

Catuvellaunia and Rome



Catuvellaunia and Rome

**Economic and political relations
during the final decades pre-conquest**

The role of grain from SE'n Britain and its
potential for maintenance of the Roman
military along the frontier on the Rhine

Alistair Marshall





ARCHAEOPRESS PUBLISHING LTD

13-14 Market Square

Bicester

Oxfordshire OX26 6AD

United Kingdom

www.archaeopress.com

ISBN 978-1-80583-249-2

ISBN 978-1-80583-250-8 (e-Pdf)

© Alistair Marshall and Archaeopress 2026

Front cover: *foreground*: gold stater of Cunobelinos, minted at Camulodunum; *obv*: ear of grain, Camu; *rev*: prancing horse; late 1st century BC; *midground*: wine amphora: Dressel 2-4; imported during the decades BC-AD; *background*: Channel coasts of SE'n England and NW'n Gaul.

Back cover: *foreground*: gold stater of Epaticus [Epaticu], ?brother of Cunobelinos, ?sons of Tasciovanos [Tasci F[ilius]]; *obv*: ear of grain; *rev*: mounted warrior; late 1st century BC; *background*: grains and ears of modern barley;

All rights reserved. No part of this book may be reproduced, or transmitted, in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of the copyright owners.

This book is available direct from Archaeopress or from our website www.archaeopress.com

Contents

Contents	i
Preliminary notes for readers	xiv
Keynote evidence	xvi
Summary.....	xxii
Section 01: Arable systems	1
Overview.....	1
Summary	1
Celtic fields: nature, distribution, and environmental background.....	2
Introduction	2
..summary	
..use of the term ‘Celtic field’	
..form	
..distribution	
..geological substrate	
..dimensions of field-plots	
..potential in terms of grain-production	
Iugera.....	8
Reaves	9
Environmental background	10
..geology and soils	
..climate	
Differential distribution of Celtic fields	11
..Britain	
..Gaul	
..Netherlands and Denmark	
Comparisons between ‘Celtic’ fields and raatakkers.....	11
..Netherlands	
..Denmark and N’n Germany	
Conclusions	12
Extensive arable blocs (EABs): a model for larger scale early agri-management	13
the basic model	13
problems.....	13
EABs and general production of grain.....	14
hillforts located around the EABs	15
..Berkshire Downs	
..Salisbury Plain Training Area (SPTA)	
connectivity	16

parallels in Flanders	17
Hillforts: examples with immediate territories suggested by adjacent topographically-delimited land.....	17
Division of the land: linear boundaries, and their field-systems	19
form.....	19
siting.....	19
distribution.....	19
aspect: internal, and external sides	20
date.....	20
associations.....	20
scope	20
nomenclature	20
classification	21
Dykes with agricultural associations: analysis of a sample.....	21
Conclusions.....	24
The agronomics of grain production during the Iron Age: a model-system	25
main points.....	25
introduction.....	25
ethnographic parallels for subsistence-economies.....	26
Operational details of the basic model	26
The small farmstead: a worked example.....	27
The typical Celtic field: scaling down the data	28
The field-bloc: scaling up the data.....	28
The scale of grain-arable required to supply Roman military needs	29
Conclusions drawn from the model.....	29
Appendix: constants used in Spreadsheet AR-01	29
..dietary data	
..population-structure	
Methods of grain-storage: brief indications of scale.....	30
Assessment of the broader distribution of facilities for bulk-storage of grain at hillforts.....	31
Section 02: Climatic considerations	38
Overview.....	38
Climatic factors operating in NW'n Europe during the Iron Age and Roman period likely to have affected arable productivity.....	38
Summary	38
Introduction	39
evidence	39
the general context	39
Detail for the Iron Age to Roman period in NW'n Europe.....	40
the preceding later Bronze Age downturn (LBAD).....	40
the Iron Age Warm Period (IAWP), Early Roman Cold Period (ERCP), and Roman Warm Period (RWP).....	40
classical references.....	41
The subsequent Vandalic Minimum (VM).....	41

The Medieval Warm Period (MWP) and Little Ice Age (LIA)	42
Literary sources.....	42
Section 03: Hillforts from S'n Britain: assessment of basic properties and distribution	45
Overview.....	45
Summary	46
Assessment of defensive capacity	46
..establishing a numerical measure for defensive capacity	
..comparing defensive capacity between hillforts	
..the relationship between perimeter and internal area in determining defensibility	
hillforts as centres of power and status	50
using hillforts as a marker for territorial division	52
scope of the survey	52
Spatial interrelations between the hillforts	52
..determination of spacing	
farmstead enclosures.....	55
Conclusions	55
..from numerical data	
..from distributions of hillforts, as graded by size-group, and defensive capacity	
..abstractions from the above distributions	
Section 04: Tribal lineage and interaction.....	60
Overview.....	60
Introduction	61
Catuvellauni: an outline of tribal history	61
..pre-Gallic War	
..post Gallic War	
..control of other tribal areas	
..Atrebatia: semi-subjugated to the W	
..Kent: under long-term domination	
..Boduni/?Dobunni: allies to the W	
..ruling elite by the Claudian conquest in 43 AD	
..relations with Rome: Augustus to Claudius	
..evidence from the distribution of inscribed coinage	
..dynastic structure of the latest Catuvellaunian lineage	
..joint rulers	
..filial attribution	
..E'n zone of coinage: distribution of types within the zone	
The Cantii: an outline of tribal history	75
..evidence from the distribution of inscribed coinage	
..Kentish zone of coinage: distribution of types within the zone	
Atrebates, and other S'n-central tribes: an outline of tribal history	78
..evidence from the distribution of inscribed coinage	
..S'n zone of coinage: distribution of types within the zone	
The Iceni: an outline of tribal history	83

