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Military Equipment Studies

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ROME C XVIII

St Andrews 6–10 June 2016

6th-10th June, 2016

Nineteenth Roman Military Equipment
Conference (RoMEC XVIII)

Cavalry in the Roman World

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NEWS



Delegates in the closing plenary session of Limes 2015 decide how much they like pies (a lot).



Martin Moser and Alexander Zimmermann draft some new recruits into their *contubernium* at Limes 2015



Sebastian Sommer accompanied by *vexillarii* at the Limes 2015 presentation for Prof Bill Hanson



An inscribed helmet ear guard in the Limeseum at Ruffenhofen, visited by Limes 2015

Limes 2015

The twenty-third Congress of Roman Frontier Studies (usually just known as the Limes Congress) took place in Ingolstadt in Germany in September of 2015. One of the intriguing aspects of this one was just how much re-enactment and military equipment has been embraced by the conference. Re-enactors were on hand during the opening ceremony, when Prof Bill Hanson was presented with his Festschrift volume, as well as to explain some fairly ground-breaking research into what you could actually cram into a *contubernium* tent and its footprint. Conference outings included visits to the newly opened Limeseum at Ruffenhofen and to the legionary fortress city of Regensburg where the *Wir Sind Legion* exhibition was installed (see **Mules of Marius** below). The next Limes Congress will be in Belgrade in Serbia in 2018.

Munningen bypass

Although excavated in 2009 (<http://goo.gl/WLEWSv>), details are only now coming to light on the find of *lorica segmentata* (and other equipment) made during the excavation of a temple in the *vicus* of the Roman fort at Munningen in Bavaria. During the Limes Congress held in Ingolstadt in (see above) it was revealed that the find of Newstead type armour was in many ways comparable with that from the Weinberg in Eining (for which see *JRMES* 14/15 and Bishop 2015 in the **Bibliography** in this issue of *Arma*).

Greek and Roman Armour Day

In July 2015, The Roman and Hellenic Societies hosted a Greek and Roman Armour Day at Senate House in the University of London, thanks to the generosity of Christian Levett and *Minerva Magazine*. The participating

speakers included Gregory Aldrete, Mike Bishop, Mike Burns, Peter Krentz, Christian Miks, and Guy Stiebel, whilst Jon Coulston and Hans van Wees acted as chairs. An exhibition of Peter Connolly's paintings in the Institute of Classical Studies library was timed to coincide with the event.

For those who were unable to attend, and even for those who wish to relive the experience, all of the speakers' presentations are available online on the Roman and Hellenic Societies' *YouTube* channel (<https://goo.gl/SWBWzY>).

Hadrian's Wall Live



'Eastern' archers



Pila and shields



Wardrobe malfunction



Waiting for action



In action

At the beginning of September 2015, visitors to Hadrian's Wall were in for a very special treat, as re-enactment group *Legio I Italica* (<http://www.legio-i-italica.it>) brought 80 legionaries and 50 barbarians to Birdoswald fort for a recreation of a battle between Caledones/Picts and Romans. This was part of a larger, weekend-long event across the main Wall sites, which saw comedians at Chesters, night patrols at Housesteads, and tours of Corbridge. The last time English Heritage fielded a century of legionaries was back in the days of the multi-period Kirby Hall extravaganzas, so the sight of those 80 Roman soldiers parading around the arena after their battle was, to say the least, rare. There were one or two oddities on show (the cursed and omnipresent wristbands, beloved of Hollywood, as well as tubular leg-wrappings) but by and large they looked pretty good, especially en masse. The question is, will EH attempt this again? It can't have been cheap to mount so, in the absence of headline sponsors, takings on the gate will have been all-important. The bottom line is, as ever, the bottom line!

A Weapons factory in Cartagena?

