

Index

- Abelard, Peter 203
accuracy (of maps) 26, 146–55
Acts of the Apostles 127
Adamnan, Saint 4
Adriatic Sea 33, 158
Aegean Sea 34
Aeneas 150
Africa 60, 117–8, 164, 174
 Coast of 13, 207
 North 1, 83, 92, 134, 187, 189–90, 203, 208
 South 176, 207
 West 175–6, 207
Age of Exploration 7, 12–13
Aigues Mortes 37
Alamannia 18
Alan of Lille 116
Aldgate 67
Alexander VI, pope 190
Alexander the Great 17
Alexandria 158, 162, 189
alidade (astrolabe component) 176–7, 184, 207
Alighieri, Ginevra 49
Alighieri, Dante *see* Dante Alighieri
alla scalloccio 40
alla sensile 39
Almalyq 92
Alps 25
altitude 169, 172–9, 203–9
Almagest (Ptolemy) 204
Amalfi 172
America 1, 8, 43, 157
Ammianus Marcellinus 25
Ammonius 189
Anatolia 203
Andrew W. Mellon Foundation, *see* Mellon Foundation
Angevins 35–6
Anglo-Norman language 135–7
Anglo-Saxons 24
animal power 7–8, 22, 59; *see also* donkey, horses, oxen
Anjou 36, 98
Anna, Princess of Saxony 52
Annunciation 101, 130, 136
anthropometrics 121
Antiporto di Camollia; *see* Siena
Antiquity 1, 7, 13, 159, 164
Antwerp 63–4, 93
Aquitaine 18
Arabs 170, 178, 187, 189, 191, 196, 203, 206
Aragon 35, 190
architecture
 in Hereford Cathedral 131, 136
 for pilgrims and Crusaders 6–7
 Platonic symbolism of 120–26
 in Siena, 9–10, 71–82.
 transport of building materials 55–67
 see also castles
Arctic Circle 202
Arculf, bishop 4, 123
Arden 149
Arezzo 157
arma Christi 98, 102, 107–8, 128–9, 137;
 see also Christ
armies
 Arab 203
 Byzantine 94
 Carolingian and Merovingian 9, 17–29
 Roman 8
Arnold, Lauren 88
Arthurian legends 149–50
artillery 38–9
Artois 203
Ascalon 158
Asia 10, 83, 88–9, 91–2, 95, 117–8
 Central Asia 88, 92–3
 East Asia 83, 169
 South Asia 60
Assisi
 Lower Church of San Francesco 90, 94

- Chapel of San Antonio, *Martyrdom at Ceuta* 90
 Upper Church of San Francesco 87, 94
 astrolabe 12–13, 173–4, 176–7, 179, 181–92, 202–9
 planispheric 176–7, 181, 207
 open-wheel 176–7
 see also navigational tools and instruments
 Astrolabe (son of Heloise and Abelard) 203
 astrology 12, 187–8, 190, 203–6
 astronomy, astronomers 12, 174–90, 202–7
 Asturias 19
 Atlantic Ocean 8, 18, 38–9, 207
 North Atlantic 2
 audiences (for maps) 131–43, 152
 Augustine of Hippo 11, 116, 120–21, 162;
 see also St. Augustine
 Confessions 162
 De civitate Dei 120–21
 Austria 47, 50, 52
 Avignon 78, 157, 162
 Avon, river 66
 axles 42–3, 46–7, 50, 57–8, 65
 Axholme 149
 d'Azambuja, Diogo 176, 207
 azimuth 182, 184–7, 202, 209
 Azores 174

 Bach-y-graig 63
 baculus (cross-staff) 178
 Baghdad 202
 Balkans 18, 83
 Baltic Sea 169, 203, 205
 barges 9–10, 65–6
 barrels 28–9
 di Bartolo, Taddeo 79
basternae 9, 28–9; *see also* carts and cartage
 Bastulus 189
 Bavaria 18, 45, 48
 Baxtere, Sampson 62
 Bay of Biscay 38
 Beauchamp
 Richard, Earl of Warwick 47
 Tower 62–3
 Behain, Martin 178
 Belfast, Queen's University 155
 Belting, Hans 137
 da Bembo, Dardi 38
Ben Cao Yan Yi 171
 Benedictine order 187, 204
 Beneventum 19
 Bernard of Siena 87
 Berry, Duke of *see* John, Duke of Berry
 Berwick 147, 151, 197
 Bethlehem 163
 Beverley 59
Bible moralisée 120
 binnacle 172
 bireme 9, 33, 35–7, 39
 al-Biruni 189
 Black Death 86
 Black Sea 91
 Blakehommere, William 62
 Boccaccio, Giovanni 159
 Boethius 11, 116
 Bohemia 203
 Bologna 157
 Bonaventure, *see also* Saint Bonaventure
 De triplici via 98
 Bonne of Luxembourg, Duchess of Normandy 10–11, 97–111
 Psalter 10–11, 97–111
 Booth Porch 139; *see also* Hereford Cathedral
 Bordeaux 3, 205
 “Bordeaux Pilgrim” 3
 Bosch, Hieronymous (*The Hay Wain*) 58
 Boston (England) 60
 Bourne, William 179
 Bowsky, William 71, 81
 Boyer, Marjorie Nice 41
 brick 9–10
 transport of 55–67
 use in Siena 74–5
 bridges 24, 66, 74, 151
 Bristol 147
 Britain, British Isles 11, 63, 143, 145, 147–8, 151, 153, 155; *see also* England, Scotland, Wales
 Bronze Age 42, 53
 Brueghel, Jan the Elder (*Five Covered Wagons*) 46
 Brueghel, Pieter the Elder 58
 Bruges 38
 Brutus myth 150, 153
 Budapest 9, 51
 building materials, transport of 55–68
 Bure River 55, 65
 bureaucracy 23
 Burgundy,
 Duchess Margaret 45