..evidence from the distribution of inscribed coinage	
..East Anglian zone of coinage: distribution of types within the zone	
The Dobunni: an outline of tribal history	86
..evidence from the distribution of inscribed coinage	
..W'n zone of coinage: distribution of types within the zone	
The Corieltavi: an outline of tribal history	89
..evidence from the distribution of inscribed coinage	
..NE'n zone of coinage: distribution of types within the zone	
The Durotriges: an outline of tribal history	93
..SW'n zone of coinage: distribution of types within the zone	
Intersection between the major zones of coinage as an indicator of tribal interaction	94
..summary	
..introduction	
..interpretation	
..overlap between individual zones	
..beyond the bloc	
..political and social structures	
..economic differences	
Catuvellaunia: relative isolation towards the N	98
Section 05: Greater Catuvellaunia	100
Overview	100
Introduction	100
The sphere of Catuvellaunian influence	101
..Kent: to the the SE: dominated	
..Atrebatia: to the S: partially dominated	
..Dobunnia: to the W: an important ally	
..Iceni: to the NE: largely excluded	
..Corieltavi: to the NW: little evidence for interaction with Catuvellaunia	
..Durotriges: at the far W: isolated from Catuvellaunia	
Dobunni and Catuvellauni: a possible alliance	101
..surveillance from Dobunnia towards the W	
The E'n margins of Dobunnia: the interface with Catuvellaunia, and Atrebatia: evidence from the distribution of Celtic coinage	106
..the range and distribution of coinage present in the area	
..W'n coinage	
..coinage of Bodvoc	
..W'n, E'n, and S'n coinage: relative penetration of the upper Thames area	
The River Thames as a link between Dobunnia and Catuvellaunia	112
Catuvellaunia and Brigantia	114
..introduction	
..Brigantia: distribution of hillforts as a context for the oppidum at Stanwick	
..the border-zone between Brigantia and those areas of Britain to the S under Roman control: 43-69 AD	
..Wincobank Roman Ridge; Yorkshire	
Literary sources	119

Section 06: Tribal emblems on Celtic coinage from S'n Britain	121
Overview.....	121
Introduction	121
Motifs.....	122
Continuity of lineage.....	124
The grain-emblem on coinage of Cunobelinos	124
..introduction	
..more general use of the grain-ear on Celtic coinage	
..the type of grain represented on the Catuvellaunian issues	
Roman coins: grain-related motifs	127
Section 07: Personal portraiture on Celtic coinage from S'n Britain	128
Overview.....	128
Summary	128
Appearance of inscriptions on Celtic coins in S'n Britain.....	129
Emergence of personalised heads on coinage.....	130
Portraiture: general trends	135
..E'n zone of coinage: Catuvellauni	
..S'n zone of coinage: Atrebates	
Influence of imperial Roman portraiture on Celtic coinage.....	137
Portraiture	137
..E'n zone of coinage: Catuvellauni-Trinovantes	
..S'n zone of coinage: Atrebates and other sub-tribes	
..East Anglian zone of coinage: Iceni	
..Kentish zone of coinage: Cantii	
Military aspects.....	139
Conclusions.....	139
Section 08: Kingship: the evidence from Celtic coins in S'n Britain	141
Overview.....	141
Styling as rex in texts, and on coins	141
Literary sources.....	148
Section 09: Militarism: changing projection: the evidence from Celtic coins in S'n Britain	149
Overview.....	149
Militaristic motifs on Celtic coins from S'n Britain.....	149
Appearance of militaristic motifs	150
Section 10: Camulodunum: capital and major port of the Catuvellauni	153
Overview.....	153
Camulodunon_Colchester; TL 9624	153
Introduction	154
Location.....	154
Functional division of the complex	154
Defences	154

Comparison between dykes.....	155
Sequence and dating	156
Areas of occupation and activity	158
..S'n centre: Gosbecks Farm area	
..N'n centre: Sheepen area	
..NW'n centre: the complex at Lexden	
General issues	164
..the elite status of the site	
..the nature of outer compartments	
..possible 'royal' buildings of the later Iron Age at Sheepen	
Documentary sources.....	167
Burials and social status during the later Iron Age in SE'n Britain	167
Introduction	167
Placement of Roman temples	168
Key cemetery-sites: further details	168
..Gosbecks_Camulodunon: the adjacent necropolis at Stanway	
..Lexden Tumulus: '?royal' status	
..King Harry Lane (KHL)_Verulamion; TL 134 065: necropolis of basic social status	
..Folly Lane_Verulamion: ditched enclosure with central mortuary-structure	
Elite burials	177
..introduction	
..traditions of elite burial	
Verulamion_St Albans; TL 1307	181
Location	181
Defences	181
Development and date	181
Enclosures and dykes	181
Cemeteries	182
Documentary sources.....	182
Wheathampstead.....	182
Section 11: Oppida: Britain	184
Overview.....	184
Defended settlements of the later Iron Age: Britain.....	184
Oppida.....	186
..introduction	
..definition	
..distribution	
..properties of oppida	
..compartmentalisation	
..dimensions, and other properties of the sites	
..romanisation of major tribal settlements	
Oppida, and related sites: further details	193
Agglomerations and sites of unknown structure	198

Section 12: Oppida: Gaul	202
Overview.....	202
Defended settlements of the later Iron Age: Gaul: general properties	202
..definition	
..layout, and structure	
..distribution of oppida	
..potential for riverine transport	
Oppida within local context	206
..Study area: Normandy	
..Study area: Ardèche valley	
..Study area: upper Le Rhony valley	
Oppida located in riverine loops	208
..Gaul	
..Britain	
Agglomerations	209
Section 13: Roman grain-consumption.....	212
Overview.....	212
Imperial policy: securing the grain-supply	212
..introduction	
..the scale of supply required: Rome, as an example	
..means of supply	
..overseas development	
..price, and local subsidy	
..imperial concern	
..provision of the physical infrastructure to maintain the food-supply for Rome	
..ensuring the adequacy of civil, and military supplies	
..sources of grain	
..threat of famine	
Administration of the grain-supply.....	224
..general background	
..supply of grain to the military	
..officials involved in the grain-trade	
Volumetric measures for grain in use during the Roman period	228
..introduction	
..metrication of the modius	
..the modius from Carvoran, Hadrian's Wall, Northumberland	
..official standardisation of measures was also a concern	
cavalry-horses: grain-requirement.....	230
Status of barley in the diet: classical sources	231
Grain-consumption: calculation of rates using data from different sources	231
estimation of grain-consumption	231
Modelling the grain-cycle	232
..model 1: Iron Age agronomics: spreadsheet AR-01; supply-side issues	

