (ZG109)

37. *Ad Putea* (Riben BUL) [B22B5] (ZG108)

Augusta Traiana to Novae by Shipka Pass

38. *Beroe/Augusta Traiana* (Stara Zagora BUL) [B22C6] (B-L, 257)

Aurelius Sabinus from Syria, priest and wine merchant for Dacia: *AE* (1991), 1401. Greek votive from Kortzen, for G. Iulius Teres, consular and priest of Sabazios erected by equestrian L. Sempronius Tertullus: H. Muller, *Chiron* 31 (2001), 450–9 (*AE* (1991), 1390).

39. *Seuthopolis* (near Dunovo BUL) [B22C6]

40. *Emporium Discoduratae* (Gostilitsa BUL) [B22C5]

Settlement with Severan and fourth-century defences (B-L, 234; ZG117).

Greek votives to Philip by senate and people of Augusta Traiana, as founder of the emporium, *IGBulg*, op. cit. (n. 36), V 5257 (*AE* (1999), 1389).

41. *Nicopolis ad Istrum* (Nikiup BUL) [B22C5]

Planned Trajanic city with second-century defences, late castrum attached on east, fifth–sixth century (ZG124).

Anglo-Bulgarian excavations: A. Poulter (ed.), *Nicopolis ad Istrum*. (1) *A Roman, Late Roman and Early Byzantine City* (1995); (2) *The Pottery and Glass* (1999); also A. Poulter in Slokoška *et al.*, op. cit. (n. 14, 2002), 14–29 on the field survey and excavation of the *burgus* at Dichin (Mi.25). Papers in the same volume relate to the earlier city, on which there is R. and T. Ivanov, *Nicopolis ad Istrum I* (1994).

Inscriptions: *IGBulg*, op. cit. (n. 36), V 5216, statue for governor in A.D. 270 or 271; also bilingual epitaphs from Gorna Oryahovitsa: *AE* (1999), 1385–6. Greek votive to Mithras: V. Naydenova, *Hommages J. Blazquez* (1996).

Cabyle to Nicopolis ad Istrum (41) by Vratnik Pass (1070 m)

42. *Cabyle* (Yambol BUL) [B22D6]

Inscriptions since *IGBulg*, op. cit. (n. 36), in 1972: V. Velkov in *Cabyle 2* (1991) (*AE* (1999), 1370–83): Severan construction of Dolichenus shrine, with votives to Severi.

RVII. Black Sea Coast to Lower Danube: Odessus to Delta by Coast

B-L = Biernacka-Lubańska, op. cit. (n. 23, 1990); ZG = Zahariade and Gudea, op. cit. (n. 23)

Coastal defences in Dobrudja: A. Suceveanu, *Bonn. Jahrbücher* 192 (1992), 192–223.

1. *Odessus* (Varna BUL) [B22E5]: Greek city, major port and military station (B-L, 240; ZG76).

2. *Gerania* (Kranevo BUL) [B22F5]

3. *Dionysopolis* (Balchik BUL) [B22F5]: Greek city, from A.D. 198 in Moesia Inferior; defences restored in late fourth century (B-L, 241; ZG79).

4. *Aphrodision* (Topola? BUL): fortified coastal settlement (Plin., *HN* 4.44), possibly identified with settlement in territory of Dionysopolis (*IGBulg*, op. cit. (n. 36), V 5011, lines 29–30; *AE* (1999), 1347), S. Torbatov in Slokoška *et al.*, op. cit. (n. 14, 2002), 260–4.

5. *Bizone* (Kavarna BUL) [B22F5]: settlement and probable fort (B-L, 241; ZG74).
6. *Tirizis* (Kaliakra BUL) [B22F5]: Hellenistic and Roman defences on headland, reconstructed under Constantius II (B-L, 241; ZG73).
7. *Karon Limen?* (Shabla BUL) [B22F6]: possible fleet harbour (ZG72).
8. *Timum* (unlocated): fort? on Dura shield (ZG71).
9. *Callatis* (Mangalia ROM) [B22F5]: Greek city and port, military base, stamps of V Macedonia, bf. cos. base (ZG70).

Inscriptions: *IscM*, op. cit. (n. 37), III (ed. A. Avram) (1999). Territory of the city: A. Avram, *Dacia* 35 (1991), 103–37 (*AE* (1993), 1372). New reading and dating of treaty with Rome (*IscM*, op. cit. (n. 37), III, 1) to 106–101 B.C., *AE* (1997), 1319.

10. *Stratonis Turris* (Cape Tuzla ROM): *burgus?* (ZG69k).
 11. *Telpis* ROM: *burgus?* (ZG69j).
 12. *Tomis* (Constanța ROM) [B22F4]: Greek city and port, Roman metropolis, military and fleet base; *cob. VII Gallorum* (Trajan), *cob. I Cilicum*, bf. cos. station (ZG69).
- Fragments of votive by imperial freedman under Trajan (*IscM*, op. cit. (n. 37), II 38 and 42) now united, *REG* 104 (1991), 574–83. Four milestones re-used in late chamber tomb (A.D. 200, Gordian, Valerian-Gallienus, Claudius II): *AE* (1993), 1374–7; milestone of Elagabalus with name erased and replaced by Aurelian: *AE* (1994), 1532; epitaphs: *AE* (1995), 1339–44; votive under Pius, votive in Greek and Latin in A.D. 198–209: *AE* (1997), 1324–5; milestones of A.D. 293–305: *AE* (1997), 1326–28; votive by metropolis Tomitana to Etruscilla and Younger Decius: *AE* (1998), 1150; votive to Dea Syria: *AE* (1994), 1343.
13. *Palazu Mare* ROM: early *burgus*, 3 km south-east of Ovidiu (ZG68i).
 14. *Vicus Turris Mucaporis* (Anadolchioi ROM) [B22F4]: watchtower recorded on inscription, *IscM*, op. cit. (n. 37), 2 no. 141 (ZG68h).
 15. *Vicus Scaptia* (Palazul Mare ROM) [B22F4]
 16. *Vicus Celeris* (Vadul? ROM) [B22F4]
 17. *Lacus Pyrgus* (unlocated): *burgus?* (ZG68g).
 18. *Histria* (Istria ROM) [B22F4]: Greek city and port, military station, stamps of I Italica, XI Claudia, *cob. II Hispanorum Aravacorum*, Moesian fleet base, bf. cos. station manned by I Italica (ZG68).

P. Alexandrescu *et al.*, *Histria: eine griechischen Stadt an der rumanischen Schwarze-meerkuste*, *Xenia* 25 (1990).

Histria VIII Amphora Stamps: 1 Thasos (ed. A. Avram) (1996); 2 *Sinope* (ed. N. Conovici) (1998). IX *Les statues et les reliefs en pierre* (ed. M. A. Vianu) (2001).

Chronological list of city's benefactors by K. Nawotka, *AE* (1997), 1315. New fragment of record of *strategos* of Mithridates, now dated c. 90–89 B.C. rather than to 72–71 B.C.: *AE* (1997), 1316. Votive to Pius by ex-soldier *magistri* of *vici*: *AE* (1998), 1148. Latin epitaph of fourth-century decurion of Histria: *AE* (1998), 1149. Merchant from Nicomedia: *AE* (1999), 1344. Cemetery: V. Teleaga and V. Zirra, *Die Nekropole des 6–1 Jahrs v. Chr. Von Istria Bent bei Histria*, *Int. Arch.* 83 (2003).

19. *Vicus Quintionis* (near Istria ROM) [B22F4]
20. *Vicus Buteridavensis* (Sariurt? ROM) [B22F4]
21. *Argamum* (Sarichioi?/Cape Doloman-Jurilovca? ROM) [B22F4]: Hellenistic fortifications re-used in Roman period, partly eroded by Razelm Lake (ZG67).

Excavations (1979–1983) of *burgus* at Toprachioi, *Limes XIII* (op. cit. (n. 17)), 562–72.

22. *Ad Salices* (6 Martie/Caramanchioi? ROM), fort? (ZG66).
23. *Vallis Domitiana* (Agighiol/Sarichioi? ROM): possible fort near Tulcea (ZG65).

Odessus (1) to Sexaginta Prista (Mi.30)

24. *Marcianopolis* (Reka Devnija BUL) [B22E5]: Trajanic planned city, military station in third century (B-L, 233; ZG137).

Construction of fortifications in territory of the city in A.D. 152: *AE* (2000), 1268.

Greek epitaph of gladiator, late second–early third century: *AE* (1996), 1337.

25. *Shoumen* BUL [B22D5]: second–third-century fort?, on site of Thracian settlement (B-L, 239; ZG133).
26. *Abritus* (Razgrad BUL) [B22D5]: walled settlement, military station second–third century, *legio XI Claudia*, *cob. II Lucensium* (B-L, 238; ZG132).

New *statio* of bf. cos. attested by votives, one to Epona, incorporated into later walls, ZPE 100 (1994), 484–6 (AE (1993), 1369–70).

Marcianopolis (24) to Durostorum (Mi.48)

27. *Palmatis* (Kochular? BUL) [B22E5]: fortified settlement (ZG152).

One of two milestones of A.D. 237–238 records distance ‘a Palmatis m.p. II[...]’, AE (2001), 1736–7.

Tomis (12) to Altinum (Mi.55)

28. *Tropaeum Traiani* (Adamclisi ROM) [B22E4]: Trajanic city, early third-century defences, reconstructed early fourth century, military station, V Macedonica before A.D. 170, vexillation of I Italica Moesica and V Macedonica Dacica in late second century, XI Claudia in third century (ZG153).

M. Sâmpetru, *Tropaeum Traiani II: monumentele romane* (1984).

Problem of duplicate inscription of the Tropaeum may arise from a Constantinian restoration of the original text of A.D. 109, AE (1996), 1335a–b.

Tomis (12) to Carsium (Mi.65)

Roads and milestones in the Dobrudja region: M. Barbulescu *et al.*, *Pontica* 31 (1998), 120–9.

29. *Ulmelum* (Pantelimon de Sus ROM) [B22F4]

Monument to member of imperial guard who died in battle at Chrysopolis (Chalcedon) on 8 September A.D. 324, perhaps fighting on the side of Licinius: M. P. Speidel, *Chiron* 25 (1995), 83–7 (AE (1995), 1338 = (1976), 631), or perhaps not: D. Woods, *Chiron* 27 (1997), 85–93 (AE (1997), 1317). On Romanization and the cult of Silvanus in this region, with reference to *IscM*, op. cit. (n. 37), V 66 and 67: AE (1999), 1342 (Z. Gočeva).

Tomis (12) to Novidunum (Mi.77)

30. *Vicus Hi*(...) (Dorobanțul ROM) [B22F4]

31. *Vicus Urb*(...) (Rîmnicul de Jos ROM) [B22F4]

32. *(L)Ibida* (Slava Rusă ROM) [B22F4]

Settlement in area in second–seventh century A.D.: A. Opaiț *et al.*, *Die Schwarzmeerküste in der Spätantike und der frühen Mittelalter* (1992), 103–12.

APPENDIX B: THE DANUBE CORDON

Noricum (N)

The following abbreviations are employed: FK = Friesinger-Krinzinger, op. cit. (n. 18); KV = Kandler-Vetters, op. cit. (n. 18); G = Genser, op. cit. (n. 18).

1. **Passau Altstadt** GER (*Batavis*) [B12G4]: last fort in Raetia, on tongue of land at Inn-Danube confluence; timber, late first century A.D.; *cob.* IX *Batavorum* (J. Niemeier, H. Wolff and H. Bender, *Geschichte der Stadt Passau* (1999)).

2. **Passau-Innstadt** AUS (*Boiotro*) [B12G4]: late fort above Inn confluence, trapezium plan c. 50 by 50 by 20 m; late third–early fourth century (see No. 1).

Graffito from *vicus* recording purchase of mortarium for half a denarius: AE (1999), 1215.

3. **Schärding**, St Marienkirchen AUS (*Abaoco*?): late brick and tile works (KV, 69–71).

4. **Passau-Innstadt** AUS (*Boiodurum*) [B12G4]: timber fort, c. 1.3 ha, Domitianic, *cob.* *quingenaria*; stone fort, c. 1.3 ha, *cob.* V *Breucorum* after Marcus (FK, 150–4). Passau Haibach, *burgus*; tower?, second–third century; stone tower, 12 by 12 m with ditch, fourth century (FK, 154–6).

5. **Kempelstein** (Esternberg AUS), *burgus*? (G, 747).

6. **Roning** (Engelhartzell AUS), *burgus*? (G, 747).

7. **Oberanna** AUS (*Stanacum*?) [B12G4]: fortlet, late second century, *cob.* V *Breucorum*?; late fortlet, 12.5 by 17 m, with external round towers (FK, 160).

8. **Schlögen** AUS (*Ioviacum*?) [B12G4]: fort, Hadrianic–Marcomannic period, *cob.* V *Breucorum* (stamps), destroyed c. A.D. 300; fourth century, quadrangular fort with round towers, 0.65 ha, Legion II Italica (stamps), fleet base with *milites liburnarii* (KV, 160–4).

H. Bender and G. Moosbauer, *Das römische Donaukastell Schlögen*, Passauer Univschrift. Zur Arch. 8 (2003) (finds from excavations of 1957–1959 and 1984).

9. **Rossgaben/Kobling** AUS: *burgus*; stone tower 8 by 8 m, opposite Muhl valley (G, 77–80).

10. **Hilkering, Hartkirchen** AUS: *burgus*(?) (G, 747).

11. **Asbach** AUS: probable fort or *burgus* indicated by finds (KV, 80–1).

12. **Eferding** AUS (*Ad Mauros*) [B12H4]: late first-century fort?, *coh. Maurorum*?; late fort?, *equites promoti* (KV, 81–2).

13. **Wilhering** AUS: late brick works, stamps of Legion II Italica (FK, 173).

14. **Hirschleitengraben** AUS: *burgus*; stone tower 6 by 6 m, late second–early third century; stone tower, 9.55 by 9.75 m, late fourth-century stamps (KV, 84–6).

15. **Linz** AUS (*Lentia*) [B12H4]: fort, possibly Claudian or late first century A.D., cavalry unit; stone fort, Hadrian–Pius, *ala I Pannoniorum Tampiana* (c. A.D. 200), *ala Thracum*? second–third century; fort, late third–fourth century, *legio II Italicae pars inferior, equites sagittarii* (FK, 180–7).

E. M. Ruprechtsberger, *Limes XIX* (op. cit. (n. 19)), Abstracts 82–3 (excavations of 1989 and 1997–1998 with Terra Sigillata). Leonding cremation (also two inhumations) cemetery, second–third century, on Linz–Wels road: J. Steinberger, *Die römische Grabfunde von Leonding*, Linzer Arch. Forsch. Sonderheft 24 (2000).

Inscriptions: *AE* (1998), 1013 a–c (tile stamps); on bases of glass vessels made in Aquileia by *Sentia Secunda*, *AE* (1999), 1214 a–b.

16. **Lorch/Enns** AUS (*Lauriacum*) [B12H4]: possible Claudian fort, 120 by 80 m (KV, 26 contra); legionary fortress, 539 by 398 m, 21 ha, late second century, II Italica; reconstructed in late third and early fourth century; fleet base, unlocated (FK, 187–97).

Civil town: H.-J. Ubl in Šašel-Kos and Scherrer, op. cit. (n. 9), 257–6. On the command area of the legion inferred from locally-produced fourth-century reliefs: L. Eckhardt, *RÖ* 11/12 (1983/1984), 17–40.

17. **Albing** AUS [B12 H4]: legionary fortress, 568 by 412 m, 23.3 ha, late second century, vacated in favour of Lauriacum because of flooding, II Italica p.f., *ala Antoniana*; military base, Valentinian? (KV, 105–9).

18. **St Pantaleon** AUS: fourth-century brickworks on bank of Ertl east of Enns, II Italica (FK, 195–6).

19. **Au Rotte Hof** (Engelbachmühle AUS): *burgus*; stone tower, 9 by 9 m, II Italica stamps (FK, 195–6).

20. **Wallsee** AUS (*Ad Iuvense* or *Loacus Felix*) [B12H4]: earth-and-timber fort, 3.2 ha; stone fort, *coh. I Aelia Brittonum*; late fort, Legion I Noricorum at Ad Iuvense (KV, 113–17; FK, 196–201; against identification with Ad Iuvense).

21. **Aschbach** (Amstetten AUS): settlement on Danube road? (*TIR*, op. cit. (n. 2), *M*33, p. 22 no. 254).

22. **Abetzbürg** south of Wallsee AUS: *burgus*? (*TIR*, op. cit. (n. 2), *M*33, p. 19 no. 253).

23. **Schweinbürg**, south-west of Wallsee AUS: *burgus*, late fourth century (FK, 201–2).

24. **Mauer an der Url** AUS (*Loacus Felix*) [B12H4]: fort on right bank of Url, earth and timber, late first century; stone fort, 200 by 160 m, second century?; late fort, *equites sagittarii*? (KV, 117–21).

25. **Ardagger Markt** AUS: fort or *burgus*(?) at entrance to Strudengau (G, 747).

26. **Ybbs** AUS (*Ad Iuvense*?): *burgus* at exit of Strudengau constructed in A.D. 370 by *milites auxiliares Lauriacenses*, *legio I Noricorum* stamps (KV, 122–3).

27. **Neumarkt an der Ybbs** AUS (*Ad Ponte(m) I(ve)ses*) [B12I4]: *burgus* at river crossing (KV, 123–4).

28. **Sarling** AUS: *burgus* near mouth of the Ybbs, 2.60 m internal (KV, 124).

29. **Pöchlarn** AUS (*Ar(e)lape*) [B12I4]: fort and fleet base near mouth of Erlauf on east bank, perhaps an island in Roman times; timber and earth, late first century A.D.?, *coh. quingenaria*; stone fort, *coh. I Flavia Brittonum milliaria*; late brick works, *of(ficina) Ar(lapensis) n(ova)*; fleet base on south side of ‘island’ (KV, 124–8).

30. **Wieselberg** AUS: *burgus* upstream of Erlauf (G, 747).

Silver bowl (614 gr) inscribed I.O.M., probably from Balkan workshop: *AE* (2001), 1600a–b.

31. Melk-Spielburg AUS (*Namare*) [B12I4]: road settlement and *burgus*, 15 by 15 m (KV, 128–30).
32. Loosdorf AUS: *burgus*? (G, 747).
33. Aggsbachdorf AUS: *burgus*? (G, 747).
34. Bacharnsdorf AUS: *burgus* at mouth of Kupfer valley, 12.2 by 12.2 m, late fourth century (KV, 130–2).
35. St Lorenz AUS: *burgus* (FK, 206–7).
36. Rossatzbach-Windstallgraben AUS: *burgus*, 12.4 by 12.4 m (FK, 207–8).
37. Oberbergen AUS: *burgus* (G, 747).
38. Weissenkirchen AUS: *burgus* on Danube left bank in Wachau (G, 747).
39. Mautern AUS (*Favianis*) [B12I4]: fort on major Danube crossing at exit from Wachau; timber and earth, first century, *coh. II Batavorum milliaria*; stone fort, 180 by 240 m, 4.86 ha, early second century; reduced late fort in south half; I Noricorum (FK, 208–15).
V. Gassner *et al.*, *Das Kastell Mautern-Favianis*, Röm. Limes in Öst. 39 (2000). S. Groh, *Die Grabung 1998 im Kastellvicus sud von Mautern an der Donau* (2001). *Limes XVII* (op. cit. (n. 17)), 375–7 (revised phasing).
Cemeteries: M. Pollak, *Spätantike Grabfunde aus Flavianis/Mautern* (1993).
Brick stamps: AE (1997), 1227; (2000), 1148. Pottery kilns of early second century in *vicus*: *Limes XVIII* (op. cit. (n. 17)), 567–72. Stamps and graffiti on Terra Sigillata: AE (2001), 1598–99.
40. St Pölten AUS (*Cetium*) [B12I4]: settlement, *municipium* under Hadrian, on frontier road by-passing Wachau (FK, 215–20).
P. Scherrer in Šašel-Kos and Scherrer, op. cit. (n. 9), 213–44. Milestones of A.D. 217/218 ('a. Cetio m.p. XVI') from Gemeinlebern on road to Tulln: AE (1998), 1014–15. Epitaph of A.D. 313 from Nussdorf am Traisen: AE (2001), 1597.
41. Mauternbach AUS: *burgus*? (G, 747).
42. Gottweig AUS: *burgus*? (G, 748).
43. Krems AUS: *burgus*? on Danube left bank (G, 748).
44. Gobelsberg AUS: *burgus*(?) on Danube left bank (G, 748).
45. Traismauer AUS (*Augustiana*) [B12I4]: fort on east side of mouth of Traisen; timber-and-earth fort, 4.06 ha, late first century A.D., *ala I Augusta Thracum*; stone fort, second century?, *ala*?; late fort, *equites Dalmatae* (FK, 221–5).
46. Hollenburg AUS: *burgus*(?) on promontory (KV, 140–1).
47. Maria Pönnsee AUS: *burgus*, tower with circular ditch, second century?; tower 50 m distant, 6 by 6 m, with circular ditch and palisade, third century? (KV, 146–7).
48. Etsdorf am Kamp AUS: *burgus*(?) on Danube left bank 12 km north-east of Krems; Valentinian? (KV, 231–2).
49. Fels am Wagram AUS: Danube left bank; fortlet, 160 by 120 m?, Ursicinus stamps, Valentinian? (KV, 231–2).
50. Zwentendorf AUS (*Asturis*?) [B12I4]: fort, earth and timber, 154 by 100 m, c. 1.5 ha, late first century A.D.; stone fort, 100 by 174 m, Trajanic, *coh. V Breucorum equitata*, *coh. Asturum* (stamps); late fort, I Noricorum (KV, 148–53).
51. Murstetten (Weissenkirchen AUS): *burgus* on river Perschling (G, 748).
52. Tulln AUS (*Comagena*) [B12I4/B13B4]: timber and earth fort, 4.2–4.5 ha, *ala I Commagenorum*, first–third century; stone fort, Trajanic; late fort, *equites promoti*, *classis (Co)maginensis* (FK, 226–30).
53. Trübensee AUS: *burgus* on Danube left bank at crossing opposite Tulln (G, 748).
54. Zeiselmauer AUS (*Cannabiaca*?) [B13B4]: timber and earth fort? Flavian?; stone fort, c. 2.1 ha, second–third century, *coh. II Thracum equitata*; late fort; *burgus*, 20 by 20 m in north-east corner, late fourth–early fifth century (FK, 231–6).
55. St Andrä an der Hagenthale AUS: *burgus* west of Zeiselmauer (G, 748).
56. Plank am Kamp AUS: temporary camp, 130 by 120 m (KV, 236–7).