- Duke Philip the Bold 98
 Burke, S. Maureen 91–2
 Bury St. Edmunds 59, 67
 Bute 149
 BWL (breadth on waterline) 36
 Byzantine Empire 6, 94, 189
- Cabot, Sebastian 179
 Caen stone 56
 Caesar, Julius 8
 Caffa (Feodosiya, Ukraine) 86
 Cairo 158
 Caister Castle, Norfolk 9, 55–9, 61, 65–6
 Calais 147
 Cambrai 126
 Cambridge (England) 149, 155
 Camollia 72, 75, 77–9; *see also* Siena
 Antiporta di Camollia 75–6
 Assumption of the Virgin (*sinopia*)
 78
 Porta di Camollia 73–5, 77–9
 Coronation of the Virgin (*sinopia*)
 78
 Campbell, Bruce 155
 Canary Islands 83, 86, 174
 cannibals 94, 135
 Canterbury 87, 147–8, 204
Canterbury Tales (Geoffrey Chaucer) 5,
 135, 203–5
 Cantilupe 135, 139, 141; *see also* St. Can-
 tilupe
 complex 131–2, 134, 136, 139
 family 11
 Sir Thomas 131, 139
 Cape of Good Hope 207
 Cape Malea 158
 Cape Verde Islands 86
 capitularies 24, 27
 Capitulary de Villis 27
 Capomonte 160
 Cardigan 148, 152
caretta 43
 cargo 8–9, 31, 37–8, 56, 64–6, 205
 Carlisle 147, 150, 154
 Caroberto, King of Hungary 45
 Carolingian Empire 17–20, 23–9,
 Carpentras 157
carra ad hostem 27–8
 Carrara family (Padua) 43
Carreta Pelegrina 50
 carriage (transport) 55–6, 59–62, 65
- carriages (vehicles) 9, 37, 41–53
Carrocia 34
 carters 61
 cartography 5, 126–7, 129, 134, 143, 145–8,
 151–5
 carts and cartage 8–9, 27–9, 43–4, 50, 55–9,
 61, 65–7
 Casimir, Johann 52
 Castello di Manta “Fountain of Youth” mu-
 rals (Giacomo Jacquerio) 46
 castles 6–7, 90, 147–50; *see also* Caister
 Castle, Kirby Muxloe Castle,
 Pendragon Castle, San Columbano
 Castle, Sheppey Castle, Tatershall
 Castle
 Catalonia 35, 189
 catechesis, 127–42
 celestial navigation *see* navigation, celestial
 le Charer, John 44
 chariots 41, 44–5
 chariot branlant 45
 charity, degrees of 98–108
 Charlemagne 9, 17–8, 24, 26–9
 Charles V, King of France 98, 190
 Charles of Anjou 36
 Chartres Cathedral 109
 charts 7, 12, 146, 159–60, 163, 172, 175–6,
 206
 marine 159–61, 163–4
 Pisan 160
 portolan 146–7, 161
 Chaucer, Geoffrey 5, 135, 181, 190, 203–5
 Canterbury Tales 5, 135, 203–5
 Treatise on the Astrolabe 181
 Chaundeler, William 62
 Chester 148
 Chevington 59, 67
 Childeric 22
 China 2, 12, 88, 170–71
 Chinese landscape painting 88–9
 Chioggia 38
 chorography 159
 Christ 80, 93, 98, 101–2, 104, 106–10,
 120–22, 139
 Crucifixion 104–5, 122–3, 129
 Passion 101–2, 104, 106, 108–10
 Christian Platonist thought 11, 115–25
 Christians and Christianity 4, 11, 19, 71,
 80, 101–3, 109, 115, 120–22, 129,
 131–3, 137, 152, 158, 163, 187, 189,
 191