..model 2: Roman military requirement for grain: spreadsheet RG-01; demand-side issues	
Roman textual, and epigraphic references: comparison with the data just above	232
Military records relating to the grain-supply	233
..Carvoran_Carlisle, Cumbria	
..Polybius: Histories 6: 39	
..Vindolanda	
Granaries	238
Literary sources.....	238
Section 14: SE'n Britain: Continental imports to S'n Britain during the final Iron Age	238
Overview.....	238
Import-export: general approach	239
Amphorae.....	240
..details of particular types of amphora	
..amphorae from key sites	
..Camulodunon_Colchester	
..Verulamion_St Albans	
Pottery imported to S'n Britain: earlier types: the decades more closely pre-, and post Roman conquest	249
..details of wares	
..specific sites	
Literary sources.....	255
Section 15: Ships and boats of later Iron Age, and earlier Roman date: evidence from NW'n Europe, and the Atlantic seaboard	255
Overview.....	255
Topics	255
Introduction	256
Zones of ship-building tradition	256
Survival of evidence	257
British examples	257
Continental examples	258
..barges	
..ships and boats: the Mainz-type	
Model boats.....	261
Evidence from Celtic coinage.....	261
Characteristics of boats shown on Celtic coins and comparison with data from known Roman craft	263
Sea-capable vessels from the later Iron Age in the NW'n Atlantic	264
..introduction	
..reconstruction of a basic format for sea-going Celtic ships	
..a basic form essential to meet Atlantic weather-conditions	
..Venetic ships: description from Caesar: Gallic War	
..later craft: suitable models for suggested earlier forms	
Nordic traditions of longship construction.....	267
..common elements	
..origins: excluding earlier log-boats	

..development	
..main types	
..the evidence: preservation of original ships	
..original craft: more detailed dimensions	
..modern reconstructions, and sea-trials	
The Roman navy	274
..chain of command	
..the fleets	
Classis Britannica	275
..purpose	
..origin and development	
..archaeological evidence	
..military careers	
..ports and harbours	
..epigraphic evidence	
Classis Germanica	277
..purpose	
..origin and development	
..officers and crew	
..types of ship that made up the fleet on the Rhine	
..structural evidence from surviving ships	
..known engagements	
..naval bases	
..epigraphic evidence	
Roman ships	282
..origin and development	
..techniques of ship-building	
..performance	
..size	
Warships.....	282
Merchant-shipping.....	283
..cargo	
..performance	
..form	
..the tonnage of Roman merchant-ships	
..sailing-routes	
..the grain-supply	
..mercantile wrecks	
Descriptions of Roman ships used in the NW'n Atlantic.....	288
Carthaginian presence in the W'n Mediterranean, and on the Atlantic coast of S'n Iberia	289
..introduction	
..establishment of maritime trading posts	
..cities on the Atlantic shore	
..trade-related reconnaissance	

..other early voyagers	
Literary sources.....	291
Section 16: The NW'n coastal Atlantic: topography, navigation, and early resource-led voyaging	292
.....	
Overview.....	292
Introduction	296
Coastal topography viewed against information from the <i>Geographica</i> of Ptolomy	299
Claudius Ptolomeus (AD ~100-170): <i>Geographica</i> Book 2: early documentation of topography, towns, and tribal areas in NW'n Europe	299
..general objectives of this summary	
..introduction	
..Albion	
..Scotland	
..Ireland	
..Gaul	
..Iberia	
Ireland	307
..Roman policy towards Ireland	
..the nature of contact with Ireland and its effects	
..the Fingal coastline: Dublin-Lambay: a major portal for contact between Ireland and the romanised world	
..specific sites	
Coastal settlement with harbourage: a supplement to data from <i>Geographica</i>	313
Port-facilities and point of entry to Britain suggested by termination of Roman roads at the coast	315
Riverine connectivity	315
..overview	
..Gaul: major rivers	
..tribal control of the Atlantic coastline	
Literary sources.....	316
Section 17: Resources: trade in metals as motivation for development of major sea-routes from the Mediterranean to the NW'n Atlantic	317
Overview.....	317
Introduction	317
Base metals	319
Precious metals	319
Sources of tin.....	319
..distribution of tin-ore in the Mediterranean-Atlantic area	
..control of supply	
Carthage: initial development of longer-range shipping-routes.....	322
..by sea	
..by land	
..survival of navigational texts	
Greek colonies in the W'n Mediterranean.....	324
Sources of silver	325

..silver	
..gold	
..copper	
..tin	
Identifying sources of key metals;	328
Literary sources.....	328
Section 18: The Tayside Militarised Zone [TMZ]: logistics of bulk-supply to the Flavian salient in SE'n-coastal Caledonia.....	329
Overview.....	329
Introduction	331
Roman occupation of the Forth-Tay river-areas during the early campaigns of the Flavian period: the Tayside militarised zone [TMZ]	333
..details of the zone, and its forts	
..road-river intersection	
Forts with evidence for granaries	337
..introduction	
..a standard military granary: calculation of mean values for internal area	
Additional information.....	339
..Inchtuthil	
..Strageath	
..Fendoch	
Literary sources.....	339
Section 19: The N'n frontier-zone of Gaul along the Rhine: its initial development, and military requirements	340
Overview.....	340
The N'n frontier of Gaul: from the initial conquest to the later 1st century AD: the logistics of bulk-supply to the Roman army along the Rhine.....	341
..summary	
Gaul: development as a Roman province	341
stage 1: S'n Gaul: annexation: 81-58 BC	341
stage 2: central Gaul: conquest: 58-52 BC.....	346
..Caesar's legions in Gaul	
..Gallic Wars: major events: 58-51 BC	
stage 3: central Gaul: repair and recovery post-Gallic War: 52-~20 BC	
stage 3: central Gaul: repair and recovery post-Gallic War: 52-~20 BC	348
stage 4: Establishment of secure borders for Gaul: consolidation of its N'n frontier as a fortified <i>limes</i> along the Rhine: ~20 BC-AD 17	349
..summary: Roman military strategy in Gaul until the end of the Flavian dynasty	
..events in more detail	
..provincial expansion E'ward of Gaul	
..increased defense	
..organisation of riverine transport	
..campaigns of	
Drusus beyond the Rhine	