Pannonia Superior (Ps)

References: FK, G, and KV see under Noricum; V = Visy, op. cit. (n. 20, 2003); S, before nos of *burgi* from Solva (41) to Dunabogdány (53), refers to number in Soproni, op. cit. (n. 20, 1978); M refers to Roman campaign bases north of the Danube as numbered by J. Musil in *Festschrift J. Tejral*, op. cit. (n. 7), 870–94.

1. **Klosterneuburg** AUS (*Arrianis?*) [B13B4]: fort, timber and earth, Flavian, *coh. Montanorum prima*; stone fort, Trajanic, *coh. II Batavorum milliaria p.f.*; stone fort, 2.2 ha, Hadrian–third century, *coh. I Aelia sagittariorum milliaria equitata*; late fort, 2.2. ha?, *equites promoti, gens Marcomannorum* (FK, 236–40).

Late Roman and German cemetery: J. Neugebauer *et al.*, *Limes XIV* (op. cit. (n. 17)), 585–95. Greek record of masseur (*aleiptes*) of unit commander, from Miletopolis in Asia Minor: *ZPE* 99 (1993), 203–6 (*AE* (1992), 1446).

2. **Wien** AUS (*Vindobona*) [B13B4]: timber and earth fort, Domitian, *ala I Flavia Britannica milliaria*; legionary fortress, stone, 455 by 500 m, 18.5 ha, A.D. 97–early third century, XIII Gemina A.D. 97–101, XIII Gemina A.D. 101–118/119, X Gemina A.D. 118/119–?; legionary fortress, 455 by 500 m, 18.5 ha, early third–fifth century, X Gemina (FK, 241–52).

Recent research: *Limes XVIII* (op. cit. (n. 17)), 573–84 (M. Kronberger *et al.*); on civil town, 585–9 (I. Mader); on *canabae*, 591–604 (S. Sakl-Oberthaler *et al.*); *Limes XIX*, Abstract 24 (including the manufacture of iron swords).

Comparison of brick stamps and fabrics produced here and at Carnuntum (No. 13), *Limes XIX*, Abstract 33.

3. **Wien-Leopoldau** AUS: remains of bridgehead on Danube left bank opposite fortress, second century (KV, 232).

4. **Wien-Landstrasse** AUS: timber and earth fort, ? by 350 m (ditch), first century A.D., *ala* or cohort (KV, 184–7).

5. **Wien-Döbling** AUS: *burgus*, Valentinian stamps (KV, 175–6).

6. **Wien-Hernals** AUS: brickworks, first–fourth century (KV, 176–7).

7. **Schwechat** AUS (*Ala Nova*) [B13B4]: fort, earth and timber, A.D. 118/119–?, *ala I Thracum victrix?*; stone fort, 170 by 200 m, 3.4 ha, mid-second century, *ala*/legionary detachment; late fort, 170 by 200 m, 3.4 ha, *equites Dalmatae* (KV, 187–92).

8. **Fischamend** AUS (*Aequinoctium*) [B13B4]: fort, timber and earth?, *ala?*, late first century A.D.?, late fort, stone, *equites Dalmatae* (KV, 192–5).

9. **Maria Ellend** AUS: two or more stone *burgi*, 4 by 4.80 m, within walled enclosures, 12 by 12.75 m (KV, 195–7).

10. **Regelsbrunn** AUS: fortlet, 10 by 11 m, tower dated A.D. 300 (KV, 197–9).

11. **Höflein** AUS: Am Kirchberg, 5 km from Danube; stone fortlet, 61.85/64.50 by 52.5/54.75 m, occupied second–fourth century; three watchtowers in same area (FK, 253–8).

12. **Petronell** AUS (*Carnuntum*) [B13B4]: fort, timber and earth, 178 by 195 m (ditch), from A.D. 60s, *ala I Hispanorum Aravacorum* under Vespasian, *ala I Tungrorum Frontoniana* c. A.D. 80–89/90, *cohors I Alpinorum peditata* A.D. 89/90–, *ala III Thracum sagittaria* c. A.D. 106–; stone fort, 178 by 207 m, 3.66 ha, *ala I Thracum veterana sagittaria* end of Trajan, *equites/pedites singulares, ala I Thracum victrix?* A.D. 118/119 to late fourth century (KV, 208–12); Petronell (*Carnuntum*): military-type ditches indicate early fort on east of civil town (KV, 212–13).

H. Stiglitz (ed.), *Das Auxiliarkastell Carnuntum I* (1997); M. Kandler (ed.), *II* (1997).

On the civil town (*municipium* later *colonia*): FK, 263–8.

The prominent late Roman four-way monument (Heidentor), now dated from spolia to Constantius II: W. Jobst, *Das Heidentor von Carnuntum* (2001), with inscriptions indicating date of A.D. 351–361. Corinthian capitals, etc.: *Limes XIV* (op. cit. (n. 17)), 561–73, 639–50. Epona shrine: W. Jobst, *ActArchHung* 41 (1989), 349–58.

Inscriptions: *AE* (1998), 1042 (votive to Silvanus Domesticus in A.D. 218; also *AE* (2001), 1651); 1043 (votive by pipe-inspector (*immunis tubularius*)); (1999), 1248 (votive to Bona Valetudo); 1249 (votive to Aequitas); (2001), 1650 (centurion of XV Apollinaris).

Mixed community indicated by burials and monuments in the territory of the *municipium*, with divisions more marked in early period: J. Beszedes, *Limes XIX* (op. cit. (n. 17)), Abstract 14.

13. Deutsch Altenburg AUS (*Carnuntum*): fortress, timber, 17 ha, late Tiberius/Claudius, XV Apollinaris; fortress, timber and stone, 17 ha, Claudius/Nero, X Gemina A.D. 62–68, VII Gemina A.D. 68–69, XXII Primigenia A.D. 69–71, XV Apollinaris A.D. 71–; fortress, stone, 335–400 by 480 m, 17 ha, early second century, XV Apollinaris, XIII Gemina A.D. 118/119–; fortress, stone, 335–400 by 480 m, 17 ha, end of second century, XIII Gemina; fortress, stone, 335–400 by 480 m, 17+ ha, end of third–fifth century (FK, 258–63); Deutsch Altenburg (*Carnuntum*): fort, possible remains (KV, 220–1); Deutsch Altenburg (*Carnuntum*): watchtowers, 350 m east of fortress, 5 by 6 m; 400 m to south-east, 5.50 by 5.50 m; c. 600 m to south-west, and a fourth to the south (KV, 221–2).

On the much-debated Severan construction phase — post-Marcomannic recovery or planned monumentalization — see M. Kandler, *Festschrift Tejral*, op. cit. (n. 7), 43–52. On Carnuntum at the end of the Roman period, compared with other similar locations: R. Kastler, *Limes XVIII* (op. cit. (n. 17)), 605–24.

The distinctive ‘legionary ware’ originates with legions stationed in Germany and was introduced by them to the Danube, V. Gassner *et al.*, *Limes XVI* (op. cit. (n. 17)), 301–9.

A new reading of the Pfaffenberg texts (on which see *Limes XII* (op. cit. (n. 17)), 659–69) describes the inhabitants of the *canabae* as ‘c(ives) R(omani) cons(istentes) Carnunti intra leugam pr(imam)’, that is dwelling within an area of one league (2.2 km) of the fortress: I. Piso, *Tyche* 6 (1991), 131–69 (*AE* (1991), 1309–14, cf. (2000), 1186).

Other votives: temple architrave in the Jupiter sanctuary with a figure of L. Aelius Caesar, known to have been in Pannonia A.D. 136–137, *AE* (1994), 1396; a votive column or statue for Maximinus on 11 June A.D. 286, *AE* (1995), 1262.

Another Jupiter shrine in the west (Mühläckern) in a precinct of eastern deities was for I.O.M. Heliopolitanus, with figured images distinct from those of the official Pfaffenberg precinct: G. Kremer, *Limes XIX* (op. cit. (n. 17)), Abstract 48. A shrine to Sarapis and Isis is dated to Caracalla, *AE* (2001), 1209; there is an altar with six faces to Liber and Libera from the sanctuary east of the *canabae*, *AE* (2001), 1646–7.

Dipinti on amphorae have revealed the role of centurions in procuring supplies to the fortress, *AE* (1996), 1251–2 (cf. (1995), 1264–5). Lamps: E. Alram-Stern, *Lampen aus Carnuntum*, RLO 35 (1989). Glass production: RÖ 19–20 (1991–1992), 7–10.

Cemeteries: V. Gassner *et al.*, *Untersuchungen zu den Gräberfeldern in Carnuntum*, RLO 40 (1999).

New finds from sites in the hinterland: H. Zabeňlicky, *Limes XVII* (op. cit. (n. 17)), 623–7. At the Bruckneudorf/Parndorf villa these include a large threshing-floor, *Limes XIX*, Abstract 25; the record of a *pr(inceps) c(ivitatis) Boiorum*, *AE* (1999), 1251; an altar to Silvanus Domesticus by a *servus saltuarius*, from Bruck an der Leitha, *AE* (1994), 1397; a magistrate of the *municipium Aelium* [Carnuntum] from the same location, *AE* (1997), 1256; stamped military and civic bricks from the villa at Höflein, *AE* (1998), 1046 a–c; also epitaphs of veterans, including a *primuspilus*, from Mannersdorf am Leithaberg, *AE* (2001), 1652–5 also 1645 (*speculator* of leg. X).

14. Stopfenreuth AUS: bridgehead fortification opposite Carnuntum (KV, 234–6).

15. Rusovce/Oroszvár SVK (*Gerulata*) [B13C4]: fort, timber, Domitian, *ala I Cannanefatium civium Romanorum*; stone fort, post-Marcomannic wars, *ala I Cannanefatium civium Romanorum*; possible temporary fort, late second century; late fortlet in corner of left *praetentura*.

L. Kraskovská, *The Roman Cemetery at Gerulata/Rusovce, Czechoslovakia*, BAR Suppl. 10 (1976); K. Kuzmová and J. Rajtár (eds), *Gerulata I* (1996) (on the auxiliary fort); Vl. Varsik in Tejral-Pietá-Rajtár, op. cit. (n. 7), 267–80; *Limes XVI* (op. cit. (n. 17)), 73–83; XVII, 629–42 (on native settlements in the area).

16. Gerulata burgi (V, 16–17): (1) Rajka/Ragendorf; (2) Bezenye/Patterdorf; (3) Bezenye/Pattersdorf south; (4) Bezenye/Pattersdorf south-west, stone tower, 6.95 by 7.2 m, second century.

Tile kiln of Legion I Noricorum at (1) Rajka/Ragendorf: L. Borhy, *ActArchHung* 43 (1991), 299–313, RÖ 19/20 (1991–1992), 21–7.

17. Mosonmagyaróvár HUN (*Ad Flexum*) [B20E2]: fort, timber, *coh. II Alpinorum equitata* before A.D. 133–170s; late fort, stone, *cuneus equitum Dalmatarum?*, *equites promoti* (V, 18).

Epitaph of veteran of *ala*, late second century: *AE* (2001), 1644.

18. *Ad Flexum burgi* (V, 17–19): (4) Máriakálnok on left bank of Mosoni Danube opposite mouth of Lajta river; bridgehead, c. 130 by 140 m, tower 6 by 3.5 m, with flanking walls, fourth century; (1) Izabella-major, south-east of Mosonmagyaróvár; (2) Horvátkimle at Danube bend; (3) near Horvátkimle-Kisnyila puszta (Dióstelep).

19. Mosonmagyaróvár HUN: fortlet, timber, 60 by 80 m, 0.5 ha (V, 19–20).

20. Lébény-Barátföldpuszta HUN (*Quadrata*) [B20E2]: fort, timber, c. 105 by 110 m?, 1.15 ha, late Trajanic, *coh. II Alpinorum equitata*, *coh. III Voluntariorum civium Romanorum*, A.D. 118/119–; fort, stone, 113 by 115.5 m, 1.3 ha, Commodus, *coh. III Voluntariorum civium Romanorum*; fort, stone, 113 by 115.5 m, 1.3 ha, Caracalla, *coh. III Alpinorum equitata*, c. A.D. 220–; fort, stone, 113 by 115.5, 1.3 ha, Constantine, *equites Mauri* (V, 20).

21. *Quadrata burgi* (V, 20–1): (1) Sándorházapuszta; (2) Toronyvár-dűlő on west of Kun island (Kunsziget) near bank on bend of Mosoni Danube; (3) north-east of Abda; (4) Abda (Dobsa) on bank of Rábca river.

22. Győr HUN (*Arrabona*) [B20E2]: fort, earth and timber, Claudian, *ala Pannoniorum c. Claudius*, *ala I Augusta Ituraeorum sagittariorum c. Nero*–A.D. 92, *ala I Hispanorum Aravacorum* A.D. 92/113–; fort, stone, c. 150 by 230 m, 3.45 ha, *ala I Ulpia contariorum milliaria civium Romanorum* A.D. 113/114–; fort, stone, c. 150 by 150 m, 2.25 ha, Constantinian, *equites promoti* (V, 21).

Inscriptions on barrel staves used in well at Menföcsanak: ‘immune in r(ationem) val(etudinarii) leg. [I] Ad.’, *AE* (1995), 1259a–e. From area of fort: *AE* (2001), 1641–3 (‘lib(arius) eq. alae cont(ariorum) domo Siscia’).

23. Győr HUN: temporary camp, c. 100 by 130 m (V, 21).

24. Tápszentmiklós HUN: temporary camp with early occupation (V, 21).

25. *Arrabona burgi* (V, 22–5): (1) Győr-Likócs; (2) Győr-Esztergető, 10 by 10 m, second–third century; (3) near Győrszentiván-Újmajor road junction; (8) east of Győr, 1800 m west of Győrszentiván road junction; (4) Inn of Vének, east of Győrszentiván, tower c. 25 m, rhomboid ditch 74 by 74 m; (5) c. 2 km east of Vének Inn; (6) Gönyü, double ditch, 43 by 43 m, c. 60 by 60 m, c. Valentinian; (9) east of Gönyü (Proletár field), single ditch c. 50 by 50 m; (7) east of Gönyü (Proletár field), tower 15 by 15 m, circular ditch 23 by 27 m, second century; (10) west of Ács-Vaspuszta, single ditch c. 70 by 70 m.

26. Ács-Vaspuszta HUN (*Ad Statuas*) [B20E2]: fort, timber, Trajanic, *coh. III Voluntariorum civium Romanorum*; fort, timber, c. 105 by 110 m, Hadrianic, *coh. I Thracum equitata civium Romanorum c. A.D. 118/119*–third century; fort, stone, 106 by c. 112 m, 1.19 ha, Commodan, *coh. I Thracum equitata civium Romanorum* A.D. 118/119–third century; fort, stone, 106 by c. 112 m, 1.19 ha, Constantinian (V, 25).

Votive to Deus Invictus Sarapis and Isis Regina linked with visit of Caracalla in A.D. 213: *AE* (2000), 1202; to Capitoline Triad by praef. leg. II Adiut., *AE* (2000), 1212.

27. *Ad Statuas burgi* (V, 27–8): (1) 2.8 km south of Ács-Vaspuszta fort, single ditch c. 46 by 46 m; (2) Ács-Papista (Felsőszőlők), south-east of Ács-Vaspuszta fort.

28. Ács-Bumbumkút HUN (*Ad Mures*) [B20E2]: fort, timber and earth?; fort, stone, c. 126 by 180 m, c. 2.27 ha, (V, 28–9).

29. *Ad Mures burgi* (V, 29–30): (6) on island north of Ács, opposite mouth of river Concó; (1) west of Koppánymonostor, tower 9.55 by 9.55 m, circular ditch c. 60 m diameter, Valentinian; (2) Szunyogvár cottage, Koppánymonostor; (3) Koppánymonostor, Molnár/Harsányi farm; (4) Koppánymonostor, Gyürky cottage, single ditch 45 by 45 m, Valentinian?; (5) Koppánymonostor, Kóvári villa.

30. Szőny HUN (*Brigetio*) [B20F2]: fortress, stone, 430 by 540 m, 23.2 ha, end of first century A.D., XI Claudia to A.D. 106, XXX Ulpia Victrix A.D. 106–123/124, I Adiutrix A.D. 123/124–; fortress, stone, 430 by 540 m, 23.2 ha, Marcus–Caracalla, I Adiutrix; fortress, stone, 430 by 540 m, 23.2 ha, Tetrarchy, I Adiutrix; fortress, stone, 430 by 540 m, 23.2 ha, Constantinian, I Adiutrix (V, 30–4).

Civil town: V, 31–2.

Milestone of A.D. 238, B. Lőrincz, and E. Szamado, *ZPE* 101 (1994), 205–7 (‘vias vetustate conlapsas cum pontibus per leg. Adi. a Brig(etione) m.p. II’).

Pottery imports, G. Fényes, *Limes XIX* (op. cit. (n. 17)), Abstracts 26–7; pottery traffic across the Danube, K. Kuzmová, *Limes XVII*, 699–704; pottery production: G. Fényes,

ActArchHung 54 (2003), 101–63. Epitaph (new reading) of shipper of sigillata from Pons Aeni (Pfaffenhofen) on river Inn (RI.36): *AE* (1999), 1246. Bone production: *ActArchHung* 39 (1987), 153–92. Metal-working: *Limes XIII*, 301–7.

31. **Brigetio fort**: stone fort east of Szőny, 140 by 170 m, 2.38 ha, cohort? (V, 37–8 no. XVII).

32. **Iža/Leányvár SVK** (*Celamantia*) [B2oF2]: fort on left bank, timber, Pius–Marcus, *ala I Hispanorum Aravacorum*, Trajan–?; fort, stone, 175 by 176 m, 3.1 ha, Marcus–Commodus, *ala*?; fort, stone, 175 by 176 m, 3.1 ha, Constantinian (Visy, op. cit. (n. 20, 1988), 57–8).

Floral and faunal remains, M. Hajnatova, *Limes XIX* (op. cit. (n. 17)), Abstract 34; weapons and armour, J. Rajtár, *Journal of Rom. Mil. Equipment* (1994–1995), 83–95.

Temporary camps in the area: J. Rajtár, *Limes XVI*, 473–7.

33. **Brigetio, temporary camps** (numbers according to V, 34–8): (1) cohort, Claudius–Domitian; (2) cohort, 102 by 110 m = 1.1 ha; (4) *ala*, 160 by 195 m = 3.1 ha; (5) cohort, 120 by 155 m = 1.9 ha; (6) cohort, 90 by 130 m = 1.2 ha; (7) *ala milliaria*?, 260 by 320 m = c. 8.32 ha; (8) *ala*?, c. 200 by 275 m = c. 5.4 ha; (9) cohort, c. 135 by 140 m = c. 1.8 ha; (10) cohort, 135 by 185 m = 2.5 ha; (11) *numerus*, 80 by 100 m = 0.8 ha; (12) *ala*, 165 by 260 m = 4.3 ha; (13) *ala/ala milliaria*, c. 190 by c. 290 = c. 5.75 ha; (15) cohort, c. 110 by 145 m = 1.6 ha.

34. **Brigetio burgi** (V, 33–8): (5) west of *porta decumana* of fortress, single ditch 46 by 23 m; (6) west of fortress in *canabae*, single ditch 32 by 32 m; (7) west of fortress in *canabae*, single ditch 32 by 32 m; (8) east of Szőny, beneath railway; (1) Szőny–Kuruc hill, tower 10 m square, single ditch 80 by 80 m, Valentinian; (2) Almásfüzitő–Perjépuszta, factory buildings; (3) west of oil refinery; (4) on Danube left bank, 2 km from Iža fort.

35. **Almásfüzitő HUN** (*Odiavum* [*Azaum*]) [B2oF2]: fort, timber, Trajanic, *ala I Britannica civium Romanorum* A.D. 97–101, *ala I Bosporanorum* A.D. 101–118/119, *ala III Augusta Thracum sagittaria* A.D. 118/119–; fort, stone, 166 by 203 m, 3.36 ha, Pius–end of second century, *ala III Augusta Thracum sagittariorum* A.D. 118/119–; fort, stone, 166 by 203 m, 3.36 ha, Constantinian, *equites Dalmatae*; fortlet, stone, 31.8 by 32.5 m, 1 ha, early fifth century (V, 38–9).

Temporary camp at Radvaň, near mouth of the Žitava, opposite Odiavum: J. Rajtár, *Limes XVI* (op. cit. (n. 17)), 473–7.

36. **Odiavum burgi** (V, 39–42): (1) c. 500 m east of fort, rhomboid tower 16 by 17 m, fourth century; (1a) Bolcsik bridge, 430 m from fort; (2) Duna-almás, Calvinist church; (3) west of Neszmély, tower 9.5 by 9.5 m, single ditch 38 by 38 m, palisade 34 by 34 m, Constantinian/Valentinian; (4) Almásneszmély, Kalin hill, oval ditches 27 by 40 m, 40 by 56 m, 51 by 98 m, Constantius II/Valentinian; (5) east of Almásneszmély, round ditches c. 17 by 23 m, 36 by 45 m; (6) Lábatlan–Piszke near Danube bank, Valentinian; (7) Sánci Szolok, south of Nyergesújfalu fort, fourth century.

37. **Nyergesújfalu HUN** (*Crumerum*) [B2oF2]: fort, timber, *coh. V Callaecorum Lucensium*; fort, stone, c. 100 by 119 m, 1.19 ha, second half of second century, *coh. V Callaecorum Lucensium*; fort, stone, c. 100 by 119 m, 1.19 ha, Constantinian, *equites promoti* (V, 42–3).

Fibula with gladiators in combat: *AE* (2001), 1639.