- Cicero (*De Republica*) 164
 Circassian 83, 90
 circumference (of the earth) 202
 city gates 71–83
civilitas 73
civitas 21–2, 72
 de Clavasio, Dominicus 188
 Cleve 48–9
 clocks 177, 186,
 clothing (as sign of ethnicity) 83, 89
 Clough, Sir Richard 63–4
 Clovis 19
 Clwyd, river 63
 Clyde, river 145
 coaches 9, 41–55
 Coates, John 31
 Cockerend 67
Codex Calixtinus 4, 123
Codex Theodosianus 24
 Coignet, Michael 179
 Colchester 64, 154
 Coldstream, Nicola 131
 collar, horse 8, 44
 Colonna, Giovanni 163
 Columbus, Christopher 207
 commerce 2, 5, 18, 20, 23, 37, 42, 93, 151,
 169
 compass 12, 21, 117, 136, 160, 169–73, 191,
 206, 209; *see also* navigational tools
 and instruments
 Conestoga wagon 43
 Constable, Golding 65
 Constable, John 65
 Boatbuilding (1814) 65
 *Flatford Mill (Scene on a navigable
 river)* (1817) 65
 Constance of Austria 52
 Constantinople 34, 102; *see also* Istanbul
 Copenhagen 202
 Corfu 158
 Corinth 158
 Cornwall 146, 148, 150
 Cortes, Martin (*Arte de Navegar*) 172,
 177–8
 Corvinus, Matthias, King of Hungary 9, 50
 di Costa, Alamanno 34
 Cotton Manor 57
 Council of Constance 46
 countryside 4, 10, 53, 71, 74, 81, 83, 87, 186
 Coventry 149
 Cow Tower, *see* Norwich
 Cracow 52
 crane 42
 Crockerend 59
 cross-staff 12, 173–4, 178–80, *see also* navi-
 gational tools and instruments
 cruciform plans 122–6
 Crusades 1, 4–7, 10, 34, 94, 164, 191, 203
 Crusader kingdom 5
cursum publicum 22
custos 130–31, 134, 138–9, 141
 Cyprus 93, 158, 161, 203

 Dagobert I, King of Franks 19
 Damascus 158, 202
 Dante Alighieri 49
 Purgatorio 87
 Davis, John 179–80
 Dead Sea 162–3
 declination 175, 177, 184–5, 209
 Dedham 57, 65
 Delphinus 160
 Denbigh 63
 Dengie 64
 St. James church 64
 Deptford 66
 Deschamps, Eustache 2, 45
 Despencer, Henry 203
 Dias, Bartholomeu 207
 Dipper (constellation) 171, 175, 206
 distances 1, 8, 12, 17–18, 21–2, 32, 56, 88,
 145–54, 160–61, 175–9, 185–8, 206,
 209
 dividers 206
 Dominican order 91–3, 108, 138
 Don, river 160, 163
 donkey 59–60
 Doria, Pietro 38
 Dorothea, Princess of Denmark 51
 Dover 148, 197
 Dresden 52
 Droitwich 151
 Duccio 80
 Durance 20
 Durandus, William 11, 120
 Rationale divinarum officiorum 122–3
 Dürer, Albrecht 50
 Durham 147, 149
 Dutch East India Company 63
 Dutchman, Baldwin 60

 Ebstorf Map 117, 120, 129

- eclipse 185
 ecliptic 182, 209–10
 economic constraints (on shipbuilding) 34–7
 Eden, garden of 117, 141, 153
 Eden, river 151
 Edinburgh 145
 Edlington Moor 60
 Edward I, King of England 12, 43–4, 148, 150–51, 153
 Edward III, King of England 44, 151
 Edwards, Kathleen 138
 Egeria 3
 ekphrasis 128–30, 141
 Elba 18
 Eleanor, Infanta of Portugal 47
 Eleanor, Queen of England 43
 Eleanor of Woodstock 44
 Elizabeth I, Queen of England 50–51
 England 9, 38, 44, 52, 55, 59, 62, 127, 131, 139, 145–8, 150–53, 155, 179, 190–91; *see also* Britain, British Isles
 English Channel 63, 146
 English Muscovy Company 53
 Enrico, Count of Malta 34
 equator 164, 174–5, 182, 202, 207, 209
 equipage 44
 Essex 57, 64–5, 152
 d’Este, Hippolito 51
 Ethiopia 127
 ethnicity 10, 83–90
 Eton 59, 67
 College 59
 Europe 2, 4–5, 7–10, 12, 25, 41–3, 46, 50–51, 53, 71, 86, 92, 97, 103, 117–8, 131, 170–71, 179, 184, 187, 189–92, 201–2, 205–8
 Exeter 148
 exoticism 89, 160
 exports 63–4
 Exultet rolls 128–9
- Fabri, Friar Felix 6
Falcone 34
 Fastolf, Sir John 55–7
 Fausto, Vettor 39–40
 al-Fazari 189
 Feasts
 Assumption 80–81
 Holy Epiphany 55
 Purification of the Virgin 81
 Tabernacles 101
 Feodosiya, *see* Caffa
 Flanders 38, 50, 63–4, 179, 203
 Flatford 65
 Flint, Valerie 133
 Flintshire 63
 Florence 72, 75, 84–6, 89–90, 92–3, 125, 157, 161
 Santa Croce
 Bardi Chapel 89
 paintings by Giotto and Ugolino di Nerio 90, 93
 Santa Maria Novella
 Spanish Chapel 91
 forests 11, 104, 145, 149, 152, 157, 159
 Inglewood 149
 Sherwood 149
 Forth, river 145, 147
 France 3, 18, 56, 87, 98, 110, 134, 152, 157, 179
 Franciscan order 10, 83, 85, 89–95, 138
 Francisco di Giorgio Martini 123, 125
 Franks, Frankish rule 19–20, 22, 24, 29
 Frederick II, Emperor 190
 Frederick III, Emperor 47
 freightage 9, 55–7
 Friedrich, Johann (elector of Saxony) 48
 Frisia 18
 Froissart, Jean 5, 46
 Fusoris, Jean 199–200, 202, 204
 Fye Bridge 66
 de Fyncham, Thomas 62
- Gallerani, Andrea (the Blessed) 77
 galley 9, 31–9; *see also* bireme, trireme
 de Gama, Vasco 176, 178, 207
 Garonne, river 20
 Gaul 19–21, 24–5, 150
 gender roles in transport 9, 42, 52
 Genghis Khan, *see* Khan
 Genoa 33–5, 37–8, 86, 158–60, 164, 174
 Officium Gazarie 37–8
 geography 17–23, 143–69
 geo-rectification 154–5
 Georgians 83
 German Hanse 2
 Germany 157
 ben Gerson, Levi 178
 Gherardo (brother of Petrarch) 162
 Ghiberti, Lorenzo 90
 Gibraltar, Straits of, 38