Tiberius as general	
Lucius Domitius Ahenobarbus	
Marcus Vinicius	
Tiberius: second offensive	
campaign N'ward to Jutland	
Germanicus	
Tiberius as emperor	
over the Rhine, supported by the Classis Germanica	
stage 5: Consolidation; essential campaigning: AD 17-89.....	354
..change of overall strategy: a new emphasis for the Classis Germanica	
..accession of	
Gaius_Caligula	
Claudius	
Nero	
..civil war	
..Vespasian to Domitian	
Military reversals in Gaul, and on the German frontier	356
..latest Republic: main events	
..other latest Republican legions	
Legions levied by Caesar: 58-52 BC	360
deployment of legions in Gaul.....	361
..52 BC-37 AD: during the period from the end of the Gallic War in 52 BC, to the accession of Augustus	
..37 BC-14 AD: during the Augustan period	
..internal subdivision, and development of infrastructure	
..14-37 AD: during the Tiberian period	
Gallic War 58-52 BC.....	366
..summary of campaigns	
..supply of grain to legions: changing conditions of procurement	
during the Gallic War 58-52 BC	
during the Interval 52 BC-15 BC: aftermath of the war, and	
slow economic recovery	
..military units: number of troops, and supporting staff	
Grain-requirement for an army of legionary-auxiliary units campaigning on the frontier, with naval support	
.....	372
Auxiliary units recruited to supplement the legions.....	372
Military granaries	377
Roads serving the frontier on the Rhine.....	379
The Gallic War: problems of grain-supply during the 6-year campaign.....	380
..Caesar: de Bello Gallico: summary	
..logistics of grain-supply	
..estimation of grain required to support the legions in Gaul	
..winter quartering of the legions amongst the Gallic tribes	
..legions in Gaul	
..military sites attributable to the period of the Gallic Wars	

..payment of tribute	
..de Bello Gallico: detailed references to supply of corn	
..de Bello Civili: continuing supply-problems	
Section 20: Grain-supply: problems and solutions	393
Overview	393
Grain-supply to the Roman army in the N'n frontier-zone of Gaul during the decades of its recovery after depredation during the Gallic War (58-52 BC)	393
Detailed topics	400
..systematic depletion of the Belgae: evidence from BG	
..grain-supplies obtained remotely: routes by sea, land, and river to the frontier-zone on the Rhine	
..client-rulers in Gaul, and Britain	
..grain-supplies obtained more locally to the frontier: arable productivity and logistics of transport in areas adjacent to the Rhine	
Section 21: Political considerations	410
Overview	410
Organisation, management, and extension of the Roman provinces under the Julio-Claudian emperors Augustus to Nero: 27 BC-AD 68	410
..provincial administration	
..senatorial provinces	
..Caesarian provinces	
..subdivision of existing provinces	
..special cases	
..client-states	
..Imperial intervention in the organisation of provinces	
..Catuvellaunian clientship	
..Britannia: the name, its origins, and political significance	
Literary sources	432
Section 22: Cunobelinos: surviving the historical narrative	433
Cymbeline: Act III, Scene 1	434
Section 23: Celtic coinage: Britain and Gaul: examples	437
Section 24: Literary sources	442
Section 25: Bibliography	476

Digital Media <https://doi.org/10.32028/9781789697056-online>



Preliminary notes for readers:

-text:

Each section has a specific two-letter identifier, as listed in the Table of Contents, used throughout the text for its tables, images, and any additional items placed on digital media, such as spreadsheets, or appendices.

References in the text to other parts of the text are given as the relevant heading in the Table of Contents, and from there reference can be made to the actual page:

example: see Table of Contents: 02a/3b
= *** ..corresponding page number given;

Spreadsheets and appendices: longer, detailed items have been placed completely on digital media, with a reference, and an outline of contents remaining within the text; **certain other tables retained within the text have also been placed on disc as a copy more accessible for further use.**

-images:

e-FIGURES: all images are on digital media, with separate folders for each section, and each of the topics within it; further details of each image, and its location within the file-structure are given at the end of each section;

images are all presented as digital files in order to allow:

- ..layering of information within a single image, where relevant;
- ..synoptic presentation of complex data;
- ..selective viewing of layers, as required by the text;
- ..separation of data from interpretation;
- ..further editing of content by the user, should data change;
- ..ease of transmission, and onward use;
- ..use of colour throughout;

individual images are referenced directly according to their location in the Windows folder-and-file system in which they are stored on digital media, in which format they are listed at the end of each section:

as an example image AR-01>03 would be accessed as follows:

section

AR- 01 >03

folder for

Arable systems sub-folder 1 image 3

Where relevant, details of sites have been directly overlaid onto well-rectified images of the terrain, thus enabling more **accurate plotting of sites.**

software required, and instructions for opening image-files:

The file-type adopted for most images is .psp [Corel Paint Shop Pro], adopted here for its ease of use, and simple manipulation of layering;

Paint Shop Pro v5 is a legacy version, readily available to download free from the internet, but although fully viable, and is the version with which all images in the study were created, it is no longer supported, or updated by the manufacturers, in contrast to later versions.

-layered images can be directly accessed as follows:

..for best results open such files under Corel Paint Shop Pro [preferred: v.5 or later]

..obtain the layer-palette on-screen;

..move the slider in the layer-palette to bring each layer up to required opacity (0 invisible; 100% opaque);

..change the order of layers by dragging the button for that layer up or down the stack, as required;

-care must be taken to keep individual layers in their correct position by maintaining the overall correspondence between marginal registration marks ('+ reg') placed on each image at top right;

-images containing several layers can be adjusted in terms of order and opacity until only the required information is obtained, this version then ready to be merged and saved if required as a flat image, for example in .jpg or .bmp format.