Temporary camp at Muzla, 3 km from Danube left bank: J. Rajtár, *Limes XVI* (op. cit. (n. 17)), 473–7.

38. **Tokod**; late fort, stone, 118 by 142 m, 1.6 ha, Valentinian (V, 45–6).

On glazed pottery, the date and function of the fort: E. Bónis, *ActArchHung* 43 (1991), 87–150.

39. **Crumerum burgi** (V, 44–6): (1) east of Nyergesújfalu, coal depot, square tower 15 by 15 m, ditches c. 26 by 26 m, 45 by 45 m, second–third century, Valentinian; (2) Esztergom–Zsidód, stone tower, 9.8 by 9.9 m, single ditch, palisade, Valentinian; (3) Esztergom–Szentkirály; (4) Esztergom, Danube island.

40. **Esztergom HUN** (*Solva*) [B2oF2]: fort, timber, Flavian–A.D. 118/119, *coh. I Batavorum milliaria pia fidelis civium Romanorum*; fort, stone, A.D. 118/119–Marcus, *coh. I Ulpia Pannoniorum milliaria equitata*, second–third century; fort, stone, first half of fourth century, *equites Mauri, cuneus equitum scutariorum* (V, 46–7).

Monumental head of Apis linked with Caracalla in Pannonia: *AE* (2000), 1202 (also No. 26 above); career of equestrian officer decorated in Domitian's Dacian war: *AE* (1994), 1392; discussion of text of *burgus* inscription of A.D. 357: *AE* (1999), 1264; new inscriptions,

B. Lőrincz and M. H. Kelemen, *Klio* 79 (1997) (*AE* (1997), 1260–6, including Liber Pater votive), also *AE* (1993), 1291.

41. *Solva burgi* (V, 47–8): (1) Esztergom-Szentgyörgymező (S1), stone tower, 9.6 by 9.7 m, circular ditch 28 m, Valentinian; (2) Esztergom-Szentgyörgymező (S2), stone tower 9.3 by 9.3 m, Valentinian; (3) Esztergom-Szentgyörgymező (S3), stone tower 9 by 9 m, Valentinian; (4) Esztergom-Szentgyörgymező (S4), stone tower 10 by 10 m, Valentinian; (5) Esztergom-Déda (S5), stone tower 10 by 10 m, Valentinian; (6) Esztergom-Déda (S6), stone tower 11 by 11 m, Valentinian; (7) Esztergom-Búbánatvölgy (S7) stone tower 9.5 by 9.5, Valentinian; (8) Esztergom-Búbánatvölgy (S8), stone tower 8.15 by 8.18 m, Valentinian.

42. *Esztergom-Hidegtelek-kereszt HUN*: late fort, stone, 102 by 65 m, Valentinian (V, 48).

43. *Solva burgi* (V, 48–50): (9) Pilismarót-Basarharc (S9), stone tower 10 by 10 m, fourth century; (10) Pilismarót-Basarharc (S10), stone tower 9.25 by 9.25 m, Valentinian; (11) Pilismarót-Basarharc (S11), stone tower 9.48 by 9.48 m, single ditch 26 by 26 m, Valentinian; (11a) Pilismarót-Basarharc, timber tower, circular ditch, first–second century; (11b) Pilismarót-Basarharc, timber tower, c. first half of second century; (12) Pilismarót, Szob ferry (S13), timber tower, single ditch 52 by 52 m; (13) Pilismarót-Basarharc (S12), stone tower 10 by 10.6 m, single ditch 26 by 26 m, Valentinian; (14) Pilismarót-Basarharc (S13), stone tower 9.8 by 9.8 m, Valentinian; (14a) Pilismarót-Basarharc, timber tower, multiple ditches, first-second century; (15) Pilismarót-Dunamelléke (S14), stone tower 10 by 10.7 m, single ditch 26 by 26 m, Valentinian; (15a) Pilismarót-Basarharc, timber tower, ditch 26 by 26 m, second–third century; (16) Pilismarót-Dunamelléke-dűlő, timber tower, second century; (17) Pilismarót-Dunamelléke-dűlő (S15), stone tower 9 by 9 m, Valentinian; (18) Pilismarót landing jetty (S16), stone tower 8.6 by 8.6 m, ditch 28 by 28 m, Valentinian; (19) Pilismarót-Malom stream (S19), stone tower 12.35 by 12.35 m, ditch 59 by ? m, palisade 28 by 16 m, Valentinian.

44. *Pilismarót HUN (Castra Ad Herculem)*: fort, stone, c. 133 by c. 340 m, 4.25 ha, Diocletianic; fort, stone, c. 133 by 340 m, 4.52 ha, Constantius II? (V, 50).

45. *Solva burgi* (V, 50–1): (20) Dömös-Tófenék-dűlő (S18), stone tower, 16 by ? m, second–third century; (21) Dömös, Köves stream (S19), stone tower 11 by 11 m, ditch 34 by ? m, Valentinian; (22) Dömös, landing jetty (S20), stone tower 10 by 10 m, Valentinian.

46. *Visegrád-Gizellatelep HUN*: late fortlet, stone, 36 by 36 m, 0.13 ha, first half of fourth century (V, 51).

47. *Solva burgi* (V, 51): (23) Lepence stream, stone tower 5 by 5 m, c. second century; (23a {=35}) near Lepence stream, stone tower 18 by 18 m, Valentinian; (24) Visegrád-Kőbánya (S22), stone tower 10 by 10 m, ditch 26 by 26 m, internal pillar, Valentinian; (25) Visegrád-ferry street (S23), stone tower 11 by 11 m, Valentinian.

Burgus inscription of A.D. 371, P. Gróf and D. Gróh, *Folia Archaeologica (Budapest)* 47 (1998–1999), 108–9 (*AE* (2000), 1223).

48. *Visegrád-Sibrik Hill HUN (Pon(t)e Navata?)*: late fort, 114 by 130 m, c. 1.5 ha, Constantinian, *auxilia Ursariensis*; stone fort, 114 by 130 m, 1.5 ha, c. Constantius II; stone tower, 13.9 by 13.9 m, post-Valentinian (V, 52).

Inscribed bronze handle in form of head: *AE* (1994), 1394.

49. *Solva burgi* (V, 52–3): (26) Visegrád-Várkert-dűlő (S24), Commodus/third century; (27) Visegrád-Kisvállám (S25), second century; (28) Visegrád-Szentgyörgypuszta (S26), stone tower 10.4 by 10.2 m, Valentinian; (29) Visegrád-Szentgyörgypuszta (S27), stone tower 15 by 15 m, palisade, Valentinian; (30) near Helemba/Chl'aba on Danube left bank opposite Búbánatvölgy (S40), stone tower 10 by 10 m, Valentinian; (31) Dunabogdány-Vadásztanya, on bank of Csódi stream; (32) Dunabogdány-Kőszegető, opposite north-west end of Kecse island (S28), stone tower, 14.06 by 13.06 m, palisade c. 36 by 36 m, Valentinian; (33) 600 m north-east of Dunabogdány fort; (34) on Danube left bank near mouth of Ipoly river, Szob, bridgehead [B20F2].

50. *Kisoroszi-kápolna HUN*: fortlet, stone, c. 40 by c. 50 m, 0.2 ha, first half of fourth century/Valentinian (V, 53–4).

51. *Solva burgi* (V, 54): (36) Pusztatemplom (Gazirétek) near Kisoroszi, stone tower, 10 by 10 m, Valentinian; (37) Kisoroszi, Hosszúréti-dűlő (Pásztorkert), stone tower 12 by 12 m, Valentinian; (38) Nógrádverőce (Verőce), bridgehead tower, 18 by 23 m, two flanking towers, 5 by 5 m, at ends of 14 m walls, Constantinian, rebuilt under Valentinian [B20G2].

52. **Dunabogdány HUN** (*Cirpi*) [B20G2]: fort, timber, Vespasian, *cob. XIII Voluntariorum civium Romanorum*; fort, stone, c. 124 by c. 147 m, 1.82 ha, A.D. 170–third century, *cob. II Alpinorum equitata*; fort, stone, c. 124 by c. 147 m, 1.82 ha, first half of fourth century, *equites Dalmatae, auxilia Fortensia*, part of *legio II Adiutrix*; fortlet, 20.2 by 19.7 m, 0.04 ha, post-Valentinian (V, 54).

53. **Cirpi burgi** (V, 55–6): (1) Tahitótfalu, at mouth of Nyulasi stream on south bank (S29), stone tower c. 10 by 10 m, Valentinian; (2) Leányfalu (S30), stone tower 17.71 by 17.88 m, ditch 32.5 by 32.5 m with palisade inside, four internal pillars, Valentinian; (3) Szentendre, Hunka hill (S31), stone tower c. 30 by 40 m, third century/Valentinian; (4) Tahitótfalu-Szentpéteri-dűlő, Jisza hill, opposite Dunabogdány fort (S34), stone tower, Valentinian?; (5) Tahitótfalu-Balhavár on east bank of Szentendre island, fortified bridgehead, 24.4 by ?m, Constantius II/Valentinian; (6) Szigetmonostor-Gőd ferry, stone tower, Valentinian?; (7) Vác-Csata-dűlő, opposite Tahitótfalu-Balhavár.

Beyond the Danube: Thaya basin

54. **Bernhardtthal AUS** [B13B4]: marching camp on right bank of Thaya, late second century (KV, 244–7, M12).

55. **Mušov-Burgstall CZE** [B13B4]: settlement and Roman fort, first to late second century. M. Bálek and A. Šedo, *Germania* 74/2 (1996), 399–414; J. Tejral, *BerRGK* 73 (1992), 377–468; R. Hošek, *Festschrift Tejral*, op. cit. (n. 7), 77–8; J. Rajtár, *Limes XVI* (op. cit. (n. 17)), 473–7.

Other Roman camps in this area: Mušov-Na pískách (M2), Ivaň (M3), Příbice (M4), Hrušovany n. Jeviškou (M5), Šakvice (M6), Nové Mlýny (M7), Charvátská n. Ves (M8), Poštorná I and II (M9–10), Valtice II (M11).

56. **Niederleis AUS** [B13B4]: Roman fort, late second century (*TIR* (op. cit. (n. 2)) M33 64).

57. **Oberleis AUS** [B13B4]: Roman base late second century, with stamps of X Gemina; late fourth century, Ursicinus stamps. Stone *principia*, 35 by 17 m, possible residence of *tribunus gentis Marcomannorum* (KV, 238–40).

58. **Kollnbrunn AUS**: marching camp, 590 by 390 m, late second century? (KV, 241 M13).

59. **Stillfried AUS** [B13B4]: Roman base on March c. 70 km north of Danube on line of Amber Route, late second century, stamps of X Gemina; late fourth century Ursicinus stamps (KV, 241–4, M14). Also camps at Suchohrad (M15) and Záhorská Ves (M16).

60. **Engelhardtstetten AUS**: marching camp, c. 700 m by c. 700 m (KV, 234).

61. **Bratislava-Devín SVK** [B13C4]: possible Roman base at oppidum: K. Elschak in Tejral-Pietá-Rajtár, op. cit. (n. 7), 39–52 (Dubravka), V. Placha and K. Pietá, *Limes XIV* (op. cit. (n. 17)), 763–9.

62. **Stupava SVK** [B13C4]: Roman base, second century (*TIR* (op. cit. (n. 2)) M33, 80).

63. **Uherské Hradiště CZE** [B13C3]: Roman base, late stamps of XIV Gemina (*TIR* (op. cit. (n. 2)) M33, 84).

Beyond the Danube: Váh/Waag (Duria) basin

64. **Cifer-Pác SVK** [B13C4]: Roman base, stamps of X Gemina, third–fourth century (*TIR* (op. cit. (n. 2)) M33, 35–35).

65. **Trenčín SVK** (*Laugaricio*) [B13D4]: possible site of major military base in last years of Marcus Aurelius (C 13439 cf. Češka-Hošek, op. cit. (n. 30), 16–17, no. 2).

66. **Milanovce SVK** [B13D4]: Roman base, T. Kolník, *Arch. Roz.* 38 (1986), 411–34. Also camps at Zeleneč (M17), Nitra (M18), and Virt (M21).

Pannonia Inferior (Pi)

References V = Visy, op. cit. (n. 20, 2003), V1988 = Visy, op. cit. (n. 20, 1988).

1. **Szentendre HUN** (*Ulcisia Castra*) [B20G2]: fort, timber, Trajan/Hadrian; fort, stone, 134 by 205 m, 2.75 ha, c. Hadrian–Commodus/Caracalla, *cob. I Thracum civium Romanorum pia fidelis*, A.D. 118/119–140s, *cob. I milliaria Aurelia Antoniniana Surorum sagittaria*, A.D. 176–third century; fort, stone (*Castra Constantia?*), 134 by 205 m, 2.75 ha, Constantine/Constantius II, *equites Dalmatae* (V, 56).

Incised brick from Kajár describing the easy life of the workshop proprietor: AE (1999), 1252. ('Surus qui officium dedicatum habet vivat per multa saecula semper').

2. **Gőd-Bócsaújtelep HUN** (*Contra Constantiam*); fort near Danube left bank (V, 56).
3. **Hatvan HUN** [B21B2]: late Roman stone tower, c. 10 by 10 m, within walled enclosure, c. 50 km beyond the Danube where major route crossed the river Zagyva, and was linked with the early fourth-century earth walls (Devil's Dyke) of the Sarmatian plain; late stamps of II Adiutrix (Soproni, op. cit. (n. 20, 1978), 81–6).
4. **Ulcisia Castra burgi** (V, 57–9): (1) Szentendre, Dera stream (S32), bridgehead, 20 by 20 m, Constantius II/Valentinian; (2) north of Budakalász, Luppá Inn, stone tower, 16.3 by 14.8 m, palisade 39 by 39 m, four internal pillars, Valentinian; (3) Budakalász, Barát stream, stone tower, ditch c. 50 by 50 m; (4) Budapest, Csillagtelep, Bivalyos Inn, stone tower 8.1 by 8.1 m, Diocletian–Constantine/Valentinian; (5) Budapest, Csillagtelep, stone tower 8 by 8 m, Commodus; (6) Budapest, Rómaifürdő, stone tower 8.1 by 8 m, Valentinian; (7) Budapest–Homokos-dűlő, stone tower 7 by 7 m, palisade 14 by 14 m, Valentinian; (8) Szigetmonostor–Horány, bridgehead 16 by 22 m, Constantius II; (9) Dunakeszi, bridgehead, Constantius, rebuilt under Valentinian; (10) Szentendre island, south end; (11) Megyeri Inn, south of Szilas stream opposite *burgus* 4; (12) Budapest–Újpest, Sas Inn; (13) Budapest–Újpest, Nép Island (Népsziget); (14) Szentendre island, Szigetmonostor–Fácános, near mouth of Dera stream; (15) north of Aquincum legionary fortress, at crossing to Óbudai island, possibly bridgehead.
5. **Budapest–Óbuda HUN** (*Aquincum*) [B20G2]: fortress, stone, rhomboid, c. 415 by 415 m, 16.6 ha, A.D. 89, II Adiutrix A.D. 89–105, X Gemina A.D. 105–118/119; fortress, stone, 460 by 520 m, 23 ha, A.D. 118/119, II Adiutrix; fortress, stone, 460 by 520 m, 23 ha, Diocletian/Constantine, II Adiutrix; fortress, stone, 300 by 720 m, 21.6 ha, mid-fourth century, II Adiutrix (V, 59–60).
- Fortress excavations: *Limes XIV* (op. cit. (n. 17)), 689–702 (second–third century chronology); XIII, 398–403 (excavations of 1973–1983); XIII, 426–8 (street network); XIV, 709–14 (tribunes' houses); XV, 232–6 (*thermae maiores*); XIV, 703–7 (north *retentura*); XV, 259–62 (barracks); XIV, 715–21 (late Roman and early medieval periods); XVII, 397–403 (reconstruction of *porta praetoria*).
- Mithraeum in house of *tribunus laticlavius*: L. Kocsis, *ActArchHung* 41 (1989), 81–92, J. Fitz, *ibid.*, 93–8 (on individuals recorded), O. Madarassy, *Kölner Jahrb.* 24 (1991), 207–11 (wall paintings), also *AE* (1993), 1308–9.
- Other areas: *Limes XVII* (op. cit. (n. 17)), 651–62 (governor's residence); XIII, 404–8 (*canabae*); XIV, 643 (north cemetery); XVII, 643 (general summary); XIX, Abstracts 55–56 (excavations of 1997–2003).
- Civil town: K. Póczy, 'Die Zivilstadt (municipium spater colonia)', in *Das römische Budapest: neue Ausgrabungen und Funde* (1986); comparative study of *macellum*, O. T. Lang, *ActArchHung* 54 (2003), 165–204.
- Sanctuary of I.O.M. Teutanus not on the Gellért Hill but rather in the area of the *canabae*, where a Jupiter statue has been found: *AE* (1999), 1263; the *civitas Eraviscorum* not attributed to Aquincum: E. Szabó, *AE* (2000), 1222. Imperial cult based at Aquincum, not Gorsium: D. Fishwick, *ZPE* 130 (2000), 257–60.
- Inscriptions: new reading of Greek votive to Asclepius by doctor in the legion's hospital: *AE* (2001), 1690; epitaph of tribune of Legion II Adiutrix from Palaestina, with two equestrian sons, in the court of the synagogue in the *canabae*: *AE* (2001), 1690 a–b; votive to Terra Mater by magistrate of the colony Aquincum, who also set up altars in the mithraeum: *AE* (1995), 1273; votive by legate under Caracalla in A.D. 216–217: *AE* (2000), 1219.
- Stamps on wooden barrel-staves, similar to those from Arrabona (Ps.22): *AE* (1996), 1260–1.
- Re-reading of brick with incised word-squares, 'Rotas opera, etc.?'; also 'Roma tibi subi[to motibus ib]it a[mor]': *AE* (2000), 1221.
- Possible temporary mint established under Severi, south-east of *municipium*, K. Póczy, *ActArchHung* 41 (1989), 495–508.
- Burial rites and imported samian, P. Zsidi, *Limes XVII* (op. cit. (n. 17)), 867–78; statistics of samian finds in Aquincum district 3, *Limes XIX*, Abstracts 57–58.
6. **Budapest–Óbuda HUN**: fort (1), late first century A.D., *ala/cohorts*; fort (2), timber, A.D. 73, *coh. I Tungrorum Frontoniana*, A.D. 73–c. 80, *equites singulares*, c. A.D. 106–third century; fort, stone, mid-second century, *equites singulares* (V, 60).

Early levels in camp and fortress area: P. Zsidi, *Limes XIX* (op. cit. (n. 17)), Abstracts 102–103.

7. **Aquincum burgi** (V, 60): (1) south of Aquincum legionary fortress (29–31 Lajos Street); (2) Budapest, 8 Árpád fejedelem st., stone tower, c. Valentinian.

8. **Budapest-Viziváros HUN**: fort, timber and earth, Claudian, *ala Hispanorum I* Claudius–A.D. 69, *ala I Hispanorum Auriana* A.D. 69–end of 80s (V, 60).

New Danube channel created and site of the fort chosen to avoid flooding: G. Füleky and E. Marity in Chapman and Dolukhanov, op. cit. (n. 2), 231–9. Recent excavations: *Limes XVI* (op. cit. (n. 17)), 399–404, and XIX, Abstracts 46.

9. **Aquincum burgi** (V, 61): (3) Budapest, 26 Csalogány st.; (4) Budapest, 15–17 Lánchíd st., stone towers, c. Valentinian; (5) Budapest, Attila st., near end of Devil's Dyke (Ördögárok), stone tower, Valentinian; (6) Budapest, Rudas Bath; (7) Budapest, 1 Gellért Square, stone tower, fourth century/Valentinian; (8) Budapest, Nádor Garden; (9) Budapest, 109 Budafoki st.; (10) north end of Margit island (Sziget), round stone tower; (11) south end of Margit island (Sziget), tower or bridgehead.

10. **Budapest-Pest HUN** (*Transaquincum*): at mouth of Rákos stream, Pest side of river crossing on Danube left bank, fort, 76 by 76 m, Commodus, reconstructed under Valentinian (V, 61).

11. **Aquincum burgi** (V, 62): (12) Pest, Parliament Square, Danube left bank; (13) Pest, Roosevelt Square, Danube left bank.

12. **Budapest-Pest HUN** (*Contra Aquincum*): Danube left bank, north of Erzébet bridge, stone fort, 86 by 84 m, late second century, reconstructed under Tetrarchy/Constantine (V, 62).

13. **Aquincum burgus** (V, 62): (14) Budapest, Boráros Square.

14. **Budapest-Albertfalva HUN** [B20G2]: fort, timber, 166.5 by 190 m, 3.16 ha, *ala?*, Vespasian; fort, stone and timber, 166.5 by 190 m, 3.16 ha, late Domitianic; fort, stone, c. 186 by c. 210 m, 3.9 ha, Trajan/Hadrian, *ala I Flavia Gaetulorum?* (V, 62–3).

Excavations in *vicus*, with houses, workshops, pottery storage, Flavian occupation: K. Szirmai, *Limes XVI* (op. cit. (n. 17)), 527–9. Possible ditches of temporary camp, *Limes XIX*, Abstracts 91–92.

15. **Budapest-Albertfalva burgus** (V, 63–4): (1) Budapest, Dunaharaszti, tower or bridgehead?, ditch c. 100 by 200 m.

16. **Budapest-Nagytétény HUN** (*Campona*) [B20F2]: fort, timber, Domitian, *ala I Tungrorum Frontoniana* A.D. 89–105; fort, stone, 187 by 200 m, 3.74 ha, mid-second century, *ala I Thracum veterana sagittaria*, Pius–; fort, stone, 187 by 200 m, 3.74 ha, second/third century, *ala I Thracum veterana sagittaria*; fort, stone, 187 by 200 m, 3.74 ha, after A.D. 333, *equites Dalmatae* (V, 64).

17. **Campona burgi** (V, 65–6): (1) south edge of Érd–Ófalu plateau; (2) 125 m south of road junction to Százhalombatta, ditches 38 by 38 m, c. 54 by 54 m; (3) 520 m south of *Campona burgus* 2, ditches c. 32 by 32 m, c. 48 by 48 m; (4) 1100 m south of *burgus* 3, ditches c. 30 by 30 m, c. 40 by 40 m.