Excavations in the Spanish city of Cartagena have uncovered evidence of metalworking that appear to accord with historical accounts of its inhabitants being set to work under Scipio Africanus to produce weapons for the Romans. <http://goo.gl/ul4P9v>

The Mules of Marius

One of the many highlights of Limes 2015 (see above) was a visit to Regensburg and a chance to see the Wir Sind Legion/We Are Legion bilingual exhibition in the city museum (<http://on.fb.me/1P644cY>). This is an inspired combination of Graham Sumner's paintings, Christian Köpfer's reconstructions, and Thomas Kurz's dioramas, all mixed up with a textual exposition of life in and organisation of the Roman army. A particular favourite of many who saw it was a physical realisation of Peter Connolly's famous painting of a legion on parade. The exhibition is flexible in size and available for hire, should you happen to have a museum with aspare room that needs filling (this would definitely be a good way to fill it). <http://mules-of-marius.com>



A legion in miniature



Reconstruction shields



An army on the march



A variety of panoplies



Practice shields and palus

NINETEENTH ROMAN MILITARY EQUIPMENT CONFERENCE

J. C. N. Coulston

RoMEC XVIII: Cavalry in the Roman World

- Date: 6th-10th June, 2016
- Location: University of St Andrews, St Andrews, Fife, Scotland, KY16 9AL, UK
- Host Institution: School of Classics, University of St Andrews
- Conference Organiser: Dr J.C.N. Coulston, School of Classics, University of St Andrews

The Roman Military Equipment Conference

The Roman Military Equipment Conference (RoMEC) is dedicated to the study of the military equipment of the Roman world, from the 8th century BC to the fall of the Byzantine empire. This includes all the cultures of this period in contact with Roman polities. It is open to all interested parties, professional, amateur, academic, re-enactor, archaeologist and historian.

RoMEC started as a seminar group meeting in the University of Sheffield in 1983, and has since developed into a major international conference series which has met every two to three years at Newcastle upon Tyne, Nottingham and South Shields in the UK, and on the continent at Bonn (Germany), Budapest (Hungary), København (Denmark), Leiden (Neths), Magdalensburg (Austria), Mainz (Germany), Montpellier (France), Nijmegen (Neths), Vienna (Austria), Windisch (Switzerland), Xanten (Germany) and Zagreb (Croatia). It has generally been hosted by universities and major museums, including the National Museums of Denmark and Hungary, and the Kunsthistorisches Museum in Vienna. Not since 1999 has a conference been held in Britain, and St Andrews 2016 will be the first meeting in Scotland.

For the full listing of past conferences see: <http://www.mcbishop.co.uk/romec.htm>

The 2016 Conference Theme: Cavalry in the Roman World

The theme of the 2016 meeting is **Cavalry in the Roman World**. This covers all aspects of horse-riding, mounted warfare, equipment design and military equine culture, hopefully with a reconstruction element. In keeping with the broad RoMEC remit, not just Roman but Hellenic, Mesopotamian, Iranian, Central Asiatic, Iron Age European and North African cavalry traditions will be included. In addition, there will be a session of papers dedicated specifically to 'Hadrian's Cavalry'.

Inclusion of the National Museum of Scotland galleries in the conference excursion is specifically intended to interface with the cavalry equipment from Newstead (Borders) which includes saddle fittings used in current reconstructions, and a number of fine cavalry sports helmets. The conference will also be an important precursor to the multi-venue exhibition with a Roman cavalry theme to be held in 2017 at sites along Hadrian's Wall. <http://bit.ly/1MyUUpn>

ARMES WEBSITE

M. C. Bishop

Bringing *Arma*, *JRMES*, and RoMEC all under one umbrella organisation clearly demanded a new website to reflect this, and www.a-r-m-e-s.org is it. In addition, it provides an opportunity to revive *Armamentarium*, a project I started way back in the 1990s when the potential of digital media was only really beginning to be appreciated.

ARMES

Information relating to the Association, how to subscribe, as well as details of officers, any planned meetings, and the text of the constitution will be made available from the website.

Arma

Much of the content from the old *Arma* website has been moved here, including the list of contents, downloadable back issues, and instructions for contributors. In time, more issues of *Arma* will be added.

JRMES

The content of the old *JRMES* website has been added to this section, including the lists of contents for each volume, instructions for contributors (with the downloadable page template), and additional content. Ultimately downloadable back issues of the journal will be placed here.