-copyright:

Individual copyrights have been obtained where relevant, and acknowledgements are quoted on the relevant layer of an image.

Frequently used material gratefully acknowledged includes:

..satellite images of terrain from Google Earth, or Bing Maps: Microsoft Corporation;

..terrain mapping of W'n Europe by scilands.de;

Digital images created by the author [AJM] are free for use by anyone without further permission, but with an acknowledgement requested; any external copyright within them, or that relating to the publisher must however be separately respected.

-standard conventions:

..direction of north on maps: runs vertically up the image, unless otherwise shown;

directions cited in degrees-G: are made with reference to the grid system used on maps of the UK Ordnance Survey;

-specific terminology:

..the **terms** Catuvellaunia, Atrebatia, and Dobunnia are used here as convenient alternative references to corresponding tribal areas, and have no historical basis, but take their lead from such forms as Brigantia, Belgica, Aquitania, and others that do;

..Celtic **personal names** rendered with Latin endings in Roman texts have been converted here to more likely native versions ending in -os: for instance: Commius to Commios;

..Celtic **place-names** appearing with Latin endings have been modified to the likely Celtic version, where the earlier context is clear: for instance: Camulodunum to Camulodunon.

-abbreviations used

..e-FIGURES: labelling individual layers:

exp Ordnance Survey maps: Explorer series;

LR Ordnance Survey maps: Landranger series;

..throughout the text:

BG Caesar: de Bello Gallico;

Keynote evidence

Two important references, highly relevant to the relationship between Catuvellaunia and Rome during the final decades of the pre-conquest period, are presented here, at the outset, since, together with the sudden appearance of the gold grain-ear staters [see Section 06: TE-Tribal emblems], suggesting the importance of grain-wealth under Cunobelinos, they prompted this entire study:

-Strabo: provides a contemporary historical comment, indicating routine grain-export from Britain:

Geographica: Book 4: 5: 2;
original editions: 7 BC to before 23 AD:

φέρει δὲ σῖτον
καὶ βοσκήματα καὶ χρυσὸν καὶ ἄργυρον καὶ σίδηρον·
ταῦτά [τε]δὴ **κομίζεται ἐξ αὐτῆς**
καὶ δέρματα καὶ ἀνδράποδα καὶ κύνες
εὐφυεῖς πρὸς τὰς κυνηγεσίας·

[Britain] bears **grain**,
cattle, gold, silver, and iron.
These things, accordingly, are **exported from the island**,
also hides, slaves, and dogs that are by nature suited
to the purposes of the chase;

alternative emphasis:

This quotation is usually given with the translation of *κομίζεται ἐξ αὐτῆς* as ‘exported from [Britain]’. However, there are possible alternatives, involving not just shades of meaning, but important differences that relate to the nature of this transaction, specifically as it relates to corn, the key item for Roman economic strategy in N’n Gaul.

In the extract *σῖτον* [corn] is the item mentioned at the head of the list of British commodities, and this could reflect its prime importance as a product of particular economic interest to Rome, with Gaul the obvious initial destination.

The phrase *κομίζεται ἐξ αὐτῆς* could have various meanings: the active verb *κομίζειν*, ‘to take care of [in some way]’, when in middle, or passive voice, as in the case of *κομίζεται*, could be interpreted as ‘it is carried away, obtained securely [from Britain]’, the active agent being the buyer, rather than the seller. Consequently, this transaction could perhaps be better viewed as suggesting that the prime movers of this trade were *importers* on the Continental side of the Channel, actively securing supply as a matter of policy, rather than *exporters* on the British side seeking export-markets, although the two activities are of course complementary.

Had the text been in Latin rather than Greek, the transaction might have been more clearly stated: ‘*in-vehere*’, to import, and ‘*exportare*’ to export, requiring no further explanation.

-Horace: gives a poetic reference to S’n Britain and its clientship under Roman power during the reign of Augustus, and the last decades BC:

Odes: Book 3: ode 5, lines 1-4:

*Caelo tonantem credidimus Iovem
praesens divus habebitur
Augustus **adiectis** Britannis
imperio gravibusque Persis;*

We believe thunderous Jupiter rules the sky;
Augustus is considered a god on earth
for adding the Britons, and
the burdensome Persians [Parthians] to our power;

Quintus Horatius Flaccus [aka the poet Horace: life: 65-8 BC] was well connected to inner imperial circles at Rome, partly through his powerful patron Maecenas, and hence was likely to have been well informed on events relating to the political situation in the wider Empire. These two particular references, one to Britain, the other to Parthia, need have no less credibility by forming part of a poem, rather than a prose history.

Although comments in passing, they suggest existence of closer economic, perhaps military cooperation, or at least some form of non-aggression pact between each of these marginal nations and Rome. A closer date of around 20 BC is further suggested by a distinct military contract with Parthia, as outlined below, and is in agreement with publication date for Books 1-3 of the Odes in 23 BC, making the events recent. However, it remains possible that such references to subjugation of little known nations at the edge of Empire might be flattering stock-in-trade poetic formulae for the general military prowess of Augustus, but the specificity here, and dated political relevance, could suggest real content.

The use of *adiectis*, from the verb *adiocere*, here carries the definite meaning of addition. *Imperio*, from *imperium*, indicates power, influence, authority, rather than geographical inclusion as a province of the Empire under direct Roman rule, which indeed Britain eventually became under Claudius after 43 AD, but Parthia did not, until briefly 116-117 AD under Trajan, only resuming again under Severus after about 198 AD. The power of *imperium* itself was graded, down from that wielded by the emperor, through that delegated to provincial governors, and military commanders.

..Parthia: corroborating the overall date of the reference

Crassus, a member of the First Triumvirate of the late Roman Republic, partly motivated by the quest for personal glory, but without the necessary supporting authority, decided to invade Parthia, only to be decisively defeated at the battle of Carrhae [Harran: S'n coast of Asia Minor] in 53 BC, the enemy capturing several legionary standards, a matter of national disgrace, and many prisoners besides.