18. **Százhalombatta HUN** (*Matrica*) [B20F2]: fort, timber, Trajanic, *coh. I Lusitanorum?* after A.D. 106–118/119, *coh. I Alpinorum equitata* A.D. 118/119–end of Marcomannic wars; fort, stone, 152 by 155 m, 2.35 ha, Commodus, *coh. milliaria Maurorum equitata*; fort, stone, 152 by 155 m, 2.35 ha, c. Caracalla, *coh. milliaria Maurorum equitata*; fort, stone, 152 by 155 m, 2.35 ha, fourth century, *equites promoti* (V, 66–7).

Excavation within fort, P. Kovács, *Limes XVI* (op. cit. (n. 17)), 425–7, XVII, 405–13.

Inscriptions: AE (1993), 1299–1304; (1995), 1267–71; (1999), 1259–60; (2000), 1217–18.

19. **Matrica burgi** (V, 69–72): (1) north side of Hosszú valley, ditch 30 by 30 m; (8) south of Hosszú valley; (2) north of Ercsi, near Eötvös memorial, ditch c. 38 by 38 m; (9) south of Hosszú valley, ditch c. 41 by 41 m; (3) near village of Ercsi; (13) Szigetújfalu, opposite Ercsi; (10) south of Ercsi, ditch c. 40 by 40 m; (4) 3.5 km south of *Matrica burgus* 10, ditch c. 60 by 60 m; (4a) on road from Ercsi plateau to Danube, ditch c. 60 by 60 m; (11) 1230 m north of Ercsi–Sinatelep access road, ditch c. 45 by 45 m; (5) north of Sinatelep road junction, timber tower, ditches c. 23 by 23 m, c. 48 by 48 m, c. Valentinian; (12) 2170 m south of *Matrica burgus* 5, timber tower, ditches c. 30 by 30 m, c. 55 by 55 m, c. Valentinian; (6) on Danube bank north of mouth of Ercsi-Váli-víz; (7) on south bank of Ivánca stream, stone tower, 4 by 4 m.

20. *Ivánca*, fort?, timber? (V, 72).

21. *Adony HUN* (*Vetus Salina*) [B20F2]: fort, timber, c. 144 by ? m, Vespasian; fort, timber, Domitian–early Trajan, *coh. I Ulpia Brittonum milliaria torquata civium Romanorum*; fort, timber, c. 176 by ? m, A.D. 118/119, *coh. III Batavorum milliaria pia fidelis*; fort, timber, c. 176 by ? m, Hadrian–Pius, *coh. III Batavorum milliaria pia fidelis*; fort, stone, Pius–Commodus, *coh. III Batavorum milliaria pia fidelis*; fort, stone, Caracalla, *coh. III Batavorum milliaria pia fidelis*?; fort, stone, late, *equites Dalmatae* (V, 72).

22. *Vetus Salina burgi* (V, 74–6): (1) 750 m south of bend in Adony main channel, ditches c. 28 by 28 m, c. 50 by 50 m, c. Valentinian; (2) east of Adony-Szentmihály hill, ditches c. 25 by 25 m, c. 43 by 43 m, c. Valentinian; (3) south of *burgus* 2; (4) near Kulcs village, Valentinian; (5) Rácalmás railway station; (8) west of Rácalmás, tower, timber, ditches c. 30 by 30 m, c. 55 by 55 m, Valentinian; (6) north-west of Pentele district of Dunaújváros, timber tower, ditches c. 25 by 25 m, c. 45 by 45 m; (7) Danube bank near Lórév.

23. *Sárszentágota HUN*: temporary camp, c. 120 m by c. 150 m = 1.8 ha, cohort?, late first century A.D. (V, 76).

24. *Dunaújváros-Pentele HUN* (*Intercisa*) [B20F3]: fort, timber, early Flavian, *ala Asturum II Vespasian*, *ala I Augusta Ituraeorum sagittariorum* A.D. 92–101, *ala I Britannica* A.D. 101–105, *ala I Tungrorum Frontoniana* A.D. 105–118/119; fort, timber, 165 by c. 190 m, 3.13 ha, Trajan/Hadrian, *ala I Thracum veterana sagittaria* A.D. 118/119–after 138, *ala I civium Romanorum* after A.D. 138–176; fort, stone, 176 by c. 200 m, 3.52 ha, Commodus, *coh. I Aurelia Antoniniana milliaria Hemesenorum sagittaria equitata civium Romanorum* A.D. 176–; fort, stone, 176 by 200 m, 3.52 ha, Caracalla, *coh. I Aurelia Antoniniana Hemesenorum sagittaria equitata civium Romanorum*; fort, stone, 176 by c. 200 m, 3.52 ha, c. Diocletian, *equites Dalmatae*, *cuneus equitum Dalmatarum*, *cuneus equitum Constantianorum* end of third century–end of fourth century; fort, stone, 176 by c. 200 m, 3.52 ha, Constantius II, *equites Dalmatae*, *cuneus equitum Dalmatarum*, *cuneus equitum Constantianorum* (V, 76).

Excavations and structural history: B. Lőrincz *et al.*, *Limes XII* (op. cit. (n. 17)), 681–701; XIII, 362–8; XIV, 739–44. On the Commodus *burgus* inscriptions: S. Soproni, *Festschrift J. Fitz*, op. cit. (n. 6), 91–4 (*AE* (1998), 1057); early third-century chamber tombs of eastern type: Zs. Visy, *Festschrift Betz* (1985), 531–637. Finds from the Intercisa cemeteries in European collections, F. Teicher, *Limes XIX*, Abstracts 92–93. Bronze production: *Limes XII*, 715–28 and 745–51. Camel sacrifice: S. Bökönyi, *ActArchHung* 41 (1989), 399–404.

25. *Intercisa burgi* (V, 76–81): (1) near Dunaújváros petrol station; (8 {=1a?}) Dunaújváros, Béke Square, tower, timber, rhomboid ditch c. 40 by 40 m, c. Diocletian; (2) in south Dunaújváros, timber tower, ditches c. 25 by 25 m, 51 by 51 m, c. Valentinian; (3) Dunaújváros, Dunai iron works, timber tower, ditches 25 by 25 m, c. 50 by 50 m, Valentinian; (15) 110 m south of Intercisa *burgus* 3, timber tower, ditches c. 28 by 28 m, c. 45 by 45 m, c. Valentinian; (9) Dunaújváros, Farkastanya, timber tower, rhomboid ditches 50 by 50 m, Diocletian; (4) 1350 m south of Intercisa *burgus* 15, paper mill junction, timber tower, ditches c. 25 by 25 m, c. 50 by 50 m, Valentinian; (5) Kisapostag, petrol station, timber tower, ditches c. 25 by 25 m, c. 50 by 50 m, Valentinian; (10) north of junction with Kisapostag access road, timber tower, rhomboid ditches 42 by 47.7 m, Diocletian; (6) south of Kisapostag access road, timber tower, ditches 24.7 by 24.7 m, 48.4 by 48.4 m, Valentinian; (7) near south edge of Kisapostag plateau, timber tower, ditches c. 25 by 25 m, c. 50 by 50 m, Valentinian; (18) on south edge of Kisapostag plateau, timber tower, rhomboid ditch, c. 40 by 40 m, Diocletian; (11) Barátság, Dunaújváros, Commodan; (12) above road to Pentele ferry, stone tower, Commodan; (17) west end of Kosidóra valley, stone tower, ditch c. 58 by 58 m, Commodan; (13) Dunai ironworks, clinker dump, stone tower, ditches, c. 48 by 48 m, Commodan; (14) on north bank of watercourse 800 m north of Baracs fort, ditches c. 30 by 30 m, c. 60 by 60 m; (16) Szalki (Ifjúság) island, tower or bridgehead.

26. *Baracs HUN* (*Annamatia*) [B20F3]: fort, timber, end of first century A.D., *coh. I Thracum Germanica equitata* A.D. 118/119–third century; fort, stone, 160 by ? m, second half of second century, *coh. I Thracum Germanica equitata* A.D. 118/119–third century; fort, stone, 160 by ? m, first half of fourth century, *equites Dalmatae* (V, 82).

27. *Annamatia burgi* (V, 85–9): (1) south of Baracs; (2) north of Dunaföldvár; (3) north of Dunaföldvár; (4) north of Dunaföldvár; (5) medieval castle, Dunaföldvár; (13) Missevár mound

by road leading to Dunaföldvár; (6) west of Bölscke, 1400 m from *burgus* 13 and 1280 m from *burgus* 7, timber tower, ditches *c.* 30 by 30 m, *c.* 60 by 60 m, Valentinian; (14) Törökhányás, on west side of modern road, timber tower, rhomboid ditch *c.* 30 by 30 m, *c.* Diocletian; (7) Bölscke, Leányvár, timber tower, rhomboid ditch *c.* 60 by 60 m, *c.* Diocletian; (15) 135 m north of *burgus* 7, timber tower, ditches *c.* 20 by 20 m, *c.* 36 by 36 m; (18) 300 m south of *burgus* 7, timber tower, ditches *c.* 30 by 30 m, *c.* 60 by 60 m, Valentinian; (8) on *limes* road at km 98, timber tower, ditches *c.* 30 by 30, *c.* 45 by 45 m, Valentinian; (16) north-east edge of Gyűrűs valley, timber tower, rhomboid ditch *c.* 30 by 30 m; (9) on hill south of Gyűrűs stream, timber tower, ditches *c.* 30 by 30 m, 52 by 52 m, Valentinian; (10) on high ground between Nagy-les and Kis-les valleys near Bölscke, round stone tower, 8 m; (11) Madai (Hadai) hill, ditch *c.* 52 by 52 m.

28. Bölscke-Kövesszállás, fort (V, 89–90).

29. Annamatia *burgi* (V, 90–1): (12) in Danube bed near Bölscke, bridgehead *c.* 80 by 60 m, Constantius II; (17) Kali major near Harta village opposite *burgus* 12.

Burgus 12: at least fifty inscribed blocks and around the same number of sculpture fragments have been recovered from the remains of what was probably a late Roman fortified bridgehead, now in the bed of the Danube main channel. They had been conveyed from Aquincum and from other places upstream. A. Szabó and E. Tóth (eds), *Bölscke: Römische Inschriften und Funde* (2003). Many blocks, some inscribed more than once, bear votives to the Eraviscan deity I.O.M. Teutanus for the well-being (*incolumitas*) of the *civitas Eraviscorum* by *II viri* of the *municipium*, later *colonia* Aquincum, dated to 11 June in various years from the late second to the late third centuries. The origin of a similar number of votive altars to I.O.M. can be identified as Campona (No. 16 above) from the name of the auxiliary unit, and that of a much smaller number as Vetus Salina (No. 21).

30. Dunakömlőd HUN (*Lussonium*) [B20F3]: fort, timber, Claudian, *coh. I Alpinorum peditata* *c.* A.D. 106–; fort, stone, 249 m by ? m, after Marcomannic wars, *coh. I Alpinorum equitata* end of Marcomannic wars–third century; fort, stone, 249 by ? m, first half of fourth century, *cuneus equitum Constantianorum*, part of *legio II Adiutrix*; fortlet, stone, 10 by 10 m, end of fourth century (V, 91–3).

Statue base of the emperor Volusianus: Zs. Visy, *ActArchHung* 41 (1989), 385–97. Houses with post-hole construction dating to the end of the fourth century are identified as remains of a civilian occupation, similar to that in other forts, e.g. Tokod (Ps.38): M. Kiss, *Limes XVI* (op. cit. (n. 11)), 411–15.

31. *Lussonium burgi* (V, 95–8): (1) Imsós bridgehead near Danube ferry, bridgehead, *c.* 100 by 55 m, Constantius II; (7) Sánc hill 700 m south of Dunakömlőd fort, timber tower, ditches *c.* 30 by 30 m, *c.* 50 by 50 m; (2) 3 km south of Paks; (3) Püspök hill, Paks–Csámpa; (4) Várdomb (Castle hill), Dunaszentgyörgy; (5) Janicsár hill, Dunaszentgyörgy; (6) Vetlepuszta; (8) 1 km from Vetlepuszta; (9) 700 m south-east of *burgus* 8; (10) south-west of Fadd, ditches *c.* 25 by 25 m, *c.* 40 by 40 m.

32. Tolna HUN, in or near (*Alta Ripa*) [B20F3]: fort, timber, Domitian, *ala Siliana bis torquata bis armillata civium Romanorum* *c.* A.D. 83–118/119; fort, stone, second–third century, *ala I Brittonum civium Romanorum* A.D. 118/119–Marcomannic wars; fort, stone, fourth century?, *cuneus equitum stablesianorum*, *equites Dalmatae* (V, 98–9).

33. *Alta Ripa burgi* (V, 100): (1) south-west of Mőzs station, stone tower, ditch *c.* 50 by 50 m; (2) Jenipalánka near Sió channel.

34. Szekszárd HUN: fort (?); Trajan–, *coh. III Lusitanorum?* (V, 100–1).

35. Ócsény HUN (*Alisca*) [B20F3]: fort, timber, first–second century, *coh. I Vindelicorum milliaria civium Romanorum pia fidelis* A.D. 89/92–end of first century, *coh. I Noricorum equitata* A.D. 106–; fort, stone, *c.* 160 by *c.* 200 m, late second–third century, *coh. I Noricorum equitata?*; fort, stone, late, *c.* 160 by *c.* 200 m, *coh.?*, part of *legio II Adiutrix* (V, 102–3).

36. *Alisca burgi* (V, 103–4): (1) road junction north of Ócsény fort, between Szekszárd and Gemenc; (2) Szekszárd-Báránfok, at Sió channel, timber tower, rhomboid ditch *c.* 40 by 50 m; (3) Ebesi Inn south of Szekszárd; (4) Újberek-puszta north of Várdomb.

37. Várdomb HUN (*Ad Statuas*) [B20F3]: fort, Flavian–*c.* A.D. 106, *coh. I Augusta Ituraeorum sagittariorum*; fort, Trajanic, *coh. II Asturum et Callaecorum?*; fort, late, *equites Dalmatae, auxilia Ursarensia* (V, 104).

Milestone of A.D. 236 'ab Aq(uinco) m.p. CVII', *AE* (1998), 1060.

38. Ad Statuas *burgi* (V, 104–5): (1) Bátaszék-Kövesd; (2) south of Furkótelep, ditch *c.* 30 by 30 m; (3) south of *burgus* 2; (4) on limes road south of *burgus* 3, ditch *c.* 43 by 43 m.

39. Dunaszekcső HUN (*Lugio*) [B20F3]: fort, timber, *c.* 160 by ? m, Claudian, *coh. I Alpinorum equitata*, *coh. VII Breucorum* before A.D. 139–; fort, stone, *c.* 160 by ? m, *coh. VII Breucorum*; late fort, stone, *c.* 160 by ? m, *equites Dalmatae* (V, 105–6).

Gold-encrusted glass vessel, fourth century: *AE* (2001), 1215.

40. *Lugio burgi* (V, 106–7): (1) (*Contra Florentiam?*) Dunafalva at riverside, bridgehead, Constantius II; (2) Bár village; (3) Mohács town area; (4) on limes road north-west of Kolkéd fort; (5) on south bank of stream south of Dunaszekcső; (6) *c.* 500 m south of *burgus* 5.

Severan reconstruction in the area of *Lugio* and *Contra Florentiam* indicated by records of A.D. 194–197 suggests increased attention to this major crossing, *AE* (1999), 1266.

41. Kolkéd HUN (*Altinum*) [B20F4]: fort, *c.* 230 by ? m, first–second century, *coh. I Lusitanorum?*; fort, stone, *c.* 230 by ? m, after Marcomannic wars, *coh. I Alpinorum peditata?*; late fort, stone, *c.* 230 by ? m, *equites sagittarii*, *cuneus equitum Fortensium* (V, 107).

42. *Altinum burgus* (V, 107–8): (1) Török hill, south of Nagynyárád junction on road from Mohács to Udvar.

43. Batina Skrela CRO (*Ad Militare*) [B20F4]: fort, stone second–third century, *coh. II Augusta Thracum c.* A.D. 118/119–; late fort, stone, *equites Flavianenses* (VI988, 126).

44. (=RIII.38). Osijek CRO (*Mursa*) [B20F4]: fort, timber, first half of first century A.D., *ala II Hispanorum Aravacorum*, *coh. II Alpinorum equitata*, Flavian–Trajanic; fourth century, part of *legio VI Herculia*, *classis Histrica* (VI988, 126–7).

Civil town (*colonia*): I. Istra-Janučić, *Croat. Arch. Soc.*, op. cit. (n. 10) (1984), 143–51; M. Bulat, *ibid.*, 117–28 (Osijek area); (1993) (pottery kilns). Inscriptions: *AE* (1994), 1398 (Greek votive); (1997), 1275 (I.O.M. Dolichenus et Mercurius), 1274 (third-century Christian gold ring); (1999), 1257 (Minerva votive on brick from *horreum*).

45. Dalj CRO (*Teutoburgium*) [B20F4]: fort, timber, Flavian, *ala II Hispanorum Aravacorum*, *ala I civium Romanorum* Flavian, *ala I praetoria civium Romanorum* Trajan; fort, stone, third century, *ala I civium Romanorum*; late fort, stone, *cuneus equitum Dalmatarum*, part of *legio VI Herculia* (VI988, 127).

Cavalry garrison from first to fourth century indicated by quantity of military equipment, now in Zagreb: I. Radman-Livaja, *Limes XIX* (op. cit. (n. 17)), Abstract 76.

46. Sotin CRO (*Cornacum*) [B20G4]: fort, late first century, *ala I civium Romanorum* Domitian; fort, second–third century, *coh. I Montanorum/coh. II Aurelia Dacorum pia fidelis milliaria equitata?*; late fort, stone, *equites Dalmatae*, *cuneus equitum scutariorum*, *equites promoti* (VI988, 127).

47. *Cornacum burgus* (VI988, 127): (1) Bács on Mostonga bara (channel), possible bridgehead.

48. Ilok CRO (*Cuccium*) [B21B4]: late fort, stone, *equites sagittarii*, *cuneus equitum promotorum* (VI988, 128).

49. Banoštor YUG (*Malata/Bononia*) [B21B4]: (*Malata*) fort, timber, Hadrian–, *ala I Britannica milliaria civium Romanorum*; fort, stone, after Marcomannic wars, *ala I Britannica milliaria civium Romanorum/ala Pannoniorum*; (*Bononia*), late fort, stone, part of *legio VI Iovia* (VI988, 128).

50. Begeč YUG (*Castellum Onagrinum*) [B21B4]: late fort on left bank opposite Banoštor (VI988, 128).

51. Čerević YUG: fort (?), first century A.D., earth and timber (VI988, 129).

52. Rakovac YUG: fort (?), late Roman (VI988, 129).

53. Petrovaradin YUG (*Cusum*) [B21B4]: late fort, stone, *equites Dalmatae* (VI988, 129).

54. Čortanovci YUG: late fort, stone, 70 by 100 m, 0.7 ha (VI988, 129).

55. Stari Slankamen YUG (*Acuminum*) [B21C4]: fort, timber, Vespasian, *coh. I Britannica milliaria civium Romanorum equitata* Vespasian–Domitian; fort, stone, second–third century, *coh. I Campanorum Voluntariorum civium Romanorum*; late fort, stone, *equites sagittarii*, *cuneus equitum Constantianorum* (VI988, 129–30).

56. Zrenjanin YUG [B21C4]: possible military station on river Begeč *c.* 20 km north of Danube, coins, bricks, etc. (*TIR L34* (op. cit. (n. 2)), 122).

57. **Novi Bečej** [formerly Volosinovo] YUG [B21C4]: possible military station on east bank of Tisza c. 50 km north of Danube; coins, bricks, and inscriptions re-used in church foundations (*TIR L34* (op. cit. (n. 2)), 85).

58. **Livade** YUG [B21C4]: possible military station in north-west Banat (distr. Bečej) c. 30 km from Danube; coins and foundations (*TIR L34* (op. cit. (n. 2)), 74).

59. **Surduk** YUG (*Rittium*) [B21C4]: fort, timber, Trajanic, *ala I civium Romanorum* A.D. 110–, *ala I Augusta Ituraeorum sagittariorum* A.D. 118/119–; late fort, stone, *equites Dalmatae* (V1988, 130).

60. **Novi Banovci** YUG (*Burgenae*) [B21C5]: fort, timber/stone, Pius–third century, *cob. I Thracum civium Romanorum pia fidelis*; late fort, stone, part of *legio V Iovia, equites Dalmatae, cuneus equitum Constantianorum* (V1988, 130).

61. **Zemun** YUG (*Taurunum*) [B21C5]: fort, Flavian–late, *classis Flavia Pannonica* (V1988, 130).

Moesia Superior (Ms)

Abbreviations: GMS = Gudea, op. cit. (n. 22, 2001) with catalogue number; B-L = M. Biernacka-Lubańska, op. cit. (n. 23, 1990); Iv = R. Ivanov, op. cit. (n. 23, 1997); ZG = Zahariade and Gudea, op. cit. (n. 23, 1997).

1. **Stojnik-Guberevci** YUG [B21C5]: fort adjacent to mining region c. 30 km south of Belgrade; fort, timber and earth, first century A.D.; fort, stone, after Marcomannic wars, *cob. Aurelia nova Pasinatum milliaria equitata*, also *cob. Lucensium, cob. VIII voluntariorum* (GMS, 35).

Greek votive to Zeus Syrenos of Synnada, Phrygia, first–mid-second century: *AE* (1997), 1304.

2. **Zelesnik** YUG: possible fort adjacent to gold mines south of Belgrade; fort, stone, 145 by 165 m (GMS, 34).

3. **Mali Mokrilug** YUG (*Ad Sextum*) [B21C5]: possible fort (GMS, 37).

4. **Belgrade YUG** (*Singidunum*) [B21C5]: fortress on Kalmegdan hill overlooking confluence of Sava and Danube; timber and earth, III Scythica or III Macedonica, III Flavia from Domitian; stone, Trajanic, A.D. 118?, c. 330 by 570 m, detachment of VII Claudia A.D. 101–118 (GMS, 22) 1).