- Gill, Miriam 134–5, 137
 di Giorgio Martini, Francesco 123, 125
 Giotto 89–90, 94
 Giovanni Pisano (pulpit, Duomo of Pisa)
 186, 189
 GIS (Geographical Information Systems)
 143, 154
 Glaber, Rodulf 118
 “global village” 1
 Gloucester 147
 Goby, John 62
 Godunov, Boris 53
 Gough Map 11, 143–56
 Gough, Richard 145
 Gozzadini, Giovanni 49
 Grant, Lindy 141
 Gravour (or Gravere), William 56–7
 Graz 47, 49
 Great Yarmouth 56–7, 62, 66
 Greece 31, 83, 123, 150, 161, 189
 Gregory the Great, pope 92, 128, 134
 Gregory of Tours 19, 25
 Grene, John, bailiff of Caister 56
 Gresham, Sir Thomas 63
 Grillo, Simone 33
 Guelders, Count of 44
 Guidoni, Enrico 72
 Guidoriccio da Fogliano 87
- Hadrian’s Wall 145, 148, 151
 Halford 66
 Hanse 2
 Harran 189
 Harvey, Paul 145, 153
 hearse 47–8
 Heavenly Jerusalem 79–82
 Hebrew language 189, 196
 Heck, Christian 98
 Hellesdon 56, 66
 Heloise 203
 Henry III, King of England 63
 Henry of Avranches
Vita sancti Hugonis 122
 Henry the Navigator, Prince 174, 207
 Herat 202
 Herculaneum 161
 Hereford 126, 130–31, 138–9
 Booth Porch 139
 Cantilupe complex 131–2, 134, 136, 139
 Hereford Cathedral 11, 127, 129–33,
 138, 140
 Hereford *mappa mundi* 11, 117–9,
 127–41, 151–4
 Hildegard of Bingen 11
 hills 18, 71, 161
 Hipparchus 188
 Hiscock, Nigel 137
Histoire de Saint Louis (Jean de Joinville) 5
 Holy Land 3, 5–6, 12, 32, 92, 123, 126, 137,
 157, 161, 163–4, 206
 Holy Sepulcher, *see* Jerusalem
 Homer 159
 homesickness 157
 Honington 66
 Honorius 120–22
 horizon 170, 178, 181–4, 209
 horoscope 188, 208
 horse (component of astrolabe) 177, 184
 horses 8, 22, 28, 43–6, 51–3, 57, 59–60, 65,
 67, 83, 104, 203–4
 agricultural use of 8
 military use of 8, 22, 28
 pulling carriages, 43–6, 51–3
 transporting building materials 57,
 59–60, 65, 67
hostilitio 27
 hours, 182–8, 204, 209–10
 Hugh of St. Victor 133
 human body
 as power source 7–8, 31–6
 as symbolic microcosm, 115–25
 Humber, river 145
 humours 116
 “Hungarian driving style” 51
 Hungary 18, 45, 50–51
- Ilkhanid dynasty 88–9
 imports 62–4
 India 162, 169–70
 Indian Ocean 178, 205
 infrastructure 20–24
 Inglewood Forest 149
 Ipswich 148
 Irish Sea 63
 Isabel of Bavaria, Queen of France 45
 Isabella of France, Queen of England 44
 Isaiah (book of) 127
 Islam 1, 7, 12, 92, 184–5, 187, 189, 202
 Israel 127, 163
 Istanbul 94
 Kalenderhane
 St. Francis Preaching to the Birds 94