In 51 BC the Parthians mounted a major offensive W'ward into Roman Asia, besieging Cassius in Antioch, causing considerable alarm. Marcus Tullius Cicero, then governor of adjacent Cilicia, marched with two legions to lift the siege, successfully pushing the Parthians back. The Parthians invaded again in 40 BC, only to be defeated in 38 BC, with general Roman control of this unstable area restored. Lost standards, and prisoners of war were only recovered from Parthia in 20 BC, under Augustus, now as emperor, the Romans managing to contain the Parthians, exert influence, and extend their effective power E'ward into Mesopotamia without resort to renewed open warfare.

..Britain:

This reference, *adiectis Britannis*, appears to support the idea of a key area of Britain, brought into at least

localised compliance with the civil-military administration of Gaul, the SE'n empire of the Catuvellauni prominent (see Section 04: Tribal lineage and interaction/ Catuvellauni: an outline of tribal history), a clientship supported elsewhere in this volume. The date of around 20 BC for the Parthian negotiation would bring it into line with dates suggested for Addedomaros, but somewhat early for Cunobelinos, both regnal periods being imprecisely defined, and resting on epigraphic and stylistic content of British Celtic coinage (e-FIG 04 TL-03): also discussion of the Lexden Tumulus: (see Section 10: Camulodunum). It would also match with the earliest Augustan military activity along the prospective frontier on the Rhine, and the growing need for reliably sourced supplies to support the army in this outpost of empire (see Section 19: Rhine-frontier).

-Julian: the campaigns of Julian in Gaul: military grain-transport from Britain to the Rhine: further context from the 4th century AD:



gold solidus of Julian issued AD 361 in Ravenna; VIRTUS EXER[citus]
GALL[icarum]

Zosimus: writing as a historian, a century after the events:

In Book 3 of his *Ἱστορία Νέα* [New History: written in Greek at the end of the 5th century AD], Zosimus records a case where large stocks of grain were shipped at short notice from Britain to cover a civil emergency along the Rhine-frontier following devastation caused by a major incursion of German tribes. The narrative indicates ready supply from Britain, suggests a well established route, and the relative ease of repeat transport, first by short sea-crossing, thence along the Rhine, using 800 smaller, hastily constructed vessels.

In addition, use of language in the original passage, referring to the actual process of procurement [κομίζεσθαι: present medio-passive infinitive of κομίζω], is relevant to that discussed in the entry from Strabo, as outlined just above.

The extent of devastation, and its duration can be assessed by the outline of main events:

-more detailed:

352-358 AD saw repeated Germanic incursions into N'n Gaul, six years of instability causing famine by AD 359, the situation easing only after AD 360. Repeated barbarian attack would have affected agricultural production, and disrupted supply-chains within the region, especially those dependant on the Rhine. The distribution of key military events shows a bias towards conflict, as recorded, in the middle

and upper reaches of the Rhine, beyond its junction with the Moselle, but with barbarian attacks recorded as far W'ward as Sens (e-FIG SG-05), so the devastated areas would have been appreciable, as was that left after the Gallic Wars.

AD

352..Alemanni [around the upper Rhine to the W of Strasbourg] and Franks [middle and lower Rhine] crossed the Rhine and defeated depleted Roman units, taking control of 40 towns between the Moselle and the Rhine;

354..withdrawal of Roman units were withdrawn back to Gaul after suicide of the usurper Magnentius;
..Alemanni and Franks crossed the Rhine and invaded *Helvetia*;

355..incursions into N'n Gaul by Germanic Letienses [upper Rhine; associated with the Alemanni];
..Franks besieged Cologne for 10 months;

356..Julian was defeated at the Battle of *Durocortorum* [Reims], but was victorious at the Battle of *Brocomagus* [Brumath];
..Julian overwintered at *Senonae* [Sens in N'n Gaul]; his *foderati* deserted, and war-bands besieged;

357..a major Roman victory at *Argentorium* [Strasbourg];

358..Salian Franks around the lower Rhine capitulated; Julian allowed their resettlement as *foederati* to help defend the Rhine-frontier;

359..widespread famine in the upper Rhineland;

360..Julian proclaimed emperor;

-according to Zosimus:

While Constantius II [reign: AD 337-361] campaigned in the East, Julian [Caesar in the West: AD 355-360, emperor AD 361-363] was sent to deal with a major incursion of Germans over the Rhine and into N'n Gaul, almost reaching coastal areas, the consequent extensive destruction of settlement and agriculture, and to effect the return of captives. Placed in full charge of the situation, he defeated the insurgents at *Argentorium* [Strasbourg], then pursued German tribes beyond the Rhine, restoring hostages to Gaul.

For those refugees and captives returning to the devastated areas, given the inability of other Gallic towns, also affected by the incursion, to cover the short-fall, the problem of restoring the basic food-supply remained a priority, both as grain for immediate consumption, and as seed-corn to ensure the next planting:

Zosimus: New History Book 3, chapter 4, section 5:

οὗ δὴ γενομένου καὶ πλήθους αἰχμαλώτων ἀποδοθέντος ὅσον εἰκὸς ἦν ἐκ τεσσαράκοντα πόλεων κατὰ κρατος ἀλουσῶν συνειλέχθαι, ἠπόρει περὶ τὸ πρακτέον ὁ Καῖσαρ, τὰς πόλεις ἄρδην