RoMEC

The list of previous RoMECs, details of how to offer to host one, and information about where the next one will be held will all be available on this component of the ARMES website.

Armamentarium

Armamentarium was envisaged as an online resource for Roman military equipment. Unfortunately, access to updating it became gradually more limited until it was not possible to change anything. The closing of the Museum of Antiquities (who were hosting the website) and transferral of *Armamentarium* to Tyne and Wear Art Galleries & Museums effectively fossilised it and it has now completely disappeared from the 'live' internet (although you can still find it on The Wayback Machine (<http://bit.ly/1ZFqFB5>) if you are curious. One of the main components was the bibliography, so as a first stage to reinstating *Armamentarium*, this has been updated and added here. It was originally intended that subject bibliographies should be added and this will now be implemented for the new bibliography, since each entry is being tagged as it is added or updated.

ALL THAT GLITTERS IS NOT GOLD: COPPER ALLOY DECORATION IN ROMAN MAIL GARMENTS

Martijn A. Wijnhoven¹

Mail consists of tens of thousands of interlocking metal rings and makes for a highly flexible and versatile piece of armour. Throughout its history, which spans over two millennia, iron has been the preferred material for making mail. However, well-preserved coats of mail from the late middle ages reveal that copper-alloy rings were frequently applied as decoration during that period (e.g. Scalini 1996, 193; Wood *et al.* 2013, 215). The contrast of copper and iron creates a combination resembling gold and silver.

Roman *militaria* were often embellished, and the use of contrasting metals to produce a decorative effect was common as well. For example, it has been observed in helmets and scale armour, and in smaller objects such as belt fittings. Therefore, its application on Roman mail could be expected.

The archaeological record has confirmed that expectation.² Although the majority of Roman mail finds concerns iron, there are examples of iron and copper combined (fig. 1), and even fragmentary instances of just copper-alloy rings which, either were removed from the iron garment prior to deposition, or were the only garment elements to survive (fig. 2). To date, I have been able to catalogue 88 finds of mail with copper-alloy applications, from a total of 41 sites (fig. 3).³

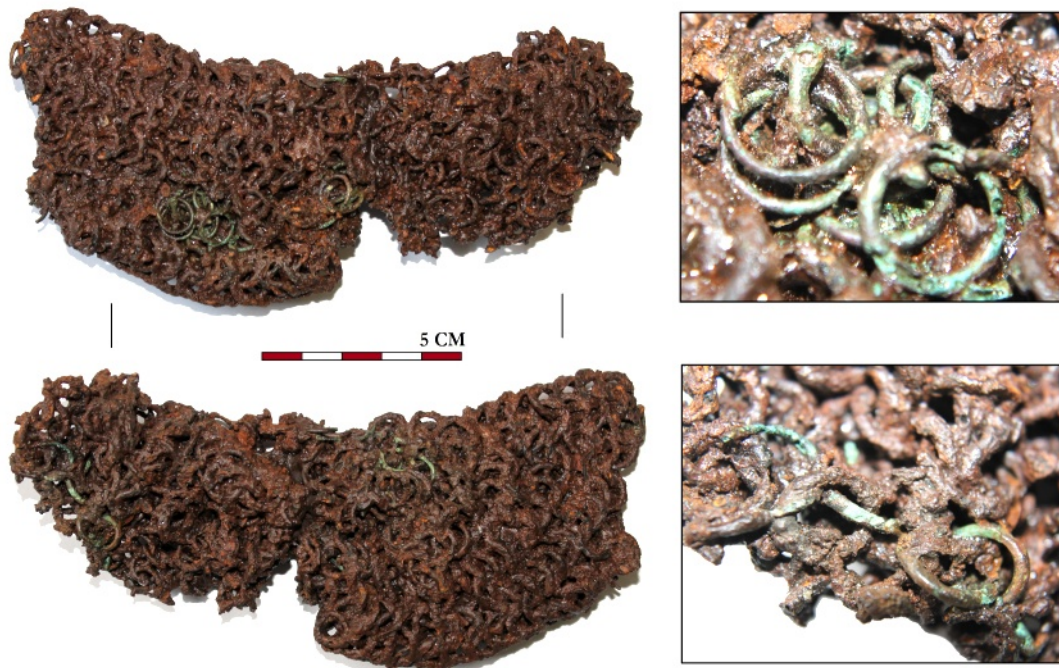


Fig. 1: Mail from The Hague (Netherlands) consisting of iron with small clusters of copper alloy rings scattered throughout. Photograph M.A. Wijnhoven