Excavations, including major cemeteries, and finds: M. Popović (ed.), *Singidunum (Belgrade)*, 1 (1997), 2 (2000), and 3 (2002) (civil settlement, wall-painting, pottery production). Brooches: D. Bojović, *Fibule Singiduna* (1983). *Praefectus castrorum* votive: *AE* (2001), 1727.

5. **Višnjica** YUG (*Octavum*) [B21C5]: possible auxiliary fort, 100 by 150 m or 100 by 180 m (GMS, 2).

6. **Slanci** YUG: fortlet? (*TIR L34* (op. cit. (n. 2)), 104).

7. **Vinča** YUG: fortlet? (*TIR L34* (op. cit. (n. 2)), 119).

8. **Ritopek** YUG (*Tricornium*) [B21C5]: fort, Vespasian–Domitian; fort, stone, *cob. I (Ulpia) Pannoniorum (veterana)*, second century (GMS, 3).

9. **Seona** YUG (*Aureus Mons*) [B21C5]: on right bank of Seona stream, fort, 130 by 150 m, or 98 by 100 m, or 140 by 150 m?, Trajanic?; fort, stone (GMS, 4).

10. **Smederevo** YUG (*Vinceia*): road station (*TIR L34* (op. cit. (n. 2)), 119).

11. **Kulič** YUG (*Castra Margensia*): late fort on left bank of Morava (*TIR L34* (op. cit. (n. 2)), 45).

12. **Kovin** YUG (*Castra Augustoflavianensia/Constantia*): late fort near Danube left bank, opposite mouth of the river Morava (*TIR L34* (op. cit. (n. 2)), 71).

13. **Dubravica** YUG (*Margum*) [B21D5]: campaign fortress?, late first century A.D.?, 720 by 820 m (GMS, 5).

14. **Kostolac** YUG (*Viminacium*) [B21D5]: fortress on right bank of river Mlava, 2 km from Danube; timber and earth, VII Claudia, A.D. 56/57–, also III Flavia; stone, 385.60 by 442.70 m or 350 by 430 m, Trajanic, VII Claudia (GMS, 6).

D. Spasić-Djurić, *Viminacium, Capital of the Roman Province of Upper Moesia* (2002), for a general account of fortress and town, coin production, and the medical case from the

doctor's tomb. Roman, Thracian, and eastern votives: L. Zotović, *Starinar* (1996), 127–37. Epitaph (fourth century) of German: *AE* (2000), 1262.

15. **Ram YUG** (*Lederata*) [B21D5]: fort, timber and earth, second half of first century A.D.; stone, 140 by 200 m or 170 by 215 m, *ala I Claudia*, also *ala II Pannoniorum*, *coh. II Hispanorum* (GMs, 7).

16. **Banatska Palanka YUG** (*Translederata*) [B21D5]: Danube left bank, watchtower on Sapaja island, second half of first century A.D.; fort?, stamps of *coh. I Cretum*, *coh. II Hispanorum*, *ala II Pannoniorum* (GMs, 8).

17. **Veliko Gradište YUG** (*Pincum*) [B21D5]: near mouth of river Pek on left bank, fort 45.5 by 45.5 m, stamps of *coh. V Hispanorum* (GMs, 9).

18. **Pojejena ROM** [B21D5]: fort on Danube left bank at entrance to upper gorge, timber and earth, 142 by 179 m, second half of first century A.D., *coh. V Gallorum*, c. A.D. 75, *ala I Tungrorum Frontoniana*, Dacian wars; stone, 148 by 185 m, Trajan/Hadrian–, *coh. V Gallorum* (GMs, 10).

19. **Golubac YUG** (*Cuppae*) [B21D5]: timber and earth fort, 180 by 185 m/160 by 160 m, end of first century A.D., *coh. I Flavia Hispanorum*, *coh. V Hispanorum*, *coh. III Campestris?* (GMs, 11).

20. **Golubac-Livadica YUG**: fortlet, stone, on Danube right bank, 17 by 27 m or 28 by 28 m or 16 by 23 m (GMs, 11a).

21. **Golubac-Jelenski potok YUG**: *burgus*, 5 km east of village (GMs, 11b).

22. **Brnjica-Vladimirov potok YUG**: *burgus* (?), 1 km west of village on right bank of Vladimirov stream, first-century A.D. stamps of *legio VII Claudia* (GMs, 11c).

23. **Čezava, Brnjica-Gradac YUG** (*Novae*) [B21D5]: fort, timber and earth, mid-first century/ Domitian, *coh. I Montanorum* Trajan–; stone, 150 by 150 m / 120 by 140 m, *coh. I Montanorum*; fort, stone, Severan (GMs, 12).

24. **Brnjica-Turski potok YUG** [B21D5]: fortlet on right bank of stream (potok), stone, 20/22 by 16 m / 14 by 20 m (GMs, 12a).

25. **Dobra Zedinac YUG** [B21D5]: fortlet on right bank of Zedinac, stone, 18 by 18 m / 20 by 20 m (GMs, 12b).

26. **Dobra-Saldum YUG**: fortlet 2 km east of Zedinac, timber and earth, 35 by 43 m, second half first century A.D. or earlier; fortlet, stone, 31.2 by 43.5 m, reconstructed early third century (GMs, 12c).

27. **Bosman YUG** (*Ad Scorfulas*) [B21D5]: late fort (*TIR L34* (op. cit. (n. 2)), 25).

28. **Dobra-Gospodjin Vir YUG**: fortlet 500 m from Trajanic inscription, timber and earth, second half first century A.D.; fortlet, stone, Trajanic? (GMs, 12d).

New reading of Claudian rock-face inscription: 'montibus excisis [factisque anc]onibus [s. c.] Mar(tii) Macri leg. Aug. pro pr.', now dated A.D. 46 not 43, P. Petrović, *Starinar* 37 (1986), 47.

29. **Dobra-Pesača YUG**: fortlet, stone, 24 by 24 m, first half of first century A.D.? (GMs, 12e).

30. **Dobra-Velika Livadica YUG** [B21E5]: fortlet on left bank of Veliki, stone, 32 by 32 m, end of third century (GMs, 12f).

31. **Dobra-Mala Livadica YUG**: *burgus* east of fortlet, stone, tower 12 by 12 m, end of first century A.D.? (GMs, 12g).

32. **Boljetin-Gradac na Lepeni YUG** [B21E5]: fortlet north-east of village near mouth of Boljetin, timber and earth, 50 by 60 m, Tiberian, destroyed A.D. 69–70, detachment of *legio IV Scythica* or *legio V Macedonica*; timber and earth, 50 by 60 m, *coh. I Lusitanorum*, destroyed c. A.D. 85/86; stone, Trajanic, A.D. 106–120; reconstruction under Gallienus (GMs, 12h).

33. **Boljetin-Greben YUG**: fortlet 800 m from Greben promontory, probably stone fortlet, 40 by 40 m (GMs, 12i).

34. **Boljetin Ravna YUG** [B21E5]: fortlet 2 km east of village opposite Poreč island, timber and earth, Augustus–Domitian (coin), constructed under Domitian; fortlet, stone, 47 by 47 m, *legio III Flavia* (stamps), second–third century, reconstructed early third century (GMs, 12j).

35. **Donji Milanovac-Veliki Gradac YUG** (*Taliata*) [B21E5]: fort at Danube crossing to Porečka valley, on right bank of Paprinica stream; timber and earth, late first century A.D.; stone, 120 by 130 m, *coh. I Lusitanorum*, *coh. III Campestris*, reconstructed early third century (GMs, 13).

36. **Donji Milanovac-Mali Gradac** YUG: fortlet 115 m east of Taliata, timber and earth, 40 by 40 m, first half of first century A.D., evacuated end of first century (GMS, 13a).

37. **Malo Golubinje** YUG: fortlet, timber and earth, 35 by 35 m, first half of first century A.D., evacuated c. A.D. 106 (GMS, 13b).

38. **Donji Milanovac-Pečka Bara** YUG: fortlet at entrance to Kazan gorge (GMS, 13c).

39. **Miroč** YUG (*Gerulatis*) [B21E5]: fort on the by-pass road between Donji Milanovac (*Taliata*) and Brza Palanka (*Egeta*); stone, 94 by 106 m, 135 by 150 m (GMS, 33).

40. **Mali Štrbac** YUG: fort and watchtowers (*TIR L34* (op. cit. (n. 2)), 77).

41. **Hajdučka Vodenica** YUG [B21E5]: late fort, 50 by 70 m, constructed in late third century to control shipping along Kazan gorge (A. Jovanović, *Starinar* 33–34 (1982–1983), 319–31).

New reading of rock-face inscription (*AE* (1973), 473) recording construction in lower gorge near the *Tabula Traiana*: ‘*Herculi sacrum lapidarii qui exierunt ancones faciendos legionis III Fl. et legionis VII Cl. vot[um] so[lverunt]*’, P. Petrović, *Starinar* 37 (1986), 48–9.

42. **Tekija** YUG (*Transdierna?*) [B21E5]: fort on left bank of Tekija stream opposite Orșova (*Dierna*), earth and timber, end of first century A.D., *coh. V Gallorum?*; stone, 84 by 100 m, Trajanic–second/third century, *coh. V Gallorum*, *coh. IX gemina Voluntariorum* (GMS, 14).

43. **Orșova ROM** (*Dierna*): probable fort on left bank at Danube crossing, Trajanic, *coh. I Brittonum* (stamps) (GMS, 15).

Remains of Roman fortifications beneath later Austrian constructions identified on Danube island Ada Kaleh, now submerged, D. Bondoc, *Limes XIX* (op. cit. (n. 17)), Abstract 15.

44. **Sip** YUG (*Ducis Pratum?*) [B21E5]: fort at east end of Trajan’s canal, 28 by 31 m, late first century A.D. (GMS, 16).

45. **Davidovac-Karataš** YUG (*Diana? Caput Bovis?*) [B21E5]: fort on left bank of Grabovočki stream; timber and earth, 95 by 110 m, Tiberian (?), reconstructed under Claudius, destroyed under Domitian; stone, 100 by 172 m, Trajanic, *coh. V Gallorum Antoniniana?*, *coh. VI Thracum* (bronze measure?); stone, Severan (GMS, 17).

Glazed pottery from pre-Trajanic fort: T. Cvijetičanin, *Limes XVII* (op. cit. (n. 17)), 731–42, identified also at other sites in the area, including Čezava (23), Ravna (34), and Tekija (42). Inscribed bronze phalera, and marble base dated A.D. 212–222: *AE* (1994), 1510–11.

46. **Kladovo** YUG (*Zanes?*): forts, 100 by 54 m, 54 by 54 m, *coh. I Cretum* (stamps), *coh. III Brittonum* (stamps) (GMS, 18).

47. **Donje Butorke** YUG: late fortlet (*praesidium*), 58 by 57 m, with inscription recording construction in A.D. 299/300 (*AE* (1979), 519).

48. **Schela Cladovei** ROM [B21E5]: fortress on Danube left bank 2.5 km west of Drobeta, timber and earth, 650 by 576 m, Dacian wars period (GMS, 19).

49. **Kostol** YUG (*Pontes*) [B21E5]: fort at south end of Trajan’s bridge (1127 m, 20 piers at 38 m intervals), stamps of *coh. I Cretum*, *coh. II Hispanorum*, *coh. III Brittonum*; timber and earth, second half of first century A.D.; stone, 100 by 100 m, early Trajan, demolished under Hadrian, reconstruction under Caracalla (GMS, 18a).

Brick stamps (48 examples) from Kostol and region, indicating distribution within late province of Dacia Ripensis: *AE* (1998), 115 a–g.

50. **Drobeta-Turnu Severin** ROM (*Drobeta*) [B21E5]: fort and harbour at north end of Trajan’s bridge; earth and timber, Domitianic, *coh. I Antiochensium*; stone, 123 by 137.50 m, stamps of *coh. I Cretum*, *coh. III Brittonum*, *coh. II Hispanorum*, *ala Gallorum et Pannoniorum* in period of Dacian wars, garrison *coh. I Antiochensium*, *coh. I sagittariorum Antoniniana milliaria equitata*, *coh. VII Breucorum*; reconstruction under Gallienus, *coh. I sagittariorum* and fleet station (GMS, 20).

Family connections within guild of craftsmen (*collegium fabrum*) of civil town: *AE* (2001), 1722; on economy of the settlement: *AE* (1998), 1109.

51. **Kurvingrad** YUG: fortlet (*TIR L34* (op. cit. (n. 2)), 117).

52. **Rtkovo** YUG: fortlet (*TIR L34* (op. cit. (n. 2)), 97).

53. **Vajuga-Korbovo** YUG [B21E5]: fort, 86 by 86 m; fortlet, 20 by 20 m (GMS, 21).

54. **Batoți** ROM: possible fort on Danube left bank opposite Vajuga, 50 by 70 m (part) (GMS, 21a).

55. **Milutinovac** YUG: fort, c. 130 by 150 m (GMS, 22).

56. Velika Kamenica YUG: fortlet (*TIR L34* (op. cit. (n. 2)), 117).
57. Ljubičevac YUG: fortlet (*TIR L34* (op. cit. (n. 2)), 74).
58. Brza Palanka YUG (*Egeta*): fort, timber and earth, second half of first century A.D., *coh. I Cretum*; stone, 94 by 106 m, early second century, A.D. 119–, stamps of *coh. I Cretum*; third-century Dolichenus shrine (GMs, 23).
59. Slatina, Ušće YUG: fortlet (*TIR L34* (op. cit. (n. 2)), 104).
60. Mihailovac YUG (*Clevora*) [B21E5]: fort or fortlet; late Roman fort (GMs, 24).
61. Mihailovac-Mora Vagei YUG: *burgus* on left bank of Kamenicki stream, near mouth; tower, timber, late first century A.D.; tower, stone, 15 by 15 m with double ditch (GMs, 25b).
62. Kusjak, Dušanovac YUG: fortlet (*TIR L34* (op. cit. (n. 2)), 57).
63. Prahovo YUG (*Aquae*) [B21E5]: fort, timber and earth, *coh. I Cantabrorum*; stone, with harbour, Trajanic (A.D. 99), *coh. Cantabrorum*, also *coh. III Campestris?* (GMs, 25).
Danube fleet harbour: P. Petrović, *Limes XIII* (op. cit. (n. 17)), 295–8.
64. Radujevac (Bordžej) YUG: fortlet, timber and earth, 500 m from Danube, 20 by 30 m (GMs, 25a).
65. Vrāv BUL (*Dorticum*): probable fort on right bank of Timok, near mouth, stamps of *coh. I Cretum*; fourth century, *cuneus equitum Divitensium* (B-L, 231; Iv, 481; GMs, 26).
66. Novo Selo BUL: possible fort (GMs, 27).
67. Florentin BUL (*Florentiana*): possible fort (B-L, 227; Iv, 481; GMs, 28a).
68. Jasen BUL [B21E5]: possible fort, Diocletianic votive bronzes (GMs (n. 22) 28).
69. Koshava BUL (*Ad Malum*): possible harbour opposite Kikinete island (Iv, 481).
70. Vidin BUL (*Bononia*) [B21E5]: possible fort; fortress of III Flavia before A.D. 101?; fort, stone, *coh. I Cisipadensium*, stamps and records of *coh. I Cretum*, *ala I Claudia miscellanea*, *numerus Dalmatarum*; fourth century, *cuneus equitum Dalmatarum Fortensium* (B-L, 230; Iv, 481–2; GMs, 29).
- Excavations here and also at Ratiaria (No. 73): A. Dimitrova-Milčeva, *Limes XIV* (op. cit. (n. 17)), 863–4.
71. Vidin region interior fortifications BUL: (B-L, 231–40 with catalogue nos) Belogradchik (5); Chichilisk Krepost (16); Gradets (39); Gamzovo Chonguruvz (41); Tsar Petrovo (96); Gorni Lom (102); Makres (104); Oshane (106); Podgore (107); Repljana (109); Salash (110); Sinagovtsi (111); Struindol (113); Targovishte (114); Varbovo (115).
72. Between Vidin and Dunavci BUL (*Novo*): late fort?, sixth century (Iv, 482).
73. Archar BUL (*Ratiaria*) [B21E6]: fortress and harbour from mid-first century A.D.; fortress, second half of first century, III Flavia (stamps) until end of Dacian wars; civil town (*colonia Ulpia*), fortress, late Roman, XIII Gemina; fourth century, *praefectus classis Ratiarensis* (B-L, 226; Iv, 482; GMs, 30).
- Excavations of 1976–1982, J. Atanassova-Georgieva, *Limes XIII* (op. cit. (n. 17)), 437–40. Epitaph of soldier (?) from Sagalassus: G. Susini, *Festschrift J. Fitz*, op. cit. (n. 6), 95–6; votive to Somnus: *AE* (1993), 1350.
74. Desa ROM [B21F6]: possible fort on left bank of Danube opposite Vidin, on island Castravita; fort, quadrangular, Dolichenus statuette (GMs, 30a).
75. Dobri Dol BUL: fort, 57 by 57 m (GMs, 31).
76. Orsoja BUL (*Remetodia*) [B21F6]: possible fort, visible remains (B-L, 228; Iv, 482; GMs, 32).
77. Lom BUL (*Almus*) [B21F6]: fort near mouth of river Lom; fourth century, *cuneus equitum stablesianorum* (B-L, 228; Iv, 482 and 543).
78. Dolno Linevo BUL [B21F6]: fort, visible remains (B-L, 261; ZG, 85).
79. Stanevo [Labets] BUL (*Pomodiana*): stone tower near Danube bank, Diocletian–Constantine (Iv, 543; ZG, 1).

Moesia Inferior (Mi)

Abbreviations: B-L = Biernacka-Lubańska, op. cit. (n. 23, 1990); Iv = Ivanov, op. cit. (n. 23, 1997); ZG = Zahariade and Gudea, op. cit. (n. 23, 1997), by catalogue number; Z = Zahariade, op. cit. (n. 24, 1988); ZScM = M. Zahariade in Petrović, op. cit. (n. 24, 1996).

1. **Gorni Tsibar BUL** (*Cebrum/Camistrum*) [B21F6]: possible fort on right bank of river *Ceburus* (Tsibar); fourth century, *cuneus equitum scutariorum, praefectus legionis quintae Macedonicae* (B-L, 227; Iv, 482; ZG, 2).

2. **Kozloduj BUL** (*Regianum*) [B21F6]: square fort (Magura de Piatra) between Gherlo lake and Danube channel, fourth–sixth century, finds indicating possible earlier fort or tower (Iv, 483; ZG, 3–4).

3. **Harlets BUL** (*Augustae*) [B22A5]: fort on left bank of river Ogosta, 245 by ? m, mid-first century A.D., *ala Augusta*; late fort with U-shaped towers, Diocletian–Constantine; fourth century, *cuneus equitum Dalmatarum* (B-L, 227; Iv, 483 and 543–8; ZG, 5).

S. Maschov, *Das spätantike Kastell und die frühbyzantinische Stadt Auguste beim Dorf Harletz, Nord-west Bulgarien, Limes*, Studi di storia 5 (1994), 21–36.

4. **Mihailovgrad and interior fortifications of the region: Mihailovgrad BUL** (*Montana*) [B21F6]: fort (*praesidium* and *castra* on inscriptions) and settlement in upper Ogosta valley controlling route to Petrohan Pass; *coh. I Sugambrorum* from early first century A.D., *legio XI Claudia* mid-second century; third-century reconstruction, vexillations of I Italica and XI Claudia, *numerus civium Romanorum* (B-L, 236–7; ZG, 91).

L. Ogenova-Marinova et al., *Montana 1* (1987) (Diana and Apollo shrine). V. Velkov and G. Aleksandrov, *Montana 2*, with a corpus of inscriptions for the site and area. Votive by officials of the *portorium* A.D. 157–161: *AE* (1996), 1341.

The ‘Paeonian bulls’ seen at Rome by Pausanias during the anniversary celebrations of A.D. 148 were in fact bison, as is recorded on an inscription from Montana (*AE* (1987), 867) recording the capture of bison and bears organized in the previous year by the provincial governor: D. Knoepfler, *AE* (1999), 1327.

Fourth-century silver ingots from Enieri: ‘of(ficinator) Maximus f(aber) a Sir(mis) vas(cularius)’, *AE* (1997), 1313, a–b.

Sites (all BUL) with occupation prior to fourth century (ZG nos): Goliamo Gradishte, fort (80); Smolianovtsi, *burgus* (81); Prevala, fort (82); Belimel, fort, *coh. Gemina Dacorum* A.D. 241–244 (83); Martinovo, *burgus* (84); Kopilovtsi, fort (86); Diva Slatina, fort (87); Govezhda, hillfort (88); Lopushanska, fort (89); Bistrilitsa, fort (90); Berkovitsa, fort (92); Petrohan, fort? (93); Zamfirovo, signal-tower (94); Portilovitsi, *burgus* (95); Lehcevo, fort (96). Sites (all BUL) with fourth-century and later occupation (B-L nos on pp. 231–40, 261–2): Chiprovtsi (17); Elovica (29); Erden (30); Gaganitsa (31); Gavril Genovo (32); Goliamo Marchevo (35); Kamena Riksa (44); Leskovets (53); Pomezhdin (72); Dolno Orizovo (98); Draganitsa (99); Damjanovo (101); Marchevo (105); Ravna (108).

5. **Vratsa region interior fortifications BUL**. Sites occupied prior to fourth century (ZG nos): Gradeshnitsa, fort? (97); Chiren, *burgus*? (98); Milni Kamak, fort at copper mine (99); Liliache, fort near mines, *coh. II Aurelia nova equitata* (100); Gabare, fort? (101); Vratsata, fort (102); Veselets, *burgus* at mines (103); Chomakovtsi (104) (new reading of epitaph of *praefectus vehicularum* of A.D. 325–350, *AE* (1998), 1126); Markova Mogila, *burgus*? (105). Sites with late occupation (B-L nos on pp. 261–2): Krachimir (103); Sirakovo (112).

6. **Orjahovo BUL?** (*Aedabe*): probable site of late fort (Iv, 483).

7. **Leshkovets BUL** (*Variana*) [B22A5]: early and late fort on Danube bank at end of Masla channel, 265 by 265 ‘paces’; fourth century, *cuneus equitum Dalmatarum, praefectus legionis quintae Macedonicae* (B-L, 229; Iv, 483; ZG, 6).