ἀπολλυμένας δρῶν, τὴν δὲ γῆν χρόνον οὐκ δλίγον μείνασαν ἀγεώρητον, τροφῆς τε οὐκ ὀλίγης δεομένους τοὺς ἐκ τῶν βαρβάρων ἀποδοθέντας, ἥτις οὐδὲ ἀπὸ τῶν πλησίον πόλεων εὐπόριστος ἦν διὰ τὸ μηδὲ ταύτας ἀπειράτους γενομένας τῆς τῶν βαρβάρων ἐφόδου τροφῆς ἀρκούσης οὐκ εὐπορεῖν οὐχ ἔχων οὐδ' ὅ τι χρήσεται τοῖς παροῦσι, τοιόνδε τι μηχανᾶται. τοῦ Ῥήνου πρὸς ταῖς ἐσχατιαῖς τῆς Γερμανίας, ὅπερ ἐστὶν ἔθνος Γαλατικόν, εἷς τὸ Ἀτλαντικὸν πέλαγος ἐχθιδόντος, οὗ τῆς ἠϊόνος ἢ Βρεττανικῆ γῆσος ἐνναχοσίους σταδίους διέστηκεν, ἐκ τῶν περὶ τὸν ποταμὸν ὑλῶν ξύλα συναγαγὼν **ὀκτακόσια κατεσκεύασε πλοῖα**: μείζονα λέμβων, **ταῦτά τε εἷς τὴν Βρεττανίαν ἐκπέμψας κομίζεσθαι σῖτον ἐποίηε**. καὶ τοῦτον τοῖς ποταμίους πλοίοις ἀνάγεσθαι διὰ τοῦ Ῥήνου παρασκευάζων, τοῦτό τε ποιῶν συνεχέστερον διὰ τὸ βραχὺν εἶναι τὸν πλοῦν, ἤρκεσε τοῖς ἀποδοθεῖσι ταῖς οἰκείαις πόλεσιν εἷς τὸ καὶ **τροφῆν χρήσασθαι καὶ σπεῖραι τὴν γῆν** καὶ ἄχρις ἀμητοῦ τὰ ἐπιτήδεια ἔχειν;

...having done this, Caesar [Julian] recovered as many captives as it seemed had been taken from the 40 cities which the barbarians had sacked, but was uncertain what to do, seeing that the cities were completely ruined, and that the land had long remained uncultivated, causing great scarcity of provisions among those captives released by the barbarians. Nor was there a ready supply to be brought in from neighbouring towns, their own inhabitants who, unused to barbarian attack, and having been denied their regular resupply of food, were not sufficiently well stocked, even for present needs. So [Julian] planned as follows: the Rhine flowed into the Atlantic at the coast of Germany, where the Gaulish folk lived; the shore of Britain was 900 stadia away [note 1, below]; collecting timber from around the Rhine **he had 800 boats constructed**, mostly small, sent specifically **to obtain grain from Britain** [note 2], bringing this up the Rhine by a continuous line of river-barges, because the voyage was short; he protected those inhabitants who had been displaced from their towns by **supplying the grain and seed-corn** they needed immediately, sufficient to last them until the next harvest.

Notes:

1: one stadium = 1/8th of a mille passum = ~185m; so 900 stadia = ~166km; direct sea-passage of 166km W'ward from the coastal Rhine-mouth would have given landfall in Britain, at the tip of Kent, or in the Colchester area, a known port, and particularly relevant in this analysis (e-FIG SG-04); see also Section 10: Camulodunum; the use of the terrestrial measure 'stadia' here suggests reference to maps, perhaps with more specific destinations in mind.

2: the boats constructed here were smaller craft ['πλοῖα; λέμβων; ποταμίους πλοίοις'], more suited to riverine than to marine navigation; this raises the question of the marine leg of the journey, certainly requiring larger sea-going vessels, perhaps supplied by the civilian merchant-marine, or Roman navy itself; the *Classis Germanica* was still active at the time, not disbanded until AD 417 (see Section 15: Ships and boats).

Ammianus Marcellinus: writing as a contemporary participant in events:

The same campaign by Julian in N'n Gaul, and on into *Germania transrhena*, is covered by Ammianus Marcellinus [life: AD 330-391/400] in his *Res Gestae* [written: 380s AD; 31 books, of which the last 18 survive, these covering AD 353-378].

Res Gestae: Book 18, chapter 2, section 3:

[Julian], since the season of the year was favourable, assembled all available forces for a campaign, judging it to be a priority, that before the heat of battle, he enter the towns, long since destroyed and abandoned, to regain, and fortify them, and furthermore to construct granaries to replace those that had been burned, in which **grain, which was regularly brought over from Britain, could be stored;**

*...ipse anni tempore opportuno, ad expeditionem undique milite convocato, profectus, id inter possitissima mature duxit implendum, ut ante proeliorum fervorem, civitates multo ante excisas ac vacuas introiret, receptasque communiret, horrea quin etiam extrueret pro incensis, **ubi condi possit annona, a Britanniis sueta transferri.***

This passage, provides evidence for long-distance transport of emergency grain-supplies from Britain to deal with severe shortages in devastated areas of N'n Gaul but, unlike Zosimus, provides no further detail of the route, nor method of transport, but does indicate regularity ['sueta'] of this means of supply for grain. How far this particular trade extended back in time remains unknown, but if such adverse conditions required such a solution in the late 4th century AD, then this might provide a parallel for a similar situation, suggested in this study, that existed three centuries earlier (see Section 20: Grain-supply: problems and solutions), thereafter forming a more regular, long-term component of supply for the Rhine frontier and its hinterland.

The account by Zosimus [lived: Constantinople; historian, writing late 5th century AD; sources necessarily secondary] was made about a century later than that of Ammianus Marcellinus [historian and soldier; writing in the 380s AD; served under Constantius II in the East, and Julian in Gaul, so close to events]. The two accounts of this episode do not overlap in detail, and do not conflict, sharing only the most general features of the crisis in common.

Summary

Cunobelinos, direct ruler of the combined Catuvellauni and Trinovantes, prominent tribes of SE'n Britain during the early decades AD, was the last effective, and perhaps strongest member of an important dynasty exercising, via clients, and other family-members, considerable influence, and control over much of the adjacent South, and its tribes.

Cunobelinos was styled as *rex* on certain issues of an extensive, varied, and rich coinage, hence was probably recognised formally as a client-king by Augustus, and likely by his immediate successors, until he disappears from the record before the Claudian conquest of 43 AD. He was also singularly described as *Britannorum Rex* by Suetonius (*De vita Caesarum: Gaius_Caligula: 44, 2*), although this was written about 119 AD, some 76 years after the Claudian invasion, and the end of autonomous Celtic rule in S'n Britain, with no indication of how widely the *Britanni* were defined as being subject. At the very least, this extended styling *Britannorum* could imply some increased sense of national influence, if not direct leadership, or indeed kingship, however this latter may be defined, his power extending well beyond that of the core-tribe, indicating more than a passing coalition, less than an organised empire.