The earliest evidence for copper alloy rings in mail is still foggy, but it is certain that when these were introduced, mail had already been in use for a very long time. Mail armour first appeared around the turn of the 4th to 3rd centuries BC, whereas the first examples of the use of copper alloy rings come from the second half of the 1st century BC. So far, four finds can be (partially) dated to the 1st century BC: Titelberg in Luxembourg (Metzler 1995, 340, 344–7), Pontoux and Flaviers à Mouzon in France (Bailly 1978, 56; Caumont 2011, 195–200), and Conthey in Switzerland (Müller 1986, 123). Unfortunately, three of these finds were not well-documented and lack archaeological context, making their dating speculative. Interestingly, all four originate from territories greatly affected and finally annexed by the Romans during the 1st century BC. Even though the evidence is still too tentative to draw any conclusions, for the moment, it seems that the use of copper alloy in mail armour may have had its roots in the Roman-Gallic interactions of the second half of 1st century BC.

Based on the development of mail copper alloy decorations over the centuries, a Roman origin is highly probable. The distribution map (fig. 3) shows that almost all the finds from the 1st century AD onwards come from the Roman Empire, indicating that this was primarily a Roman practice. Out of the 41 sites with finds, only six lie outside Rome's borders. These are Dortmund-Oespel, Thorsberg and Hagenow in Germany (Brink-Kloke 1999; Matešić 2011, 244–60; Voß 2007, 59–61), Gurzuf Saddle Pass in the Crimean Peninsula (Novichenkova 2011, 273–4), and Michajlovskaja Staniča and Tiflisskaja Staniča in Russia (Simonenko 2001, 278). Despite lying beyond Rome's frontiers, most of these sites still show a 'Roman connection'. For example, Hagenow and Thorsberg yielded artefacts of both Germanic and Roman origin, while the mail remains from Gurzuf Saddle Pass and Dortmund-Oespel have in fact been interpreted as Roman.

The rarity of copper alloy rings outside the Roman Empire cannot be attributed to the absence of mail in the Barbaricum. The archaeological record has revealed a similar, if not greater, number of mail finds in those territories (Hansen 2003, 166–89), consisting in their majority of iron rings exclusively. The application of copper alloy elements in mail garments appears, thus, intimately linked to the Roman military. This does not mean that all mail with copper alloy elements is invariably Roman. For example, at the Roman garrison town of Dura-Europos in Syria, a nearly complete coat of mail with copper alloy applications was found in a collapsed countermine (James 2004, 116–17). The owner, whose bones were still inside the coat, has been identified as a member of the attacking Sassanid force. The garment had fairly long sleeves, and both the lower hem and the head opening were trimmed with three rows of



Fig. 2: Copper alloy strip of mail from Vechten (Netherlands). Given its overall shape and the direction of the mail weave, this must have been the decorative edge of a sleeve. Photograph M. A. Wijnhoven

copper alloy rings. On the upper chest area copper-alloy rings were used to create a decorative trident pattern, reminiscent of the 'heraldic' devices on depictions of early Sassanian warrior's armour (*ibid.*). The latter feature makes it likely that the coat of mail was not of Roman manufacture.