8. **Ostrov BUL** (*Pedoniana*) [B22B5]: possible fort site (Iv, 483; ZG, 7).

9. **Dolni Vadin BUL** (*Valeriana*) [B22B5]: fort (eroded), sixth century? (B-L, 226; Iv, 483 and 548; ZG, 8).

10. **Bajkal BUL** (*Palatiolum = Oescus?*): late construction near site of bridge of Constantine (5 July A.D. 328): *Aur. Vict., Caes.* 7.41.17; *Epit.* 8.41.13 (Iv, 484).

11. **Staverci BUL?** (*Hunno*): possible late fort (Iv, 484).

12. **Gigen BUL** (*Oescus*): fortress, V Macedonica Augustus–A.D. 106 (finds only), *ala Pansiana* first century, *ala I Flavia Gaetulorum* briefly after A.D. 106?; late fortress, late third century, V Macedonica; fourth century, *auxilium Martensium, praefectus legionis quintae Macedonicae* (B-L, 227; Iv, 484 and 548–54; ZG, 9).

Augustan occupation: G. Kabakčieva, *Limes XVI* (op. cit. (n. 17)), 387–92; *XVII*, 487–94; and *Oescus: Castra Oescensia I* (2000).

Trajanic colony: T. and R. Ivanov, *Ulpia Oescus I* (1998).

Inscriptions: re-dating of *ILBulg* (op. cit. (n. 36)), 18 'adv]ersus hostes Get[as' to A.D. 211–212, *AE* (1999), 1326. Late first-century freedman legionary valet (*lixa*): *AE* (1996), 1336.

13. **Pleven region interior fortifications** BUL. Sites occupied prior to fourth century (ZG nos): Deventsi, fort? (106); Karaguj, fort (107). Site with late occupation (B-L, 238): Sadovets, Golemano Kale (79).

S. Uenze, *Die spätantiken Befestigungen von Sadovets (Bulgarien)* (1992).

14. **Milkovica [Gaurene]** BUL (*Utum*): fort on right bank of *Utus* (Vit) river; first century *ala I Hispanorum*, fourth century *cuneus equitum Constantinianorum* (B-L, 229; Iv, 484; ZG, 10).

15. **Somovit BUL** (*Ad Lucenarium burgus*): late fortified lighthouse (Iv, 484).

Earlier dating of rock-face inscription of *vexillarii* of *legio V (ILBulg)* (op. cit. (n. 36)), 134: late third century?: *AE* (2001), 1732.

16. **Cherkovitsa BUL** (*Asamus*) [B22B5]: eroded remains near mouth on right bank of *Asamus* (Osam) river (B-L, 228; Iv, 485; ZG, 11).

17. **Bjala Voda BUL** (*Securisca, Curisca*) [B22B5]: possibly two forts in same area; fourth century *cuneus equitum scutariorum* (Iv, 485; ZG, 12).

18. **Svishtov BUL** (*Novae*) [B22C5]: fortress on high ground overlooking Danube, 365 by 486 m, 17.57 ha, VIII Augusta mid-first century–A.D. 69, I Italica, A.D. 69–; additional perimeter on east (*Novae II*) currently dated to Diocletian(?), with later reconstructions (B-L, 229–30; Iv, 486 and 556–74; ZG, 15).

General account of the site: L. Press and T. Sarnowski, *Antike Welt* 21 (1990), 225–43; also A. Biernacki (ed.), *Novae: Studies and Materials I* (1995).

Legionary fortress: A. Dimitrova-Milčeva, *Limes XV* (op. cit. (n. 17)), 271–6 (earliest phase); T. Sarnowski, *ibid.*, 303–7 (*principia*); P. Donevski, *XVI*, 331–4 (defences). On the hospital: P. Dyczek, *XVI*, 199–204 (excavations); *XVII*, 495–500 (Asclepius shrine with late second- to early third-century votives, *AE* (1998), 1130 and 1137 and (1999), 1331–8); *XIX*, Abstracts 25 (analysis of architecture). S. Parnicki-Pudjelko, *The Episcopal Basilica in Novae: Archaeological Remains* (1995). Legionary baths: A. Biernacki, *Limes XVIII*, 649–62 (gymnasium design based on Asia Minor prototypes).

Inscriptions: J. Kolendo and V. Božilova, *Inscriptions grecques et latines de Novae (Mésie Inférieure)* (1997). Votive to Capitoline Triad in A.D. 227: *AE* (1997), 1330. Mithraic votives: *AE* (1993), 1365; (1998), 1127; (2001), 1734. Brick stamps: *AE* (1993), 1368; (1994), 1334. Votives to Luna: *AE* (1995), 1335–36. Votive bull relief to Dolichenus: *AE* (2001), 1733. Instrumenta: *AE* (1996), 1340. Epitaph of soldier from Clunia in Spain: *AE* (2001), 1735. Veteran from Carnuntum: *AE* (1993), 1366. Late Roman (c. A.D. 340–350) *primipilares*: *AE* (1995), 1328–30. Deus Aeternus: *AE* (2000), 1267 and (1994), 1517.

Bronze statuettes to Roman deities (50 examples): A. Dimitrova-Milčeva, *Limes XIII* (op. cit. (n. 17)), 469–76.

Supply of foodstuffs based on evidence from hospital: P. Dyczek, *Limes XVIII*, 685–94, and of pottery: E. Klenina, *ibid.*, 695–703. Both are comparative studies of supplies to lower Danube and Crimea garrisons: grain, olive oil from Asia Minor, and meat in both areas, but in the latter pork-lard replaced oil; salt fish was common in Crimea; cattle and sheep rearing around *Novae*, but locally bred cattle at Chersonesus were much smaller.

19. **Belene BUL** (*Dimum*) [B22C5]: fort, stone, end of first century A.D.?, 240 by 180 m, *ala Solensium* second–third century; late fort with U-shaped towers, constructed under Constantine; *portorium stat(io) Dim(ensis)* (B-L, 226; Iv, 485 and 554–6; ZG, 13).

D. Mitova-Džonova, *Dimum and Regio Dimensis, Limes*, *Studi di storia* 5 (1994), 47–65.

20. **Dolno Gradishte BUL** (*Quintodimum*): late fort, 150 by 150 m, on bank of Belene channel, opposite Berezina island (Iv, 485; ZG, 14).

21. [unlocated] BUL (*Theodoropolis*): possible late fort near *Novae* (Iv, 485).

22. **Lovech (Melta/Sostrá) and Gabrovo region interior fortifications** BUL. Sites occupied prior to fourth century (ZG nos): Gorsko Kosovo, fort (115); Selishcheto, stone fortlet (116); Drianovo, fortlet (118); Vrabsite, fortlet (119); Gradinitsa, stone fort (120); Gradishte, fortlet (121); Uzunkush, fortlet (122); Zdravkovets, fortlet (123). Other sites with Roman occupation (B-L, nos on pp. 231–2, 261–2): Goliam Ostrets (33); Rusalka (78); Stolat (83).

23. [unlocated] BUL (*Latarkion*): possible late fort between *Novae* and *Iatrus* (Iv, 486).

24. **Krivina BUL** (*Iatrus*) [B22C5]: possible earlier fort on site of late fort of irregular plan with U-shaped towers, with several phases fourth–sixth century, c. 2.5 km south of Danube on right bank of Yantra, *n(umerus) S(yrorum)*, destroyed c. A.D. 295; fourth century *cuneus equitum scutariorum* (B-L, 227; Iv, 486 and 574–81; ZG, 16).

G. v. Bülow *et al.*, *Jatrus-Krivina. Bd. V Spätantike Befestigung und frühmittelalterliche Siedlung an der unteren Donau* (1995) (with original construction date A.D. 314/316–324). *Limes XVIII* (op. cit. (n. 17)), 663–72 (military structures of fourth–sixth century not preceded by earlier fort). Food and economy based on faunal remains: B. Boettger, *Limes XV*, 268–70; L. Bartosiewicz and A. M. Choyke, *ActArchHung* 43 (1991), 181–209.

Monument of c. A.D. 340–345: Wachtel in von Bülow and Milčeva, op. cit. (n. 23, 1999), 195–9.

Graffiti of Greek numerals on five amphorae: *AE* (1999), 1340 a–e (in the range 43–56).

25. **Nikiup region interior fortifications BUL**. Sites with occupation prior to fourth century (ZG nos): Butovo (*Emporium Piretensium*), fort and settlement (125); Cherven, fort? (126); Biala, fort (127); Kostel, fort? (128); Dichin, *burgus* (129).

26. **Pietrosani ROM**: fort on Danube left bank, 160 by 80 m, stamps of *legio I Italica* (ZG, 17).

27. **Batin BUL** (*Scaidava*): early fort on plateau, stone wall, 300 by 100 m; late tower, 9.6 by 9.6 m (Iv, 486 and 581–2; ZG, 18).

Brick stamps of ‘Fl. Rumoridus, dux Moesiae II’ (*PLRE* 786): *AE* (1999), 134.

28. **Mechka near Pirgovo BUL** (*Trimammium*) [B22C5]: early fort beneath late rectangular fortification on isolated high ground surrounded by marshes, *legio I Italica* (inscription); fourth century *milites Constantini* (B-L, 228; Iv, 486; ZG, 19).

29. [unlocated] BUL (*Mediolana*): late fort between *Trimammium* and *Appiaria* (Iv, 486). A location at Danube km 510 near Pirgovo is now proposed by Conrad and Stanchev, op. cit. (n. 23).

30. **Ruse BUL** (*Sexaginta Prista*) [B22C5]: fort on high Danube bank, north-west of modern town at mouth of Lom, timber and earth, early fort and naval base; fort, stone, late first century, *coh. II Mattiacorum* (– c. A.D. 145), *coh. II Flavia Brittonum equitata* (second–third century); late fort constructed A.D. 298/299, fourth century *cuneus equitum armigerorum* (B-L, 229; Iv, 487 and 582–3; ZG, 20).

Bronze weights with inlaid silver letters have been linked with Severan organization of *annona militaris*; *AE* (1994), 1529.

31. **Ruse-Selishte BUL**: *burgus*; remains of tower, late second–third century, stamps of *legio I Italica* (ZG, 20a).

32. **Shumen and Razgrad regions interior fortifications BUL**. Sites with occupation prior to fourth century (ZG nos): Braknitsa, fort (130); Dralfa, fort? (131); Rizh, fort (134); Kotel, fort (135). Sites with later occupation (B-L, nos on pp. 231–40 and 261–2): Madara (57); Vojvoda (93).

Also a fortified road settlement at Kovatchevac east of Shoumen, on the road to Nicopolis ad Istrum: I. Dontcheva in Slokoška *et al.*, op. cit. (n. 14), 220–7.

33. **Marten BUL** (*TegralTigra*) [B22D5]: fort with upstream observation of Danube as far as Ruse, triangular plan, 600 by 600 by 265 ‘paces’, possible early fort (finds), stamps of *legio I Italica*; fourth century, *cuneus equitum secundarum armigerorum* (B-L, 228; Iv, 487; ZG, 21).

34. **Rjahovo BUL** (*Appiaria*) [B22D5]: fort on Danube bank east of modern town, 10–15 m above river, second- to third-century finds, *ala I Gallorum Atecorigiana* (second–third century); fourth century *milites tertii nauclarii* (B-L, 228–9; Iv, 487; ZG, 22).

35. **Nova Cherna**, formerly Turks-Smil BUL (*Kynton=Quinto?*) [B22D4]: *quadriburgium* on site of Thracian settlement, Diocletianic?, replaced by late fort, c. 90 by 90 m, possibly sixth century (=Kynton of Procopius?) (B-L, 228; Iv, 487 and 583–5).

36. **Tutrakan BUL** (*Transmarisca*) [B22D4]: late fort on Danube bank opposite mouth of river Argeş, now beneath modern town, trapezoid plan 200 by 240 by 200 by 300 m; *coh. I Thracum Syriaca* second century, stamps of *legio XI Claudia*; fourth century *milites Novenses, praefectus ripae legionis undecimae Claudiaie cohortis quintae pedaturae superioris* (B-L, 230; Iv, 487 and 585–6; ZG, 23).

37. **Daphne/Constantiana Daphne**: unlocated fortification constructed under Constantine I on the Danube left bank somewhere opposite *Transmarisca* as a bridgehead near the mouth of

the Argeş. Fourth-century garrison: *Constantini Daphnenses and Ballistarii Daphnenses* (TIR L35 (op. cit. (n. 2)), 37).

38. Pozharevo BUL: possible fort or road settlement at Danube bank (ZG, 23b).

39. Dunavets BUL: possible fort or road station at Danube bank, turf wall, 40 by 35 m, second- to third-century finds (B-L, 260; ZG, 23c).

40. Dolno Riahovo BUL: polygonal fortification, 170 by 240 by 145 by 163 m, 2 km east of Nizhnje Oriahovski at Danube bank (B-L, 260; ZG, 24).

41. Malāk Preslavets BUL (*Nigrinianis/Candidiana*) [B22D4]: fort above steep Danube bank on left of Kadikioi stream, 400 by 400 'paces', possibly named from Nigrinus, first governor of Moesia Inferior; second–third century, *coh. I Lusitanorum* (early third century); late fort, renamed *Candidiana*, with U-shaped towers, Diocletian–Constantine, fourth century *milites primi Moesiaci* (B-L, 228; Iv, 487–8 and 586–7; ZG, 25).

42. Garvan BUL: fort at Danube bank near Balta marsh, overlooked on east and west, early finds, 100 by 100 m, stamps of *legio I Italica* (B-L, 260; ZG, 26).

43. Kiuchiuk-ghiol-kale BUL: possible *burgus* east of Kiuchuk lake near Danube road (ZG, 26d).

44. Garvan Isle BUL: probable fort or road settlement 60 by 30 m, 400 m from Danube (ZG, 26e).

45. Popina BUL: triangular fort north-west of Popina on edge of Malki Dunai channel, 300 by 330 by 94+ by 415 'paces', with early finds (B-L, 260; ZG, 27).

46. Oreshak BUL: fort east of Popina village on bank of Salo Danube arm, rectangular 200 by 260 'paces' (B-L, 260; ZG, 28).

47. Vetren BUL (*Tegulicium*) [B22E4]: early (second–third century) fort on promontory above late fort, with deep ravines on three sides between Vetren stream and Danube and lake south of Srebreno village, 200 by 130 by 80 by 58 m, stamps of *legio XI Claudia*; fourth century *milites Moesiaci* (B-L, 230; Iv, 488 and 587; ZG, 29).

48. Tataritsa BUL: possible fortlet or road settlement (ZG, 29f).

49. Silistra BUL (*Durostorum*) [B22E4]: fort, Domitianic, *coh. II Flavia Brittonum equitata*; fortress, Trajanic (A.D. 102–), 400 by 390 m, XI Claudia; *portorium* station; fleet base; late fortification at Danube bank; fourth century *milites quarti Constantini, praefectus legionis undecimae Claudiae* (B-L, 229; Iv, 488 and 587–90; ZG, 30).

Location of fortress, *municipium*, street-network, and cemetery: P. Donevski, *Limes XV* (op. cit. (n. 17)), 277–80; public and private baths: *Limes XIX*, Abstracts 64–65.

Roman portraiture in the territory: V. Popova-Moroz and I. Bachvarov, *Dacia* 36 (1992), 13–21.

50. Dobrič [Tolbuhin] region interior fortifications BUL. Sites occupied prior to fourth century (ZG nos): Perchenlik, fort (136); Debrene, fort? (138); Hrabovo, fortified settlement (139); Balgarevo, *burgus*? (140); Sirakovo, *burgus*? (141); Sredina, fort? (142); Vasilevo, fortified settlement (143); Plachidol, fortified settlement (144); Dolina, fort? (145); Kamen, fort? (146); Ograzhden, fort? (147); Abrit (*Zadalpa*), road settlement with late defences (148); Koriten, fort? (149); Gaber, fort? (150); Trskva, *burgus*? (151). Sites with later occupation (B-L nos on pp. 231–40, 261–2): Aleksandria (2); Balik (3); Kapitan Dimitrovo (45); Odarci (67); Onogur (68); Osenovo (69); Plachidol (70); Vojnikovo (92). Votive by freeman of Turbo: *AE* (1993), 1361.

51. Bugeac ROM: remains of late fort (Scorpan, op. cit. (n. 24), 5).

52. Dervent ROM [B22E4]: fort on north-west corner of Gogona hill, 120 by 120 m, Roman finds (ZG, 31).

53. Canlia ROM (*Cimbriana*) [B22E4]: rectangular fort, 200 by 100 m, at Danube bank near Canlia stream, second- to third-century finds, stamps of *legio XI Claudia*; late fort, fourth century *milites Cimbriani* (Z, 15; ZG, 32).

54. Izvoarele ROM (*Sucidava*) [B22E4]: fort, 100 by 100 m, on left side of Pirjoaia valley, stamps of *legio XI Pont(ica)*, *legio V Macedonica*, *coh. I Claudia Sugambrorum veterana equitata* (second century); *cuneus equitum stablesianorum* (Z, 16; ZG, 33).

55. Satu Nou ROM: possible fort, if not civil settlement (Scorpan, op. cit. (n. 24), 5).

56. Oltina ROM (*Altinum*) [B22E4]: fort on Macuca hill 2.5 m north of village, 190 by 80 m, *coh. II Gallorum* (dipl. mil. A.D. 99); late fort, *milites nauclarii Altinenses* (Z, 17; ZG, 34).

57. **Viiile ROM**: rectangular fort, 140 by 90 m, at Turnu Orman on hill south of Mirleanu; possible early fort; late fort (ZG, 35).

58. **Dunăreni ROM (Sacidava)** [B22E4]: fort, Trajanic, *coh. I Cilicum, coh. II Gallorum* (early second century?), *legio XI Claudia* (post-A.D. 167?); late fort, *vexillatio leg. II Herculia, cuneus equitum scutariorum* (Z, 18; ZG, 36).

Construction of the late fort with re-used blocks in eastern technique, *Limes XII* (op. cit. (n. 17)), 787–98.

Inscriptions on re-used blocks: military epitaphs, Diurdanus Decebali f.; two votives to I.O.M. Dolichenus, one by *Il vir* of Tropaeum Traiani(?), the other by a priest of eastern origin, from *coh. I Cilicum?*, AE (1998), 1138–44.

59. **Rasova ROM (Flaviana)** [B22E4]: fort 4 km south of village near Danube on steep bank of Baci lake, late fort, *milites nauclarii* (Z, 19; ZG, 37; ZScM, 225).

60. **Cochirleni ROM**: possible fort (Scorpan, op. cit. (n. 24), 6).

61. **Hinog ROM (Axiopolis)** [B22F4]: fleet station 3 km south of Cernavoda, *coh. III Commagenorum?*; late fort, *praefectus ripae legionis II Herculiae, cohortium quinque, pedaturae inferioris, milites superventores* (Z, 20; ZG, 38).

62. **Seimeni Mare ROM** [B22F4]: possible early fort on plateau south of village overlooking Danube, inscriptions; tower, fourth century (ZG, 39).

63. **Capidava ROM (Capidava)** [B22F4]: fort and fleet station, second–third century, 105 by 127 m, *coh. I Ubiorum* Trajan–A.D. 143, *coh. I Germanorum* A.D. 143–before 248, detachments of V Macedonica and I Italica, destroyed A.D. 248–250; late fort reconstructed with external towers, fourth century *vexillatio Capidavensis/equites scutarii, cuneus equitum Solensium*; fortlet, 60 by 60 m, sixth century within earlier fort (Z, 21; ZG, 40; ZScM, 225–6).

Milestone of A.D. 158–159, m. p. III from Axiopolis (No. 61), AE (1996), 1353; stele of *praefectus cohortis* from Aquae Statiellae, AE (1997), 1329; brick stamps: AE (1997), 1330, (2001), 1738. Objects with Christian symbols: Z. Covacef, *Limes XVII* (op. cit. (n. 17)), 813–26.

64. **Topalu ROM** [B22F4]: fort, 160 by 116 m, on high ground at left edge of Cechirgea valley on high rock overlooking Danube, second- to third-century inscriptions (ZG, 41).

65. **Ghindarești ROM**: possible remains of fort (Scorpan, op. cit. (n. 24), 6).

66. **Hârșova ROM (Carsium)** [B22E4]: fort, 140 by ? m, second–third century, *ala II Hispanorum Aravacorum, ala I Gallorum Flaviana*; late fort, fourth century *milites Scythici* (Z, 22; ZG, 42; ZScM, 226–7).

Brick stamps: AE (1998), 1145 (*ala Flavia*), 1146 (*classis Flavia Moesica*), 1147 (*legio I Italica*).

67. **Gârlichiu ROM (Cius)** [B22F4]: fort, 120 by 120 m, second–third century, 4.5 km south of village on Hazardic hill overlooking Danube, *coh. I Lusitanorum*, until moved to *Nigrinianis* in early third century; late fort, 85 by 60 m, *cuneus equitum stablesianorum* (Z, 23; ZG, 43).

68. **Frecăței ROM (Beroe)** [B22F4]: possible early fort located to block access to basin between Ostrov and Peceneaga, finds and inscriptions, late fort, 64 by 30 m, *cuneus equitum stablesianorum* (Z, 24; ZG, 44).

69. **Peceneaga ROM**: site of possible fort (Scorpan, op. cit. (n. 24), 6).

70. **Iglița, Turcoaia ROM (Troesmis)** [B22F3]: Getic settlement and Thracian fortress at strategic position on Danube; remains of two fortresses unexplored; early fort and fortress, V Macedonica until A.D. 167, *ala I Pannoniorum* A.D. 166–167, detachment of I Italica A.D. 167–; fleet station; late fortress, fourth century *praefectus legionis secundae Herculi[an]ae; praefectus ripae legionis secundae Herculiae, cohortium quinque, pedaturae [superioris], milites secundae Constantini* (Z, 25; ZG, 45).

Station of I Iovia after A.D. 310, AE (2001), 1269–70.

71. **Carcaliu ROM**: fortification constructed A.D. 337–340 (IGL 238) but no remains recorded (Scorpan, op. cit. (n. 24), 6).