- Italy 5, 18, 25, 33–5, 38, 51, 71, 73, 77, 83, 86–93, 157–64, 169, 172, 200, 207
- itineraries 3, 7, 10, 12, 22–3, 25–6, 139, 153–4, 158, 160–61
- “Antoine Itinerary” 26
- Petrarch’s *Itinerary* 157–65
- Roman itinerary lists 23–6
- Jacob staff 178
- Jacopo de Voragine, *see* Voragine
- Jacquerio, Giacomo
- “Fountain of Youth” murals (Castello di Manta) 46
- Jacques de Vitry, *see* Vitry
- Jean, duc de Berri, *see* John, Duke of Berry
- Jenner, Thomas 146
- Jernemuth, *see* Great Yarmouth
- Jerusalem 3–4, 6, 71, 76, 78–82, 101, 117, 119–20, 127, 153, 158, 163, 191, 195, 202
- Gate of Grace 80
- Gate of Mercy 80
- Holy Sepulcher 110, 123, 126, 158, 162
- see also* New Jerusalem, Heavenly Jerusalem
- Jesus 93, 121, 127, 136; *see also* Christ
- Jews 80, 83, 101, 121, 189
- John II, King of France 10, 98
- John II, King of Portugal 175, 190, 207
- John XXII, pope 46, 92, 103
- John XXIII, anti-pope 46, 190
- John de Swinfield 139
- John, Duke of Berry 45, 98, 120, 190
- John Mandeville, *see*: Mandeville, John
- John of Sacrobosco 202
- Joinville, Jean de
- Histoire de Saint Louis* 5
- Jordan, river 163
- Jubilee of 1300 76–77
- Judas 102
- Judge of the Streets (official in Siena) 74
- Julius Caesar 8
- kamal 173, 178, 206 *see also* navigational tools and instruments
- Kessler, Herbert 129
- Khan 10, 83, 89, 92
- Genghis 86, 91
- Kienzle, Beverly 138
- King’s Lynn 154
- Kirby-Muxloe, castle 58–9
- Klosterneuburg Altarpiece* 109
- Knape, William 62
- Knights of St. John and Jerusalem 76
- Knights Templar, Order of 75
- kobelwagen* 49
- Kocs 9, 50
- Kolda 108
- kotchi wagen* 50–51
- ladders, symbolic, 101
- landscape painting 50–53, 87–90
- Langton, Jack 154
- Lanzi, Luigi 87
- Last Judgment 80, 103, 109, 160
- Lateran Council, Fourth 138
- latitude 12, 170, 175–91, 202, 204–5, 209–10
- Lawford 64
- St. Mary’s church 64
- LBR (length to beam ratio) 36, 38
- lead line 172
- Leeming 154
- Leicestershire 58
- Leo X, pope 190
- Leonardo da Vinci
- Paragone* 128
- Vitruvian man 121
- Leopardo* 33–4
- Lepine, David 139
- Letts, Malcolm 134–5
- Lewis (Lewes) 154
- Lewis the Great, King of Hungary 45
- Liber Censuum* 81
- Liber Sancti Jacobi* 4
- Libya 203
- Lily, George 152
- Limbourg brothers 120
- Lincoln Cathedral 122
- Lincolnshire 60–61, 65, 149, 151, 154
- Tattershall Castle 60–61, 65
- Lisbon 53, 175, 178, 206
- Coach Museum 53
- lodestone 170–71, 206
- logistics
- in Carolingian military operations 17–30
- in delivery of building material 55–69
- Loire, river 20
- Lombardy 18, 44
- London 63–4, 66–7, 91, 93, 145, 147–8, 154–5, 195, 197–8, 201
- London Bridge 66–7