As said above, hardly any copper-alloy ring finds can be traced back to the 1st century BC. However, during the following century, that changes quickly. A total of 17 finds (from 15 sites) can be partially dated to that period, indicating that by then, the use of copper-alloy decorations had become more customary. Its use seems to have persisted into the 3rd century, as attested by the numerous finds from Dura-Europos (in addition to the one mentioned) and Thorsberg, and declined soon afterwards. Regardless, the practice was never completely abandoned and eventually outlasted the Western Roman Empire. The coat of mail from Sutton Hoo (AD 610–35) and the mail neck guard of the Coppergate helmet (AD 750–75), for instance, still contain copper-alloy elements (Bruce-Mitford 1978, 232–40; Tweddle 1992, 999–1009).

The occurrence of copper-alloy rings in the archaeological record, by itself, does not reveal how these were incorporated in mail garments. During the Roman period, three types of applications have been observed. The first is the use of copper-alloy rings to create a decorative trim, either on the lower hem,

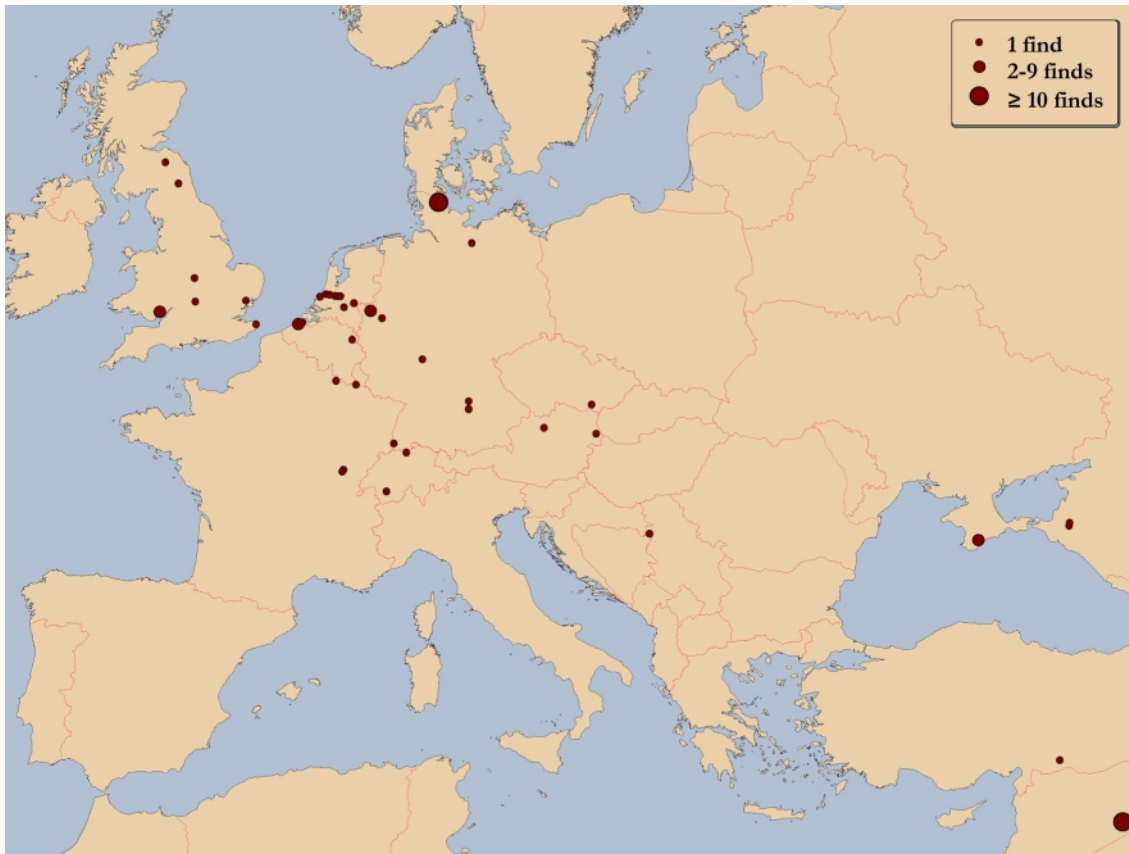


Fig. 3: Distribution of mail with copper alloy elements from the 1st century BC to the 5th century AD.

