Contents

	Figures	vii
	Tables	xi
v	Plates	xiii
	on Contributors	xv
	Preface	xxi
List of	Abbreviations	XXV
1	Introduction Mark Greengrass	1
PART	I THE VIRTUAL REPRESENTATION OF TEXT	
2	The Imaging of Historical Documents Andrew Prescott	7
3	Virtual Restoration and Manuscript Archaeology Meg Twycross	23
4	Representations of Sources and Data: Working with Exceptions to Hierarchy in Historical Documents Donald Spaeth	49
PART	II VIRTUAL HISTORIES AND PRE-HISTORIES FINDING MEANINGS	
5	Finding Needles in Haystacks: Data-mining in Distributed Historical Datasets Fabio Ciravegna, Mark Greengrass, Tim Hitchcock, Sam Chapman, Jamie McLaughlin and Ravish Bhagdev	65
6	Digital Searching and the Re-formulation of Historical Knowledge <i>Tim Hitchcock</i>	81
7	Using Computer-assisted Qualitative Data Analysis Software in Collaborative Historical Research <i>Caroline Bowden</i>	91

vi	The Virtual Representation of the Past	
8	Stepping Back from the Trench Edge: An Archaeological Perspective on the Development of Standards for Recording and Publication <i>Julian D. Richards and Catherine Hardman</i>	101
PART	THE VIRTUAL REPRESENTATION OF SPACE AND TIME	
9	Which? What? When? On the Virtual Representation of Time <i>Manfred Thaller</i>	115
10	In the Kingdom of the Blind: Visualization and E-Science in Archaeology, the Arts and Humanities <i>Vincent Gaffney</i>	125
11	Using Geographical Information Systems to Explore Space and Time in the Humanities <i>Ian Gregory</i>	135
12	Spatial Technologies in Archaeology in the Twenty-first Century <i>Paul Cripps</i>	147
PART	IV THE VIRTUAL REPRESENTATION OF HISTORICAL OBJECTS AND EVENTS	
13	Digital Artefacts: Possibilities and Purpose David Arnold	159
14	'Oh, to make boards to speak! There is a task!' Towards a Poetics of Paradata <i>Richard Beacham</i>	171
15	Electronic Corpora of Artefacts: The Example of the Corpus of Romanesque Sculpture in Britain and Ireland Anna Bentkowska-Kafel	179
16	Conclusion: Virtual Representations of the Past – New Research Methods, Tools and Communities of Practice <i>Lorna Hughes</i>	191
	dix: Glossary of Acronyms and Terms graphy	203 209 223

List of Figures

Figure 3.1	York City Archives, A/Y Memorandum Book, fol. 255r: the top of the 'mapping-pen' folio, actual size. Photo: DIAMM © York City Archives and Meg Twycross	26
Figure 3.2	York City Archives, A/Y Memorandum Book, fol. 255r: detail enlarged. Photo: DIAMM © York City Archives and Meg Twycross	27
Figure 3.3	Left: Hand X; right: Hand Y; centre: Hand X colour-converted and superimposed on Hand Y. Images © Meg Twycross	28
Figure 3.4	York City Archives, A/Y Memorandum Book, fol. 255r: detail from the bottom of the entry enlarged. Photo:DIAMM © York City Archives and Meg Twycross	29
Figure 3.5	York City Archives, A/Y Memorandum Book, fol. 4v, detail: erasure and overwriting (see the middle line). Photo: DIAMM © York City Archives	29
Figure 3.6	York City Archives, A/Y Memorandum Book fol. 255r: detail showing severe water damage to the bottom half of the folio. Photo: DIAMM © York City Archives	35
Figure 3.7	York City Archives, A/Y Memorandum Book, fol. 255r: detail showing faded ink brought up using the Adobe 'Replace Color' procedure. Image © Meg Twycross	36
Figure 3.8	York City Archives, A/Y Memorandum Book, fol. 255r: detail showing previous image clarified using the Adobe 'Color Range > Select and Copy' procedures. Image © Meg Twycross	37
Figure 3.9	York City Archives, A/Y Memorandum Book, fol. 255r, details. Left: UV photograph; centre: UV photograph with darker shade selected and copied; right: RGB colour, with various shades selected and copied. Images © Meg Twycross	38