72. **Măcin ROM (Arrubium)** [B22F3]: fort on rock south-west of modern town, late first–third century, *ala I Vespasiana Dardanorum*, stamps of *legio V Macedonica*; late fort, fourth century *cuneus equitum catafractariorum* (Z, 26; ZG, 46).

73. **Jijila ROM**: site of two possible forts (Scorpan, op. cit. (n. 24), 6).

74. **Gărvăn ROM (Dinogetia)** [B22F3]: possible early fort on Bisericuta Danube island, second- to third-century finds, *coh. II Mattiacorum* (after A.D. 145), *coh. I Cilicum, legio V*

Macedonica –A.D. 167, *legio I Italica* A.D. 167–; fleet station; late fort of irregular plan, fourth century *militēs Scythici* (Z, 27; ZG, 47).

75. Barboși ROM [B22F3]: fort on Danube left bank, on Tirighina promontory near mouth of Siret, second- to fourth-century fortifications, timber and earth, early second century, reconstruction under Trajan, stone perimeter wall Pius or Marcus; *coh. II Mattiacorum*, *legio V Macedonica* –A.D. 167; fleet station; fourth-century occupation (ZG, 48).

76. Luncavita ROM: fort on 30 m high Dealui Milanului promontory, 69/75 m by 220 m, second–third century (ZG, 49).

77. Rachelu ROM: remains of fort reported, *quadriburgium* located by excavation (Scorpan, op. cit. (n. 24), 6; ZScM, 228).

78. Isaccea ROM (*Noviodunum*) [B22F3]: principal base of *classis Flavia Moesica*, V *Macedonica* A.D. 106–167, I *Italica* A.D. 167–; late fort, fourth–sixth century, fourth century *praefectus legionis primae Ioviae*, *praefectus legionis primae Ioviae*, *cohortium quinque pedaturae superioris*, *militēs primi Constantini* (Z, 28; ZG, 50; ZScM, 228–9, tumular necropolis).

Station of II *Herculiana* under Constantine, *AE* (2001), 1270.

79. Orlovka MOL (*Aliobrix*) [B22F3]: possible early fort on left side of Danube opposite Isaccea (*Noviodunum*), stamps of *legio V Macedonica* –A.D. 167, replaced by Moesian fleet (ZG, 51).

80. Somova ROM: fortifications indicate possible fort (Scorpan, op. cit. (n. 24), 6).

81. Tulcea ROM (*Aegyssus*) [B22F3]: possible early fort on site of Getic fortress, early finds, *coh. II Flavia Brittonum* early third century; base of Moesian fleet, second–third century (Z, 29; ZG, 52).

82. Ismail UKR: possible early fort on left bank of Chilia Danube arm, *legio I Italica* (inscription A.D. 173–179) (ZG, 53).

83. Nufaru ROM: possible remains of late fort located (ZScM, 229).

84. Mahmudia ROM (*Salsovia*) [B23C3]: possible early fort on promontory above St George arm of Danube, in front of Bestepe hill between river and Razelm lake, 150 by 120 m, first- to third-century finds, *coh. III Gallorum?*; late fort, vexillation of *legio I Iovia*, *vexillatio (equitum) Salsoviensis*, *militēs quinti Constantiani* (Z, 30; ZG, 54).

85. Murighiol ROM (*Halmyris/Salmorus/Thalamonium*) [B23C3]: Getic oppidum, site of early Roman fort 2 km south of Danube St George arm, 2.5 km east of village, constructed by I *Italica* and V *Macedonica*, under Trajan?, 182 by 142 m, 2.58 ha, fleet base, reconstructed under Probus/Aurelian; late fort (*Thalamonium*), *cuneus equitum Arcadum* (Z, 31; ZG, 55; ZScM, 229–30, major excavations).

Fragments of a Tetrarchic construction plaque of A.D. 301–305, known in four other forts, *AE* (1997), 1318 a–b; cf. *Limes XV* (op. cit. (n. 17)), 311–17. Distinctive layout of Tetrarchic/Constantinian fort revealed, A. Stefan, *Peuce* 9 (1984), 297–310. General history: A. Suceveanu, *Limes XVII*, 501–6 (with votive by *vicus classicorum*).

86. [unlocated] (*Gratiana*) [B23C3]: late fort, possibly on St George arm of Danube, fourth century, *militēs primi Gratianenses* (Z, 32).

87. [unlocated] (*Plateypegiae*): late fleet station for shallow-draught vessels, perhaps on Caraorman island of delta (Z, 33).

88. Dunavațul de Jos? ROM (*Ad Stoma*) [B23C3]: possible early fort site at mouth of St George arm of Danube; trapezoidal late fort, 46 by 28.15 by 56 by 66 m, remains of harbour; finds third to sixth century (ZG, 56; ZScM, 230–1).

89. Dunavațul de Sus ROM: probable fort site (Scorpan, op. cit. (n. 24), 7).

Black Sea coast from Danube delta

90. [unlocated] (*Portus Isiacorum*): fleet base north of delta (ZG, 64).

91. Belgorod UKR (*Tyras*) [B23D2]: Hellenistic and Roman fortifications on right bank near mouth of Dniestr, *legio V Macedonica* –A.D. 167, *legio I Italica* second to third century, *coh. I Hispanorum veterana quingenaria*, *coh. I Cilicum*, stamps of *v(exillatio) M(oesiae) I(nferioris)* (ZG, 63).

N. A. Son, *Tyras in Roman Times* (1993), reviewed by J. F. Hind in Chapman and Dolukhanov, op. cit. (n. 2), 315–17.

Stele of Bosporan who twice escorted embassies to the emperor (?Caracalla), perhaps to lift restrictions imposed in A.D. 201 (*ILS* 423): *AE* (1997), 1331.

92. Roksolanskoye UKR (*Nikonía*) [B23D2]: harbour and presumed fleet station (ZG, 62).

93. Ochakov UKR (*Odessus*): harbour, fort, and possible fleet station (ZG, 61).

94. Parutino UKR (*Olbia/Borysthènes*) [B23E2]: on right bank of Bug near Black Sea mouth; second- to third-century fort in south of city, stamps of *legio V Macedonica* –A.D. 167, *legio I Italica* A.D. 167–, *coh. VI Asturum* (ZG, 60).

Landscape changes and settlement, S. D. Kryshitskii in Chapman and Dolukhanov, op. cit. (n. 2), 101–14.

Embassy to legate of Moesia and to the king of the Aorsi, possibly around time of Plautius Silvanus in first century A.D.: *AE* (1996), 1357.

95. Eupatoria UKR (*Kerkinitis*) [B23G3]: early fortifications used as fort? (ZG, 59).

96. Sevastopol UKR (*Chersonesus Taurica*) [B23G4]: major military centre in first–third century, trapezoidal fort, 100 by 75 m; regional centre of *classis Flavia Moesica*, *legio V Macedonica* –A.D. 167, *legio I Italica*, *legio XI Claudia*, *v(exillatio) M(oesiae) I(nferioris)*, *coh. I Cilicum*, *coh. I Bracaraugustanorum*, *coh. II Lucensium*, *bf. cos. statio* (ZG, 58).

J. C. Carter (ed.), *Crimean Chersonesos, City, Chora, Museum and Environs* (2003), reviewed by I. Haynes, *JRA* 17 (2004), 711–13.

Roman fort and shrine of Jupiter Dolichenus: T. Sarnowski and O. J. Savelja, *Balaklava: römische Militärstation und Heiligtum des Jupiter Dolichenus* (2000) (cf. *AE* (1998), 1154–63; (2000), 1277–80). Construction phases in military base at Sevastopol (first to early third century): R. Karasiewicz, *Limes XIX* (op. cit. (n. 17)), Abstracts 43.

Inscriptions: Greek decree concerning T. Aurelius Calpurnius Apollonides, legate of Moesia Inferior in A.D. 174, *AE* (1996), 1359, cf. (1999), 1350 and (2000), 1275; fragments of Tetrarchic construction text, *AE* (1994), 1539; construction of *schola principalium* in A.D. 250 by centurion of I Italica, ‘praep(ositus) vex(illationis) Chersoniss(itanae)’, *AE* (1996), 1358 cf. (1999), 1349; celebration of Volcanalia, *AE* (1998), 1161, cf. (2000), 1281; votive to Vulcan, *AE* (1999), 1348.

97. Ai-Todor UKR (*Charax*) [B23H4]: fort on promontory in southern Crimea, 7 km west of Yalta, second- to third-century finds, walls 550 by 380 m, vexillation of Ravenna fleet, base of Moesian fleet, I Italica, XI Claudia, *vex(illatio) Moes(iae) Inf(erioris)*, *coh. II Hispanorum Aravacorum*, *coh. I Thracum*, *bf. cos. statio* (ZG, 57).

Latin record of construction by centurion of XI Claudia commanding the vexillation in A.D. 166: *AE* (1997), 1332.

Dacia north of the Danube (D)

Abbreviations: GD = Gudea, op. cit. (n. 26, 1997) by catalogue number.

Lower Mureş (Marisus) and Theiss/Tisa (Dacia Superior/Dacia Apulensis)

1. Bulci ROM [B21E3]: possible fort, stamps *legio XIII Gemina*, early second century (GD, 1).

2. Aradul Nou ROM [B21D3]: possible fort, legionary stamps (GD, 2).

3. Sânnicolaul Mare ROM [B21C3]: possible fort (GD, 3).

4. Cenad ROM [B21C3]: possible fort, legionary stamps (GD, 4).

5. Szeged HUN (*Partiscum*) [B21C3]: possible fort, *portorium* station (GD, 5).

Viminacium to Tibiscum (15) via Banat (Dacia Superior/Dacia Apulensis)

6. Dupljaja YUG [B21D5]: fort (GD, 7).

7. Grebenac YUG [B21D5]: two adjoining forts, 110 by 130 m, 60 by 110 m, Trajanic (GD, 8).

8. Vărădia ROM (*Arcidava?*) [B21D4]: fort, timber and earth, A.D. 101/102; fort, stone, 154 by 172 m, *coh. I Vindelicum civium Romanorum* (GD, 9).

Excavations: E. Nemeth, *Limes XIX* (op. cit. (n. 17)), Abstracts 67–68.

9. Vršac YUG [B21D4]: probable fort, early second century, stamps of *ala I Tungrorum Frontoniana* (GD, 10).

10. Surducul Mare ROM (*Centum Putea*) [B21D4]: fort, timber and earth, triple ditches, Dacian wars–c. A.D. 118 (GD, 11).

11. **Berzovia ROM** (*Bersobis*) [B21D4]: fortress, timber and earth, 410 by 490 m, III Flavia, A.D. 110–114 (GD, 12).

12. **Fârlug ROM** (*Aizizis*) [B21D4]: probable fort, 110 by 30 m, Trajanic? (GD, 13).
Orșova (Dierna) to Ulpia Traiana Sarmizegetusa (Dacia Superior/Dacia Apulensis).

13. **Mehadia ROM** (*Praetorium*) [B21E5]: fort, timber and earth; fort, stone, 116 by 142 m, stamps of *coh. III Delmatarum milliaria equitata civium Romanorum*; late fort, repaired c. A.D. 275 (GD, 15).

M. Macrea *et al.*, *Praetorium: the Roman Fort at Mehadia and its Civil Settlement* (1993). Excavations of fort and *vicus*: D. Benea, *Limes XIX* (op. cit. (n. 17)), Abstract 13; I. Lalescu, *ibid.*, Abstract 51; S. Regep-Vlascici, *ibid.*, Abstract 78 (lamps).

Stele of veteran of Legion XIII and decurion of *colonia Sarmizegetusa*: AE (1999), 1304.

On the spa settlement Băile Herculane (*Ad Mediam*), D. Benea *et al.*, *Sargetia* 27 (1997), 267–301.

14. **Teregova ROM** (*Ad Pannonios*) [B21E4]: fort, timber and earth, single ditch; fort, stone, c. 100 by 125 m, mid-second century, *coh. VIII Raetorum* (GD, 16).

Fragment of sale contract(?) inscribed on brick: AE (1996), 1325.

15. **Jupa ROM** (*Tibiscum*) [B21E4]: major military centre, fort, timber and earth, A.D. 101–106?; fortlet, stone, 89 by 107 m, *coh. I Vindelicorum*; fort, timber and earth, 195 by 310 m, *coh. I Vindelicorum milliaria civium Romanorum*, *coh. I sagittariorum milliaria equitata*, *numerus Maurorum Tibiscensium*, *numerus Palmyrenorum Tibiscensium*; reconstruction under Gallienus (GD, 17).

D. Benea *et al.*, *Tibiscum* (1994), also *Apulum* 32 (1995), 149–72 (historical outline).

Inscriptions from *principia*: AE (1997), 1295–6 (third-century imperial votives, including one to Minerva by *actarius*); other votives: AE (1999), 1295–1303, including Liber Pater (1295–6), Severi (1298), Maximini (1297), official of *portorium* station (1301), portico paved by *schola* of members of *numerus Palmyrensiu Tibiscensium*, third century (1302). Votive by decurion of *colonia Sarmizegetusa* from period before Tibiscum became a *municipium*: AE (1995), 1304. New readings of brick stamps (*IDR*, op. cit. (n. 37), III/1, 252): AE (2000), 1256–7; stamps on Westerndorf samian: AE (2000), 1255, cf. (2001), 1720.

Local tempered wares in grey fabric, imitating fine ware forms: D. Micle, *Limes XIX* (op. cit. (n. 17)), Abstract 63; Tibiscum and Drobeta (*Ms.50*) as centre for manufacture of terracotta statuettes of gods, persons, animals, etc.: M. Cringas, *Limes XIX* (op. cit. (n. 17)), Abstracts 21–22.

16. **Zăvoi ROM** (*Acmonia?*) [B21E4]: fortress at entrance to Transylvanian Iron Gate, 336 by 336 m, conquest period, evacuated A.D. 106–107, garrison unknown (I Minerva?) (GD, 18).

17. **Sarmizegetusa ROM** (*Ulpia Traiana Sarmizegetusa*) [B21E4]: fortress prior to Trajanic *colonia Dacica*; A.D. 102–106, 546 by 415 m, III Flavia (GD, 18a).

D. Alicu and A. Paki, *Town-planning and Population in Ulpia Traiana Sarmizegetusa*, BAR int. ser. 605 (1995). On the Trajanic forum and other major public buildings: A. Diaconescu in Hanson and Haynes, op. cit. (n. 16), 89–103 (on the inscriptions, AE (2000), 1251).

Amphitheatre: D. Alicu, *Ulpia Traiana Sarmizegetusa: Amfiteatrul I* (1997).

Inscriptions from forum and from the residence of the procurator: AE (1998), 1085–1106.

On the evolution of the title of provincial priest from *sacerdos provinciae* to *sacerdos arae Augusti*: M. Szabó, *ActArchHung* 41 (2001), 99–103 (AE (2001), 1718). Votive (second century) by guild of apple-growers (*pomarensii*): AE (2000), 1253; public weighing machine (*statera*) in the charge of a municipal freedman: AE (1999), 1289; private money-changer: AE (1994), 1497. Monuments of leading families: AE (1993), 1344; (1998), 1087; (2001), 1719. Lead water pipes of the Trajanic colony: I. Piso *et al.*, *Acta Mus. Nap.* 37 (2000), 223–9; non-figured architectural stelai: C. Ciongradi, *Acta Mus. Nap.* 36 (1999), 152–62; lamps: D. Alicu, AE (1994), 1498 (1,200 examples); local lamp production from second century: *Acta Mus. Nap.* 37 (2000), 99–140. Brick stamps: AE (1996), 1279–1324.

Sarmizegetus Regia (Muncel): construction of Roman camp during Dacian wars, AE (2001), 1716. Greek letters at the site do not indicate use of language but are simply masons' marks, AE (1997), 1280, cf. (2000), 1250; Latin graffito on pot of pre-conquest period, AE (2001), 1717.

Western perimeter (Dacia Superior/Dacia Apulensis)

18. **Vețel ROM** (*Micia*) [B21E4]: fort with multiple garrison, timber and earth, conquest period, *coh. II Flavia Commagenorum, ala I Augusta Ituraeorum sagittariorum*; fort, stone, 181 by 360 m, constructed c. A.D. 160–170, *ala I Hispanorum Campagonum, coh. II Flavia Commagenorum, numerus Maurorum Miciensium* (GD, 19).

Votives from temples of I.O.M., Isis, and Sol Invictus: *AE* (2001), 1714–1715. Excavations and new evidence from aerial photographs of *vicus*, I. A. Oltean and V. Radeanu, *Limes XIX* (op. cit. (n. 17)), Abstracts 69.

Remains of linear barrier between rivers Mureș and Crișul Rrepede, west of Apuseni mountains: S. Dumitrescu, *Limes XVII* (op. cit. (n. 17)), 467–71.

19. **Abrud ROM** (*Alburnus Maior*) [B21F3]: fort, timber and earth, in gold mining region, c. 40 by 50 m (GD, 20).

P. Damian (ed.), *Alburnus Maior, Monograph 1* (2003), with a survey of the recent archaeological activities in the Roșia Montana mining region (*AE* (2001), 1712–13).

North-west perimeter (Dacia Porolissensis)

20. **Bologa ROM** (*Resculum*) [B21E3]: fort with multiple garrison, earth and timber, 130 by 152 m, conquest period, *coh. I Ulpia Brittonum* until A.D. 110/114; earth and timber fort, 130 by 209 m, early second century, *coh. II Hispanorum Cyrenaica, coh. I Aelia Gaesatorum* (A.D. 133); fort, stone with double ditches, 122 by 213.5 m; reconstructed early third century (GD, 21).

N. Gudea, *Das Römergrenzkastell von Bologa-Resculum* (1997).

21. **Buciumi ROM** [B21F2]: fort, timber and earth with double ditch, 125 by 160 m, early conquest period, *coh. I Augusta Ituraeorum sagittariorum* A.D. 109, *coh. II Nervia Brittonum* A.D. 114–; fort, stone, 134 by 167 m, early third century (Caracalla), *coh. II Nervia Brittonum Pacensis milliaria* (GD, 22).

N. Gudea, *Das Römergrenzkastell von Buciumi* (1997).

22. **Românași ROM** (*Largiana*) [B21F2]: fort, timber and earth, 125 by 153 m, Trajan, *coh. I Hispanorum quingenaria, coh. VI Thracum?*; fort, stone, 130 by 157 m, Hadrian/Antonine, *coh. Hispanorum quingenaria equitata* (GD, 23).

D. Tamba, *Das Römergrenzkastell von Românaș-Largiana* (1997).

23. **Romita ROM** (*Certiae*) [B21F2]: fort, stone, 185 by 230 m, *coh. II Britannica, coh. VI Thracum, coh. I Batavorum* (GD, 24).

A. Matei and I. Bajusz, *Das Römergrenzkastell von Romita-Certiae* (1997).

24. **Moigrad ROM** (*Porolissum*) [B21F2]: linear defences: (a) forward line of watch and signalling towers; (b) outer cordon in three sections, earth wall (Corniștea–Măgurița), stone wall (Măgurița–Ortelec stream), earth wall (Ortelec stream–Poguior); (c) uninterrupted inner cordon in several sections, simple earth wall (Poiana–Ferice) doubled in one 300 m section, stone wall (Ferice–Citera), earth wall (Citera–Ortelec stream near Brebi); (d) large and small fortifications incorporated in barrier wall, towers and *burgi*; (e) larger forts on Pomet hill, Citera hill, and Coasta Citerii (GD, 24a).

Moigrad-Pomet: multi-garrison fort, timber and earth, 225 by 295 m, soon after conquest, *coh. V Lingonum* (A.D. 106–114), *coh. VI Thracum* (A.D. 106–114), *coh. I Ulpia Brittonum* (A.D. 110–114), *coh. I Augusta Ituraeorum sagittariorum* (A.D. 110–114); fort, stone, 230 by 300 m, *coh. Ulpia Brittonum, coh. V Lingonum, coh. VI Thracum, numerus Palmyrenorum*, occupied until Aurelian (GD, 25).

N. Gudea, *Das Römergrenzkastell von Moigrad-Pomet. Porolissum I* (1997).

Moigrad-Citera: fort, earth and timber, 60 by 95 m, Trajanic; fort, stone, 66.65 by 101 m, *numerus Palmyrenorum Porolissensium?* (GD, 26).

Moigrad-Coasta Citerii: fort conjoined with Citera, possible support camp of irregular plan, 187 by 161 by 190 m (GD, 26a).

N. Gudea, *Porolissum. Ausschnitte aus dem Leben einer dakisch-römisch Grenzsiedlung aus dem Nordwesten des Provinz Dacia Porolissensis*, Schwarzmeer Studien 6 (ed. W. Schulter) (1998).

N. Gudea, *Porolissum II: Das Zollgebäude* (1996) (votives by *vilici* to Commodus: *AE* (1996), 1274), a station of the frontier customs (*portorium*) on the north-west frontier of Dacia.

Shrine of Jupiter Dolichenus: N. Gudea and D. Tamba, *Porolissum III: Über ein Juppiter-Dolichenus Heiligtum in der Municipium Septimium Porolissensium* (2001), with votives (AE (1996), 1706–7).

Amphitheatre excavations: I Batusz, *Limes XIX* (op. cit. (n. 17)), Abstracts 11 (Hadrianic timber, followed by Antonine stone with c. 5,500 capacity).

Newly identified linear barrier c. 50 km west of the Meseş line, controlling Crasna valley exit: A. Matei, *Limes XIX* (op. cit. (n. 17)), Abstracts 58–59.

Northern perimeter (Dacia Porolissensis)

25. **Tihău ROM** [B21F2]: fort at crossing of river Someş (*Samus*), timber and earth, 128 by 138 m, conquest period, A.D. 106–110; fort, stone, 129 by 144 m, *coh. I Cannanefatium* (GD, 27).

Vexillation of Legion XIII Gemina (c. A.D. 118–119?): AE (1994), 1484.

On the defensive zone beyond the Someş see I. Ferenczi, *Acta Mus. Nap.* 24–25 (1987–1988), 171–91.