The long reign of Cunobelinos, estimated as covering some 30 years, on the basis of evidence from inscribed coinage, appears to have ended a phase of dynastic instability, entering a period of political consolidation, although not without turbulence. Certainly this period was one of material wealth, and increased economic, diplomatic, and cultural contact with the Romanised world, its military entrenched in N'n Gaul since the later 50's BC, distant only by the readily navigable width of the English Channel.

This analysis considers certain key aspects of this terminal phase in dynastic SE'n Britain, their economic basis, and their political consequences, using one particular material element as a starting point: bulk-supplies of grain, vital to the Roman world.

-The later gold coinage of Cunobelinos, and less prominently that of his probable uncle, and deputy regional ruler Epaticcus, is remarkable in its near universal use of one particular motif, clearly breaking from the usual combination of obverse head and equine reverse, prevalent amongst earlier Catuvellaunian-Trinovantian issues, those of other British tribes minting coins, and indeed those of Celtic Gaul. Whilst retaining the equine reverse, the motif shown prominently on the obverse, in isolation, without distraction by accessory symbols, is that of the ripe grain-ear, fronting the clearly emblazoned mint-mark CAMU, indicating Camulodunon, the capital, and major port of the tribal confederation, indicating here not only the source of coinage, the usual function, but also perhaps the destination for a tradable commodity.

-The theme of such coinage appears to move from being simply personalised towards, and validated by, the named ruler, to carrying commercial advertisement, and perhaps including some more specific economic function as indicating valid currency within the trade itself, suggesting the possible existence of larger-scale inter-tribal agri-business, of major regional importance, and with potential for developing export-markets in Romanised Gaul, and along the German frontier. A few other cases of distinctive obverse-motifs do exist on British coinage of the period, persisting over a series of rulers, in the case of the branched emblem for the Dobunni, apparently tribal, or appearing fleetingly as the vine-leaf for Atrebatia Verica, perhaps here suggesting links with the wine-trade, or as some statement of allegiance to Romanised cultural values. However, neither of these examples match the issues of Cunobelinos in terms of volume, potential commercial content, and visual impact.

More detailed issues surrounding the production, context, and potential use of a grain-supply in deliberate excess of localised needs, with its economic, and political implications, are examined for S'n Britain as follows:

-evidence for arable systems: type, scale, distribution, and associations in Britain, and NW'n Europe; limiting factors of geology, and climate, with Continental comparisons;

-analysis of productivity for grain during the Iron Age: matching this against arable area required, and capacity of the yield to sustain population, using all available data in an adaptable spreadsheet-model;

-tribal distribution in S'n Britain: evidence for more complex regional grouping of settlement within traditionally designated tribal areas, using the final pattern of hillforts as an index; distribution of regional coinages, and use of their degree of overlap to suggest the direction, and extent of late-period interaction;

-Catuvellauni: their lineage, and hegemony over other tribes in S'n Britain; Cunobelinos: the nature of kingship; the growing personalised depiction of rulers, and increased projection of militarism on coinage indicating increased tribal assertion;

-Celtic coinage in Britain, and Gaul: an overview, providing a broader context for the Catuvellaunian grain-motif;

-Roman conquest of Gaul: campaigns of progressive N'ward expansion, with consequent problems of sustaining adequate military grain-supply in N'n latitudes;

-transport of grain: problems of bulk-supply by land; potential of sea-, and riverine routes along the coastal zone of the NW'n Atlantic; the extent of relevant navigational information; traditions of ship-building, and availability of appropriate vessels during the Iron Age, and earlier Roman period; the logistics of Roman military grain-supply, with case-studies for N'n Britain, and the Rhine frontier;

-Roman grain-supply: sources, and wider organisation in Rome, and the provinces;

-political implications of Catuvellaunian grain-wealth: early development of Roman diplomatic, tributary, cultural, and commercial inroads into Britain; the romanisation of well-connected British hostages, from the time of Caesar's expeditions to Britain in 55 and 54 BC; cultivation of Catuvellaunian, and other rulers politically as client-kings, and materially through general trade; changing Roman policy towards a nominally independent Celtic Britain, and the inevitable need to annexe this potential asset, including its more stable grain-wealth.

Nature of the evidence:

The evidence for co-operative, and mutually profitable grain-trade between Catuvellaunia and the Roman military on the Rhine remains circumstantial, given the absence of explicit contemporary records. The approach here has been to outline the conditions, context, capacity, means, need, and viable alternatives for such transactions, with assumptions examined as follows:

-the grain-motif suddenly adopted on staters of Cunobelinos was indeed a declaration of commercial intent;

-S'n Britain was able to produce an extensive grain-surplus, as a deliberate source of external revenue, this exchange reflected only unilaterally by the growing material wealth, and range of Continental imports evident in wider Catuvellaunia;

-those specialist, and general maritime merchants that were certainly in evidence by the 2nd century AD as trading extensively between Britain, Gaul, and the Rhine also operated during the earlier 1st century AD;

-suitable vessels existed, capable of carrying considerable, unstable bulk-cargo such as grain, as indicated indirectly for Celtic, but well-established for Roman ship-building traditions;

-well established open-water, and riverine routes along the coastal NW'n Atlantic margin were in extensive use during the later Iron Age;

-Roman naval supervision of a largely civilian grain-trade, as specified for the Mediterranean fleet, was also undertaken as a priority by the *Classis Britannica*, and *Classis Germanica* in the NW'n Atlantic, given the strategic, and political importance placed by Rome on ensuring adequate, predictable grain-supply for both civil, and military markets;

-that grain-supply matched the growing needs of the Roman military, heavily committed in the frontier-zone along the Rhine; the general absence of recorded grain-shortage, and related unrest, suggests a successful policy of procurement, at least in part, from more reliable sources beyond N'n Gaul, given the likely insecurity of its tributary grain, and inability of the less fertile and productive hinterland of the Rhine to provide adequately;

-convenient alternative markets for Catuvellaunian grain seem unlikely beyond those of N'n Gaul, whether for civilian, or military use.