Austria: Carnuntum; Enns-Lorch. **Belgium:** Oudenburg (4 finds). **Czech Republic:** Mušov-Burgstall. **Crimean Peninsula:** Gurzuf Saddle Pass (2 finds). **France:** Flaviers à Mouzon; Ouroux-sur-Saône; Pontoux. **Germany:** Badenweiler; Bertoldsheim; Dortmund-Oespel; Großkrotzenburg; Hagenow; Thorsberg (11 finds); Weißenburg; Xanten (2 finds). **Luxembourg:** Titelberg. **Netherlands:** Aardenburg; Alphen aan den Rijn; The Hague; Empel-De Werf; Leiden; Maastricht; Nijmegen; Utrecht; Vechten; Woerden. **Russia:** Michajlovskaja Staniča; Tiflisskaja Staniča. **Serbia:** Sremska Rača. **Switzerland:** Conthey; Vindonissa. **Syria:** Dura-Europos (30 finds). **Turkey:** Zeugma. **United Kingdom:** Caerleon (4 finds); Colchester; Corbridge; Newstead; Richborough Castle; The Lunt; Woodeaton.

the head opening, or the edge of the sleeves. The cited coat from Dura-Europos and the mail remains from Vechten (Muller 1895, 151), shown in figure 2, exemplify the decorative trim application. The direction of the mail weave, furthermore, can reveal whether the trim was placed horizontally or vertically on the garment. So even if, as in the case of Vechten, only the trim survives, it may still be possible to determine whether it belonged to the neck, the hem (i.e. horizontal placement) or the sleeves (i.e. vertical placement). Most of the fragments of copper alloy trim go back to the 3rd century AD. This, however, may be due to the high quantity of well-preserved material from that century in the sites of Thorsberg and Dura-Europos, which skew the sample and may result in an over-representation of that period. There are nevertheless earlier occurrences of decorative trims, such as a strip of copper mail recovered at the site of Vindonissa, in Switzerland, dated to the 1st century AD (Unz and Deschler-Erb 1997, 63).

The second type of copper-alloy ring application involved inserting these into the iron mail weave to create a decorative pattern. Often we can only guess the sort of designs that were formed, but in the particular case of the coat of mail from Bertoldsheim (fig. 4), Germany, it can still be observed (Garbsch 1984). This garment is unique in many ways. For example, it is the only coat of mail to contain a set of chest plates to adjust the head opening, whereas such feature is normally associated with scale armour. More interestingly for our topic, it shows copper-alloy rings forming horizontal and vertical lines in a criss-cross pattern. The vertical lines consist of regular rings, just like typical iron rings. The horizontal lines, in contrast, are made up by figure-eight shaped links, making it the only one of its kind. As for a timeframe for this application technique, decorative patterns of copper-alloy rings had appeared by the



Fig. 4: The coat of mail from Bertoldsheim (Germany). **Top left:** set of chest plates originally attached to the coat of mail. **Top right:** the mail remains with one of chest plates in situ. **Bottom left:** decorative vertical lines were created through the use of regular copper alloy rings. **Bottom right:** decorative horizontal lines were made with figure-eight shaped links. Photograph M. A. Wijnhoven

1st century AD and remained in use until the 3rd century AD. Figure 1 shows a specimen from The Hague, Netherlands, dated to AD 190–240 (Waasdorp 1989, 161).

Mail from the Roman period consisted of two types of rings placed in alternating rows throughout the garment, namely riveted and solid rings. The latter were punched from sheet metal, while the former were made from small pieces of wire with overlapping ends closed by rivets. The third, and last, type of copper alloy application is precisely related to these riveted rings. It is a subtler usage, but no less interesting, involving the insertion of copper rivets in the mail iron rings. The domed heads of the rivets would have constituted small dashes of colour over (certain areas of) the mail garment. Copper-alloy rivets are easier to rivet than iron ones, so it is possible that their purpose was not purely decorative, but is nevertheless likely, as the majority of mail artefacts only include iron rivets. Examples of iron mail with copper-alloy rivets come from Thorsberg (Matešić 2011, 251), Dura-Europos (James 2004, 118), Maastricht in the Netherlands (pers. comm. Wim Dijkman 2013) and Oudenburg in Belgium (pers. comm. Sofie Vanhoutte 2015). This decorative technique appears to be a relatively late phenomenon, since these finds date to the 3rd to 5th centuries and later; it is even observed on the coat of mail from Sutton Hoo (Bruce-Mitford 1978, 232–40).