- London Psalter 129
 Tower of London 45, 62–3
 longitude 174–5
 Lorenzetti, Ambrogio 74–5, 83–95
Allegory of Redemption (Siena, Pinacoteca)
Castle on the Lake, and City by the Sea (Siena, Pinacoteca) 90
 fragment from the Poor Clares' church (London, National Gallery) 91
Good Government in the Countryside (Siena, Palazzo Pubblico) 10, 83–4, 87
Martyrdom of the Franciscans (Siena, Church of San Francesco) 10, 83, 89, 91
Presentation in the Temple (Florence, Uffizi Gallery) 94
St. Louis being received by Boniface VIII (Siena, Church of San Francesco), 91
 Lot's wife, *see* "Uxor Loth"
 Louis I de Valois, Duke of Orleans, 190
 Louis IX, King of France 5, 34, 91, 104, 110
 Louis, Duke of Anjou 98
 Low Countries 63–4
 Ludlow 147
 Luke de Bree 139
 Lull, Raymond (Ramon) 176, 206
 Luna (city) 161
 lunar mansions 187, 209
 Luttrell Psalter 46
- McKinnon, James 101
 Macrobius 118–9, 164
 macrocosm and microcosm, 115–26
 Magellan, Ferdinand 176, 207
 magnetic compass 12, 170–72, 206
 Majorca 176, 206
 Malavolti family 75
 Maldon 64
 Malta 34
 Mandelli, Giovanni 12, 157–8, 161–3
 Mandeville, John (*Travels*) 6, 203
mansiones 22, 24
 Manuel I, King of Portugal 190
 manuscripts 10, 25–6, 45–6, 97–8, 101–2, 104, 110, 122–3, 152, 159–60, 164, 189, 203–4
 illuminations and miniatures 7, 10–11, 46–7, 88, 97–9, 101–4, 106, 108–10, 189, 203
Ingeborg Psalter 109
 London Psalter 129
 Luttrell Psalter 46
 Psalter of Bonne of Luxembourg 10–11, 97–111
 maps and mapping 5, 7, 11–12, 17, 23, 26, 29, 115, 117–20, 127–41, 143–65, 169, 172, 174, 182, 188, 209
 Carolingian military mapping 17, 23, 26, 29
mappae mundi 12, 115, 117–8, 127–41, 152, 159–60, 163
 maps as microcosms 115–20
 Petrarch and maps 157–65
 T-O diagrams 160
see also specific examples:
 Ebstorf Map 117, 120, 129
 Gough Map 11, 143–56
 Hereford Map 127–41
 Peutinger Map 26
 Psalter World Map 120, 129
 "The Quartermaster's Map" 146
 "Mapping the Realm" project 155
 Marco Polo 2, 6, 170
 Margaret, daughter of Edward I of England 44
 de Maricourt, Pierre 171
 de Marignolli, Johannes 91
 marine charts 159–64, 173–6
 Martel, Charles 18
 Martin, Thomas 145
 Martini, Simone 78, 81, 93–4
Maestà (Siena, Palazzo Pubblico) 81
 martyrdom 10, 83, 89–94, 163
 Mary, *see* Virgin Mary
 Mason, Roger 146–7, 150
mater (part of astrolabe) 182, 184, 187, 191, 205
 Meaux 123
 Mecca 184, 187–8, 191
 medical care 187, 202, 204
 Medina 191
 de Medina, Pedro 177, 179, 191, 208
 Mediterranean Sea 1, 5, 8–9, 12, 18, 38, 117, 160, 164, 169, 174, 203, 205
 eastern Mediterranean 5–6, 38, 163
 medieval Mediterranean 9, 33
 pilots in 170

- ship design for 31–40
- southern Mediterranean 189
- winds 172
- Mellon Foundation 143
- merchants 10, 26, 31, 33, 37–9, 75–6, 86–7, 93, 151–2, 205
- meridians 174, 182, 202, 209
- Merovingian kings 19, 25
- Mesopotamia 20
- Messina 158
- Metz 21
- von Meyenburg, Ernst 91
- Milan 157
- milestones, *see milliaria*
- Military operations
 - on land, in Carolingian world 17–30
 - at sea, in late medieval Mediterranean 32–41
- “Miller’s Tale” in *Canterbury Tales* (Geoffrey Chaucer) 203–5
- milliaria* 21–5
- Minorita, Paolino 164
- mirrors 106, 109, 116, 155
- Misley 65
- missions and missionaries 10, 26, 91–3, 157, 171
- Moir, A.L. 133–5
- monasteries 6, 26–7, 89, 162, 203
- Mongols 10, 83, 86, 88, 90–94, *see also* Kahn
- monsters 6
- Mont Ventoux 162
- Montaperti, battle of 72
- Monteriggioni 73
- Montesiepi 77
- Montpellier 157, 195
- moon 80, 116, 185, 205, 209
- Morgan, Nigel 131
- Morocco 91–2, 202
- Moselle, river 18
- mosques 92, 187
- Mount Athos 203
- Mount Circeo 161
- Mount Sinai 158
- multiculturalism 10
- Münster, Sebastian 152
- muris pictorum* 151
- Muslims 19, 38, 83, 174, 187, 189, 191, 203; *see also* Islam
- muta predicatio* 134
- mutationes* 22, 24
- Naples 159, 161
- navigation
 - celestial 169–70, 174, 178, 182, 184, 206–20
 - mathematical 170
 - primitive 170
 - quantitative 170
- navigational charts 7, 12, 146–7, 159–64, 172, 175, 206
- navigational tools and instruments 7, 12, 21, 117, 136, 173–211
 - astrolabe 12–13, 173–4, 176–7, 179, 181–92, 202–9
 - baculus 178
 - binnacle 172
 - compass 12, 21, 117, 136, 160, 169–73, 191, 206, 209
 - cross-staff 12, 173–4, 178–80
 - dividers 206
 - Jacob staff 178
 - kamal 173, 178, 206
 - lead line 172
 - plumb-bob 174
 - quadrant 12, 173–6, 184–5, 206–7
 - sextant 179
 - tablet 178
- navis* 33, 35
- Near East 5
- Neckham, Alexander 170–71
- Netherlands Bible* 59
- Neustria 18
- New Guinea 176
- New Jerusalem 71, 78, 120
- Newcastle upon Tyne 147–8
- Nicholas of Lynn (*Kalendarium*) 204
- Nicholas of Verdun
 - Klosterneuburg Altarpiece* 109
- Nicopolis, battle of 5
- Nile, river 158, 160
- Nilson, Ben 139
- Nine, The (ruling council in Siena) 10, 71, 74–5, 77–8, 81–2
- Norfolk
 - Caister Castle 9, 55–9, 61, 65–6
- Normandy 18, 98
- North Korea 1
- North Sea 25, 64, 151
- Norwich 56–7, 61, 65–6, 147, 190, 203
 - Bishop’s Bridge 66
 - Cow Tower 61, 65–6
- Nottingham 147, 197