viii	The Virtual Representation of the Past	
Figure 3.10	York City Archives, A/Y Memorandum Book, fol. 254v: detail of water-damaged text. Left: UV image; right: raking light, colour inverted. Original photos: DIAMM. Images © Meg Twycross	38
Figure 3.11	York City Archives, A/Y Memorandum Book, fol. 54v: detail showing writing under paper patch seen by (left) light-box, (right) UV. Original photos: DIAMM. Images © York City Archives and Meg Twycross	39
Figure 3.12	York City Archives, A/Y Memorandum Book, fol. 253r, detail: Entry for the Goldsmiths' Pageant of <i>The Three</i> <i>Kings</i> , showing alterations. Photo: DIAMM © York City Archives and Meg Twycross	41
Figure 3.13	York City Archives, A/Y Memorandum Book, fol. 254r, detail: the erased entry for the Millers' pageant, and the altered entry for the <i>Crucifixion</i> Pageant of the Pinners, Latoners, and Painters. Photo: DIAMM © York City Archives and Meg Twycross	41
Figure 3.14	York City Archives, A/Y Memorandum Book fol. 255r, detail: Short List entry for the Millers' <i>Sharing of</i> <i>Christ's Garments</i> and <i>Crucifixion</i> Pageant of the Pinners, Latoners, and Painters. Photo: DIAMM © York City Archives and Meg Twycross	42
Figure 3.15	York City Archives, A/Y Memorandum Book: (a) Hand A (note Anglicana 'a' and 'g') and compare (b) Hand B (that of Burton – note the secretary-hand 'a' and 'g'). Images © Meg Twycross	43
Figure 3.16	York City Archives, A/Y Memorandum Book: Roger Burton's hand. Top: Explicit from <i>History of the</i> <i>Archbishops of York</i> , fol. 246v; Bottom: a. from Short List, fol. 255r; b. from <i>History of Archbishops</i> fol. 246r; and c. (b) overlaid on (a). Images © Meg Twycross Photo © York City Archives	43
Figure 4.1	A data tree for a probate inventory. © Donald Spaeth, <i>Historical Methods</i> , Heldref Publications	51
Figure 4.2	An encoded inventory	54
Figure 4.3	Dealing with implied data	55
Figure 4.4	An inventory with fragmented hierarchy	56

	List of Figures	ix
Figure 4.5	Three approaches to encoding fragmented hierarchy	57
Figure 4.6	XQuery solutions	60
Figure 5.1	VICODI ontology of 'categories'	72
Figure 5.2	The VICODI representation of the time-interval for the 'Nine Years' Truce in the Netherlands (1609–1621)'	73
Figure 5.3	The Armadillo ontology (fire insurance contract data)	74
Figure 5.4	The Armadillo ontology (Old Bailey Proceedings documentation)	75
Figure 5.5	Armadillo Ontology (Canterbury wills documentation)	76
Figure 7.1	Preserving archival integrity in a QDA environment	93
Figure 7.2	'Attributes' assigned to documents from the Lansdowne Collection in the Health of the Cecils Project	94
Figure 7.3	A QDA coding structure opened to reveal the contents of a hierarchical 'node'	95
Figure 7.4	Coding indicators and data linkage in QDA software	96
Figure 7.5	A search result in QDA software	97
Figure 10.1	Primary activities in e-Science. Image © Professor Vincent Gaffney and The Institute of Archaelogy and Antiquity, University of Birmingham	126
Figure 11.1	The GIS data model. From I.N. Gregory, 'Different places, different stories: Infant mortality decline in England & Wales, 1851–1911', <i>Annals of the Association of American Geographers</i> (2008) http://www.informaworld.com	137

List of Tables

Table 4.1	Percentage of halls with hearth	52
Table 4.2	Choices made by Thame appraisers	53
Table 13.1	Proposed Virtual Heritage Metadata ('World Heritage	
	Metadata Structure')	170