26. **Căşei ROM** (*Samum*) [B21F2]: fort on river Someş (*Samus*), controlling route to Lăpuş pass, earth and timber, conquest period, *coh. II Britannica milliaria*; fort, stone, 165 by 165 m, *coh. I Britannica milliaria equitata*; reconstruction under Caracalla (GD, 28).

Vicus excavations: D. Isac, *Limes XIX* (op. cit. (n. 17)), Abstracts; fort granaries: A. Isacu, *ibid.*, Abstract 42; garrison units: D. Isac and F. Marcu, *Limes XVII*, 585–97.

27. **Ilişua ROM** [B21G2]: fort south of Breaza pass to north, timber and earth, 120 by 135 m, conquest period, *coh. II Britannica?* A.D. 106/107?; timber and earth fort, 183 by 175 m, Trajanic, *ala I Tungrorum Frontoniana* A.D. 114–; fort, stone, 182 by 182 m, Hadrianic, *ala I Tungrorum Frontoniana* (GD, 29).

Fort and *vicus* excavations: D. Protase and C. Gaiu, *Limes XVII* (op. cit. (n. 17)), 415–29.

28. **Livezile ROM**: fort near Bistriţa mouth of Racilor stream, timber and earth, 120 by 166 m, Trajan, brief occupation (GD, 30).

29. **Orheiul Bistriţei ROM** [B22B1]: fort on route to east Rodna pass, timber and earth, 130 by 190 m, early conquest, stamps of *coh. I Hispanorum milliaria equitata*; fort, stone, 144 by 203 m, *coh. I Flavia Ulpia Hispanorum milliaria equitata civium Romanorum*, Antonine (GD, 31).

Votive bone handle to I.O.M. Dolichenus by an *optio* of the garrison, found at Myszkow in the Ukraine 200 km east of the fort: AE (1998), 1113 (*ILS* 9171).

Eastern perimeter (Dacia Superior/Dacia Apulensis)

30. **Brâncoveşti ROM** [B22B2]: fort on right bank of Mureş on route to Deda pass, timber and earth, Trajanic; fort, stone, 144 by 177 m, *ala numeri Illyricorum*; reconstruction in mid-third century (GD, 32).

Excavations of 1970–1987: D. Protase and A. Zrinyi, *Brâncoveşti* (1994). Inscriptions: AE (1994), 1488.

Remains of area defences, including watchtower (25 by 17 m): M. Pelica, *Limes XVII* (op. cit. (n. 17)), 473–6.

31. **Călugăreni ROM** [B22B2]: fort controlling Niraj pass, timber and earth, Trajanic; stone, 140 by 163 m, *coh. I Alpinorum equitata* (GD, 33).

32. **Sărăţeni ROM** [B22C2]: fort controlling major Bucin pass, timber and earth; stone, 140 by 146 m, *coh. I Alpinorum* after A.D. 114 (GD, 34).

33. **Înlăceni ROM** [B22C2]: fort controlling crossings of Tîrnava river, timber and earth, 140 by 142? m, early conquest period, *coh. VIII Raetorum milliaria civium Romanorum* until mid-second century; fort, stone, 144 by 146 m, end of Hadrian/early Pius, *coh. III Hispanorum*; reconstruction under Caracalla, stamps of *coh. I Alpinorum?*, partial reconstruction in mid-third century (GD, 35).

34. **Odorheiul Secuiesc ROM** [B22C2]: probable fort on major route from Dacia, second half of second century, stamps of *coh. I Ubiorum* (GD, 36).

35. **Sânpaul ROM**: fort on route to Vlăhiţa pass, timber and earth; stone, 133 by 150 m, stamps of *numerus Maurorum S...* (GD, 37).

Fort and *vicus*: C. Timoc, *Apulum* 37 (2000), 397–99 (AE (2000), 1259).

36. **Olteni ROM** [B22C2]: fort, timber and earth; stone, 95 by 142 m, Hadrianic, *coh. III Baetasiorum* (GD, 38).

Between Oituz pass and Red Tower defile (Dacia Inferior)

37. Brețcu ROM (*Angustia*) [B22D2]: fort, multi-garrison, controlling Oituz pass, timber and earth, 132 by 172 m, Trajanic; fort, stone, 141 by 179 m, *coh. I Hispanorum*, *coh. I Bracaraugustanorum*; late partial reconstruction (GD, 39).

38. Boroșneu Mare ROM: fort controlling Buzău pass to south, fort, stone, 130 by 198 m, *ala Gallorum*, *ala Palmyrenorum*, stamps of *coh. I Bracaraugustanorum*, *coh. Latobicorum?* (GD, 40).

Votive to Hadrian: AE (1999), 1286; brick stamps, 1287 (*ala Flavia Gaetulorum*, *ala Asturum*).

39. Comalău ROM: fort at major road junction, near mouth of Pîrîul Negru stream at Olt, stone, irregular plan, 70 by 70 by 40 by 50 by 20 m, stamps of *coh. I Hispanorum* (GD, 41).

40. Râșnov/Rosenau ROM (*Cumidava*) [B22C3]: fort controlling route to south via Bran pass, earth and timber, 110 by 114 m, early Trajanic (A.D. 101–106); fort, stone, 118 by 124 m, late Hadrianic/early Antonine, *coh. VI nova Cumidavensium* (GD, 42).

41. Hoghiz ROM [B22C3]: fort, multi-garrison, at junction of routes between Dacia Inferior and Dacia Superior, timber and earth, early conquest, stamps of *legio XIII Gemina*; fort, stone, 165 by 220 m with double wall, second half of second century, stamps of *ala I Asturum*, *numerus Palmyrenorum?*, votive (A.D. 177–180) of *coh. III Gallorum* (GD, 43).

Votive to Hadrian, A.D. 130–132(?): AE (2000), 1258.

A. Ionita *et al.*, *Prehistoric, Roman and Medieval Settlement at Feldioara/Marienburg, North of Brasov* (2004).

42. Cincșor/Kleinschenk ROM [B22B3]: fort on Olt valley road south of Cincu pass between Dacia Superior and Dacia Inferior, timber and earth?; fort, stone, stamps of *coh. II Flavia Bessorum* (GD, 44).

43. Feldioara ROM [B22B3]: fort on Olt valley road south of Arpaș pass, timber and earth, early conquest (A.D. 101–102?); fort, stone, 114 by 137 m, *coh. II Flavia Numidarum* (GD, 45).

44. Boița ROM (*Caput Stenarum*) [B22B3]: fort on Olt valley road at entrance to Red Tower defile, stone, 45 by 50 m, stamps of *coh. I Tyrriorum sagittariorum*, *legio XIII Gemina* (GD, 46). Wallachian plain north of the Danube (Moesia Inferior A.D. 102–118)

45. Drajna de Sus ROM [B22D3]: Trajanic fort controlling Ogretin and Drajina valleys, sub-Carpathians, and passage to Transylvania A.D. 102–118 (Cătănicu, *op. cit.* (n. 26, 1981), 63–4).

M. Zahariade and T. Dvorski, *The Lower Moesian Army in Northern Wallachia (AD 101–118)* (1997) (based on brick and tile stamps); also T. Dvorski, *Novensia (Warsaw)* 10 (1998), 171–88 (AE (1998), 1112).

46. Mălăiești ROM [B22C3]: Trajanic fort on bank of Teleajen, sub-Carpathians, A.D. 102–118 (Cătănicu, *op. cit.* (n. 26, 1981), 63 n. 69).

47. Tîrgșor ROM [B22C4]: Trajanic fort in Prahova valley, sub-Carpathians, A.D. 102–118 (Cătănicu, *op. cit.* (n. 26, 1981), 63 n. 68).

'Limes Transalutanus' between Danube and Bran pass (Dacia Inferior)

On the history and topography of this line: Cătănicu, *op. cit.* (n. 26, 1997).

48. Flămânda ROM (*Poiana*) [B22C5]: fort and Danube harbour at south end of wall line, timber and earth, 350 by 390 m (GD, 47).

49. Putineiu ROM [B22C5]: possible fort on line of wall, timber and earth, 53 by 53 m, 0.25 ha (GD, 48).

50. Băneasa ROM [B22C5]: (1) fort, timber and earth, on line of wall, 126 by 180 m (GD, 49); (2) fort *c.* 350 m behind line of wall, timber and earth, 43 by 63 m (GD, 59).

51. Roșiorii de Vede ROM [B22C4]: fort on line of wall, 50 by 51 m (GD, 51).

52. Valea Urluii ROM [B22C5]: fort on line of wall, timber and earth, 48 by 72 m (GD, 52).

53. Gresia ROM [B22B4]: fort on line of wall, earth and timber, 50 by 60 m (GD, 53).

54. Ghioca ROM [B22B4]: fort on line of wall, earth and timber, 75 by 102 m (GD, 54).

55. Urluieni ROM [B22B4]: (1) fort on line of wall, earth and timber, 105 by 123 m; fort, stone, 105 by 123 m. Hadrianic? (GD, 55); (2) fort 30 m from fort (1) on line of wall, earth and timber, 85 by 112 m, two phases, early third century (GD, 56).

56. Fâlfani ROM [B22B4]: fort, timber and earth, 63 by 93 m (GD, 57).

57. Săpata de Jos ROM [B22B4]: (1) fort on line of wall, timber and earth, 90 by 125 m, Severan occupation, possible destruction in A.D. 242 (GD, 58); (2) fort on line of wall 35 m from

fort (1), timber and earth, 35 by 46 m, Severan occupation, possible destruction in A.D. 242 (GD, 59).

58. Albota ROM [B22B4]: fort on line of wall, timber and earth, 56 by 81 m, Severan construction, occupation until mid-third century (GD, 60).

59. Purcăreni ROM [B22B4]: fort on line of wall, timber and earth, 160 m by ? (GD, 61).

60. Câmpulung Muscel ROM: (1) fort (= Jidava) c. 20 km south of Bran pass, stone, 99 by 132 m, Hadrianic, third-century destruction? (GD, 62); (2) fort c. 300 m south of fort (1), timber and earth, 50 by 60 m (GD, 63).

Hoard of scrap metal c. A.D. 250, including helmets of eastern archers: L. Petculescu, *Act. Mus. Nap.* 36 (1999), 189–96.

61. Voinești ROM: fort 12 km from Câmpulung Muscel fort (2) on line of wall, stone?, *coh. II Commagenorum*, early conquest period (GD, 64).

Trajanic brick stamps originating from Moesia Inferior: *AE* (2000), 1264–5.

62. Rucăr ROM [B22C3]: fortlet at strategic location south of Bran pass, timber and earth, 40 by 60 m, Trajanic, *coh. II Flavia Bessorum*, with stamps from baths at 200 m distance (GD, 65).
Olt (Alutus) valley from Danube to Red Tower defile (Dacia Inferior)

63. Izlaz-Verdea ROM [B22B5]: possible harbour and military base on island near mouth of Olt at start of road, fort, c. 120 by 325 m (GD, 66).

64. Izlaz-Racovița ROM: possible fort 4 km from previous fort (No. 63), Trajanic? (GD, 67).

65. Tia Mare ROM [B22B5]: possible fort on Olt road, stone, 30 by 30 m (GD, 68).

66. Slăveni ROM [B22B4]: fort for multi-garrison on Olt road at river crossing, timber and earth, 169 by 190 m, Trajanic, *ala I Hispanorum*, *ala I Claudia miscellanea*, *coh. I Flavia Commagenorum*, *coh. I Brittonum*; fort, stone, 169 by 190 m, Severan (A.D. 205), *ala I Hispanorum*, *numerus Syrorum Malvensium*, reconstruction under Philip, destruction in mid-third century (GD, 69).

67. Reșca ROM (*Romula/Malva*) [B22B4]: fort (1) (Biserica Veche), 100 by 100 m; fort (2) (Cetate), timber and earth, 182 by 216 m; fort, stone, Hadrianic; fort (3) (Delealul Morii), Trajanic–mid-third-century destruction, *coh. I Flavia Commagenorum*, *numerus Syrorum Malvensium* (GD, 70).

On the history of the city: C. M. Tatulea, *Romula-Malva* (1994); also *AE* (1996), 1326 (municipal organization), 1327 (part of a letter to the legate inscribed on brick); (1998), 1083 (on history of the city).

68. Enoșești ROM (*Acidava*) [B22B4]: fort on Olt road, timber and earth?, Trajanic, *coh. I Flavia Commagenorum*; stone, 40 by 40 m, Hadrianic (GD, 71).

69. Momotești ROM (*Rusidava*) [B22B4]: possible fort on Olt road (GD, 72).

70. Ioneștii Govorii ROM (*Pons Aluti*) [B22B4]: possible fort on Olt road, timber and earth, conquest period, stamps of *coh. III G(allorum)* (GD, 73).

71. Stolniceni ROM (*Buridava*) [B22B3]: fort on Olt road, 60 by 60 m, *coh. I Hispanorum* (A.D. 101–102), stamps of *coh. I Brittonum milliaria*, *coh. I Hispanorum veterana*, *coh. II Flavia Bessorum*, *pedites singulares* (GD, 74).

Dacian settlement: D. Berciu *et al.*, *Thraco-Dacica (Bucharest)* 12 (1991), 104–14.

72. Sâmbotin ROM (*Castra Traiana*) [B22B3]: fort on Olt road, timber and earth, conquest period; stone, 70 m by ?, Hadrianic, *coh. I Hispanorum*, reconstructed in second century, with double wall (GD, 75).

On garrison changes: *AE* (1995), 1305 (stamp of *cohors Hispanorum*).

73. Jiblea ROM: possible fort on Olt road (GD, 76).

74. Rădăcinești ROM [B22B3]: fort on Olt road at junction with side road, stone, 55 by 57 m, constructed A.D. 138 (inscription), *numerus Syrorum sagittariorum* (GD, 77).

75. Bivolari ROM (*Arutela*) [B22B3]: fort on Olt road, stone, 61 by 61 m, with internally buttressed perimeter wall (A.D. 138, three inscriptions), *numerus Syrorum sagittariorum*, destroyed by flood in A.D. 239 (GD, 78).

76. Perișani ROM: possible fort on Olt road (GD, 79).

77. Titești ROM [B22B3]: fort on Olt road, stone, 57 by 48 m, with internally buttressed perimeter wall (GD, 80).

78. Copăceni ROM (*Praetorium* I) [B22B3]: fort on Olt road, stone, *c.* 64 by 64 m, with internally buttressed perimeter wall, constructed A.D. 138 (three inscriptions), enlarged *c.* three years later (*ILS* 9180) (GD, 81).

79. Racovița ROM (*Praetorium* II): fort on Olt road, stone, 106 by 118 m, Hadrianic?, reconstructed early third century (GD, 82).

On these two camps, and others in the area of the Cozia massif, C. N. Vlădescu and Ch. Poenaru-Bordea, *Limes XII* (op. cit. (n. 17)), 815–29.

80. Căineni ROM (*Pons Vetus?*) [B22B3]: possible fort on Olt road, *c.* 150 by 150 m (GD, 83).

81. Râul Vadului ROM: probable fort on Olt road (GD, 84).

From the Danube along the Jiu valley to the Vulcan pass (Dacia Inferior)

82. Lișteava ROM: possible fort on Jiu road (GD, 85).

83. Căciulătești ROM [B21F6]: possible fort on Jiu road (GD, 86).

84. Castranova ROM: possible fort on Jiu road (GD, 87).

85. Mofleni ROM (*Pelendava*) [B21F5]: possible fort on Jiu road (GD, 88).

86. Răcari ROM [B21F5]: fort on Jiu road at junction of several roads, timber and earth, conquest period; fort, stone, 142 by 173 m, Hadrianic–destruction A.D. 242–244, *numerus Maurorum S(aldensium)* (GD, 89).

87. Cătunele ROM [B22E5]: fort on Jiu road, timber and earth, 114 by 156 m, Trajanic (GD, 90).

88. Pinoasa ROM: fort on Jiu road, 120 by 150/170 m, conquest period (GD, 91).

89. Bumbăști ROM [B21F4]: fort on Jiu road, timber and earth, conquest period, *coh. IIII Cypria*; stone, 87? by 167 m, with internally buttressed perimeter wall, construction A.D. 201, *coh. I Aurelia Brittonum milliaria*, repaired in mid-third century (GD, 92).

90. Vârtop ROM [B21F4]: fort on Jiu road south of Lainici pass 1 km from Bumbăști, timber and earth, 115 by 126 m, conquest period (GD, 93).

91. Pleșa ROM: fort on Jiu road, timber and earth, 156 by 234 m, brief occupation (GD, 94).

Inner perimeter cordon (Dacia Porolissensis)

92. Cluj-Napoca ROM (*Napoca*) [B21F3]: Dacian settlement, later Roman *municipium* under Hadrian, *colonia* under Marcus Aurelius and residence of procurator of Dacia Porolissensis (*TIR* L34 (op. cit. (n. 2)), 83).

Priest (*flamen*) of colony and priest of province with title *coronatus*, Severus Alexander or later: A. Szabó, *ActArchHung* 39 (1999), 355–61 (*AE* (1999), 1279); *flamen*, decurion, and patron of colony: *AE* (2000), 1241 (=C 6255); *scriba coloniae*: 1243.

Stamps of *leg. V Mac.*: *AE* (1993), 1327.

Roman pottery made in local La Tène tradition: V. Rusu-Bolindet *et al.*, *Act. Mus. Nap.* 37 (2000), 141–99.

93. Gilău ROM [B21F3]: fort on road west of Cluj (*Napoca*) on river Someș (*Samus*) at mouth of Capuș stream; fortlet, timber and earth; fort, timber and earth, 128 by 220 m, *ala Siliana bis torquata* (A.D. 114–); stone, 138 by 213 m, Antonine, *ala Siliana civium Romanorum*, reconstruction in second half of third century (GD, 95).

D. Isac, *Die Kohorten und Alenkastelle von Gilău* (1997).

Votive to Julia Mamaea: *AE* (1993), 1331. Early third-century bronze vessels with decoration of athletes: *Act. Mus. Nap.* 37 (2000), 201–21. Lamps: *AE* (2001), 1704.

94. Sutoru ROM (*Optatiana*) [B21F3]: probable fort at intersection of major roads, between Capuș and Almaș valleys, stamps of *n(umerus) M(aurorum) O(ptatensium)*, *ala milliaria* (inscription) (GD, 96).

Garrisons and construction phasing: C. Ilies *et al.*, *Limes XIX* (op. cit. (n. 17)), Abstracts 39.

95. Gherla ROM [B21F2]: fort on road from Cluj (*Napoca*) to northern perimeter, timber and earth, *ala II Pannoniorum*; fort, stone, 162 by 169 m, construction in A.D. 143, *ala II Pannoniorum* (GD, 97).

History: R. Ardevan *et al.*, *Limes XIX* (op. cit. (n. 17)), Abstracts 10; silver statue depicting Suebic German prisoners: *Limes XVII*, 879–83; epitaph of *eques* of *ala II Pannoniorum*: *AE* (1993), 1325.

Production of stamped pottery: V. Rusu-Bolindet, *Limes XVII* (op. cit. (n. 17)), 777–805.

Inner perimeter cordon (Dacia Superior/Apulensis)

96. **Criștești ROM** [B22B2]: probable fort on left bank of Mureș (*Marisus*) on road from Alba Julia (*Apulum*) to eastern perimeter, *ala I Bosporanorum* (*Gallorum et Bosporanorum*) (GD, 98).

97. **Cigmău ROM** (*Germisara*) [B21F4]: probable fort in region of earlier fortresses, *numerus singulariorum peditum Britannicianorum* (*pedites Britannici*) (GD, 99).

Five gold plaques and altars from baths: *AE* (1993), 1341–2.

98. **Orăștioara de Sus ROM** [B21F4]: fort on bank of Apa-Orașului river controlling route to former Dacian capital Sarmizegetusa: timber and earth, early conquest period; fort, stone, 135 by 183 m, Hadrianic, *numerus Germanicianorum* (GD, 100).

99. **Războieni ROM** [B21F3]: fort on road along Mureș (*Marisus*) from Alba Julia (*Apulum*) to eastern perimeter, 110 by 150 m, stamps of *ala I Batavorum* (GD, 101).

100. **Sighișoara/Schässburg ROM**: fort on road east of Alba Julia (*Apulum*) along river Târnava Mare (Grosskokel), timber and earth, 133 by 180 m, late Hadrianic (GD, 102).

Central fortress (Dacia Superior/Dacia Apulensis)

101. **Alba Julia ROM** (*Apulum*) [B21F3]: fortress on Mureș (*Marisus*) at mouth of Ampoi stream, timber and earth, conquest period, XIII Gemina; stone, 475 by 475 m (GD, 103).

Fortress: V. Moga, *Limes XVII* (op. cit. (n. 17)), 463–5. Bureau of *portorium*: *Act. Mus. Nap.* 35 (1998), 105–8 (T. Iulius Saturninus).

Inscriptions: *IDR* (op. cit. (n. 37)) III/5 and III/6 (instrumenta); stamped bricks with names of soldiers in charge of production: *Apulum* 37 (2000), 351–67 (*AE* (2000), 1248). Stamps of *pedites* and *equites singulares*: *Limes XII*, 831–41.

Shrine of Liber Pater: A. Schäfer and A. Diaconescu in H. Cancik and J. Rupke (eds), *Römische Reichsreligion und Provinzialreligion* (1997), 211–14. Votives by soldiers of Legion XIII Gemina: S. Pribac, *Limes XIX* (op. cit. (n. 17)), Abstracts 74–75; to Jupiter Fulgurator: *Act. Mus. Nap.* 36 (1999), 109–10; to Mithras by slave (*actor*): *AE* (2001), 1708 (*IDR* III/5, 720).

Central fortress (Dacia Porolissensis)

102. **Turda ROM** (*Potaissa*) [B21F3]: fortress at road junction facing Arieș plateau, stone, 410 by 485 m, construction in A.D. 167, V Macedonica, *ex(ercitus) D(aciae) P(orolissensis)* (GD, 104).

M. Barbulescu, *Das Legionslager von Potaissa (Turda)* (1997).

Baths: *Limes XVII* (op. cit. (n. 17)), 431–41.

Severan votives from fortress: *Limes XIX*, Abstracts 12; votive to Saturnus: *AE* (1995), 1286.

Deposits of amphorae, many from Cos: A. Catinaș, *Limes XIX*, Abstracts 19–20.

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