- Nottinghamshire 67
 Novello, Agostino (the Blessed) 77
- oarsmen 9, 35, 40
 Odericus (*Ordo Officiorum*) 81
 Oleron 44
Olympias 31
Ordo Officiorum, *see* Odericus
 Orleans 22, 45, 190
 Valentina Visconti, Duchess of Orleans
 45
 Louis I de Valois, Duke of Orleans, 190
 Orsini family 91
ospedale and *ospizi* 75–6
 Otranto 158
 oxen 8
 Oxford 12, 155, 181, 195, 197, 201, 204
 Bodleian Library 143–5, 155–6
 Digital Library 143
 Seminars in Cartography 154
 University 143–4, 181, 204
 Oxfordshire 59
- Pacific Islands 169
 Padua 43
 Santo, Chapter House 91
 painting 6–7, 10, 50, 53, 58, 65–6, 79, 82,
 86–91, 94, 128, 133–5, 141
 fresco 10, 75, 78–9, 81–3, 87–92, 94–5
 landscape 50, 53, 88
 in manuscripts 97–111
 in Siena 72, 79, 82, 86–91
 showing carriages 50, 53
 showing transport of building materials,
 58, 65–6
 see also specific artists: Bartolo; Bosch;
 Brueghel; Constable; Duccio; Giotto;
 Leonardo; Limbourg; Lorenzetti;
 Martini; Rubens; Sassetta; Ugolino
- paniers 60
Paradisus Magnus 34
 parallax 185
 Paris 44–5, 56, 94, 102, 147, 183, 190, 195,
 197–9, 202–3
 Arsenal Bible 94
 Sainte-Chapelle 99, 102, 110
 Paris, Matthew (*Chronica majora*) 94, 147
 Parkes, Malcolm 131
 Parma 157
 Parsons, M.J.S. 146
 van Passe, Hendrik 63
- Paulinus of Nola 135
 pavement 21, 74
 Pavia 18, 157
 Peasants' Revolt of 1381 44
 Pegolotti, Francesco Balducci 93
 Pelham, R. A. 146, 151
 Peloponnese 158
 Pendragon Castle, Westmorland 150
Peregrinatio of Egeria 3
 Perkyns, Robert 62
 Perrers, Alice 44
 Peter I of Cyprus 203
 Petrarch (Francesco Petrarca) 12, 157–65
 Africa 163
 Itinerary 157–65
 Petrarcho (Gherardo) 162
 Pettinaio, Pier 77
 Peutinger map 26
 Philip (apostle) 127
 Philip VI, King of France 98, 103, 110
 Philip de Vitry 158
 Philip the Bold, Duke of Burgundy 98
 Philip of Spain 53
 Philoponus, John 189
pianero 40
 Picardy 203
 Pickerill Creek 55–56, 65
 Piedmont 46
 Pietralata 74
 di Pietro, Sano 79
 piety 2–5, 10, 82, 97, 99, 102, 104, 109, 111
 of Bonne of Luxembourg 97–111
 of pilgrims to Holy Land 3–4
 Piggott, Stuart 41
 pilgrim badges 10
 pilgrims and pilgrimage 1–4, 6–7, 10, 23,
 26, 50, 71–3, 75–83, 87, 97–111,
 129, 131, 135, 137–9, 141, 157,
 162–3, 203–6
 to Holy Land 3–4
 to Santiago 4
 in Siena 71–82
 spiritual and virtual pilgrimage 10, 97,
 104, 108, 110
 pilots 169–79, 205–6
 Pippin, King of the Franks 18
 Pippin II, Mayor of the Palace 18–19
 piracy 33
 Pisa 33, 37, 160, 190, 206
 pulpit in Duomo by Giovanni Pisano
 186, 189