Our modern idea of the Roman coat of mail is mostly as a functional piece of equipment. The presence of copper alloy elements in mail garments demonstrates that there is more to them than sheer practicality. The brief overview of the evidence here presented shows that, particularly, the Romans frequently invested in embellishment and developed different forms of decoration for mail armour, revealing a more gleaming view of the past.

Notes

1. VU University Amsterdam, m.a.wijnhoven@vu.nl
2. Besides being decorative, copper alloy rings could have perhaps served a practical purpose at times (James 2004, 111; Thordemann 1939, I, 105–6). For example, if a mail garment had textile lining or integrated padding, verdigris would have preserved the thread, whereas rust would have deteriorated it.
3. I would appreciate information on any additional examples.

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YOUR OLD EDITOR: MIKE BISHOP

I started *Arma* back in 1989 as a forum for those interested in Roman military equipment and as a means of communicating information about forthcoming RoMECs. From the old days of daisywheel printers through to the digital revolution, much has changed. The most burdensome part (and the major cost) was always postage, so that now that we have switched to mainly PDF format (with a few print copies produced for those who like their trees dead and printed upon), life is much easier. There were always copies that went astray (for some reason the Netherlands was particularly dangerous territory for a travelling *Arma*) but, by and large, like the Pony Express, they got through.

The support for the return of *Arma* has been most encouraging and I feel that there is a place for it still. I am really grateful to Dr Mike Thomas for taking over the editorship; producing that, *JRMES*, and trying to make a living did not sit well. Nevertheless, I shall remain as the typesetter and production editor, and I shall maintain an interest in compiling the **Bibliography** (which will feed into the online *Armamentarium* bibliography), but now somebody else will be doing the rest of the hard work!

The best way to show your support for your new editor is by sending in contributions: snow him under with ideas, suggestions, and notes, whilst not forgetting to send me entries for the bibliography!

YOUR NEW EDITOR: DR MIKE THOMAS

I've been asked to give you a 'potted biography' so that you all know what you are getting as editor of *Arma* newsletter.

My background wasn't originally in archaeology. My doctorate is in chemistry and I spent 27 years teaching the subject. Eventually, I decided that this was not what I really wanted to do until retirement, so I took advantage of an offer I could not refuse and quit. After a year not doing very much, my late wife spotted an advert in the local newspaper, offering places on a master's degree course in Celtic/Roman history. I had always been interested in the Romans and their empire, so I applied, was accepted and in due course obtained the degree.

What next? It was at this juncture that Mike Bishop stepped into the ring. I had been in contact with him during the M.A. course (my dissertation subject was some questions concerning *lorica segmentata* and he was the obvious 'go-to' person) and he knew that I had been working on a catalogue of armour fittings. Would I be willing to turn this into a monograph, a companion volume to his own on the armour? Would I? It was published in 2003.

To round the story off, I have been working for a number of years as a volunteer at Caerleon Roman Legionary Museum, where I have been describing and cataloguing their collection of decorated samian/terra sigillata pottery. Eventually, we hope to get this up on the National Museum of Wales' web site.

CONTRIBUTIONS

Contributions for *Arma* are always welcome. Items for the **News** section and notes for inclusion in the main body should be sent to the editor at the address below. Entries for the **Bibliography** should be sent to M. C. Bishop (mcbishop@pobox.com). All contributions remain the copyright of the individuals concerned.

CONTACT

Old-fashioned snail mail contact can be made by writing to the editor

or by email at

whilst the ARMES web page, which will eventually grow to include details about *Arma*, *JRMES*, and *ROMECS*, as well as the enlarged *Armamentarium* bibliography, can be found at

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