- Plas Clough 63
 Plato 115–6, 126
 Timaeus 115–6
 Platonism, 115–26
 Pliny the Elder (*Natural History*) 158
 plumb-bob 174
 Plymouth 154
 Poland 52
 Polaris (Pole Star) 174–5, 178–9, 202–6,
 209
 poles, North and South, celestial 182
 Polo, Marco, *see* Marco Polo
 Polynesia 169
 Pompeii 160
 Pomponius Mela (*Chorography*) 159
 Pont, Timothy 147
 popes
 Alexander VI 190
 Benedict XII 103
 Gregory the Great 92, 128, 134
 John XXII 46, 92, 103
 John XXIII 46, 190
 Leo X 190
 Urban II 4
 portals
 of Chartres Cathedral 109
 of Siena 10, 71–82
 sight and hearing as, 133, 137
 Portofino 160
 Portugal 13, 47, 53, 92, 169, 174–80, 190,
 207–8
 Prague 157
 processions 71, 74, 82
 Provence 18, 192
 de Prusse, Pèlerin 190
 Pryor, John 32
 Psalters 98, 101
 of Bonne of Luxembourg 10–11, 97–111
 Six Degrees of Charity 11, 98,
 100–104, 106, 108
 Ingeborg Psalter (Chantilly, Musée
 Condé) 109
 Luttrell Psalter 46
 Psalter World Map 120, 129
 Ptolemy 174, 189, 202
 Almagest 204
 Purleigh 64
 All Saints church 64
 pygmies 135
 Pyrenees 18, 25, 44
 qibla 184, 187, 191, 202
 quadrant 12, 173–6, 184–5, 206–7 *see also*
 navigational tools and instruments
 quadrivium 116
 “The Quartermaster’s Map” 146
 Queen’s University, Belfast. *See* Belfast,
 Queen’s University

 Radolf of Liège 207–8
 Ragimbold of Cologne 207
 Ralph, third Lord Cromwell 60
 Red Sea 158, 162–3
 Rede, William 155
 Reggio 159
 “Regiment of the North Star” 175
 “Regiment of the Sun” 175
Regimento do Astrolabio e do Quadrante
 207
regnum Francorum 18–19, 23, 25, 27, 29
 Reisch, Gregor 185
 relics and reliquaries 4, 6, 10, 71, 77, 82, 97,
 99, 102, 104, 108, 110
rete (astrolabe component) 182, 184
 Rheims 23, 189
 Rhine, river 18, 20
 Rhodes 34, 158
 Rhône, river 20
 rhumb lines 160
 Ribiero, Diego 176
 Richard II, King of England 44, 46
 Richard III, King of England 45
 Richard de Fournival 133, 141
 Richard of Haldingham 133, 136
Richignona 34
 Richmond-on-Thames 63
 Rieder, Ralph 62
 rivers
 in the Gough Map 145, 148–9
 for material transport 55–6
 see also Avon, Bure, Clwyd, Clyde,
 Don, Eden, Forth, Garonne, Hum-
 ber, Jordan, Loire, Moselle, Nile,
 Rhein, Seine, Severn, Thames,
 Tiber, Ware, Witham, Yare
 roads 3–4, 9, 20–26, 28, 41–2, 51, 53, 56–7,
 59, 67, 71, 74, 83, 88, 93, 97, 143,
 145, 147–8, 152, 155, 162, 181,
 187–8, 191, 204–5, 208
 in Carolingian military campaigns 20–6,
 29
 in the Gough Map 147–8
 and pilgrimage 3–4, 71, 74

- Roman 20–26, 29
 near Siena 71, 74, 83, 88, 93
 Silk Road 88, 170
 for transport of building materials 56–7,
 59, 67
- Robert, King of Naples 159
- Robert of Basevorn (*Forma praedicandi*)
 138
- Rochester 147–8
- Roccafortis* 33–5
- Roger of Lauria 35
- Roman civilization
 army 8
 emperors 20
 empire 1, 8, 17–26
 government 20
 histories 160 (Sallust and Lucan)
 numerals 145, 148
 roads 20–26, 29
 transportation 8
 world 1–2
- Rome 1, 10, 18, 48, 71, 77, 87, 119, 127,
 152, 161, 163–4, 195
- Rosa* 34
- rotae* (wheel diagrams) 115, 118
- round ships 33–4
- rowers 8, 32–3, 36–40
- Rowley, George 88, 91
- Rubens, Peter Paul drawing of a wagon 46,
 50
- Rudolph von Ems, *Weltchronik* 45
- Russia 8, 203
- Rusticitas* 73
- St. Gall, plan 126
- St. Trond, abbey church 122
- Sainte-Chapelle, *see* Paris, Sainte-Chapelle
- saints
 Adamnan 4
 Ansano 77
 Anselm 102
 Augustine of Hippo 11, 116, 120–21,
 162
 Bernard 102
 Bernardino 91
 Bonaventure 92, 98, 102
 Cantilupe 131, 139, 141
 Columban 4
 Crescentius 77
 Francis 87, 89–94
 Galgano 77
 Gregory the Great 92, 128, 134
 Gregory of Tours 19, 25, 92
 Hugh 122
 Jerome 101
 Lambert 207
 Louis 5, 34, 91, 104, 110
 Paul (*Epistles*) 162
 Peter 75
 Peter the Martyr 91
 Savinus 77
 Victor 77
- Samarqand 202
- San Columbano, castle 158
- San Martino, terzo di* 72; *see also* Siena
- San Quirico 73
- Sansedoni, Ambrogio (the Blessed) 77
- Sanskrit language 189
- Santiago de Compostela 4, 93, 122, 124
- Sanudo, Marino 5, 164
Secreta Fidelium Crucis 5
- Sassetta, Stefano di Giovanni 79
- Saxony 18, 48–9, 51–2
- Saxton, Christopher 152
- Scandinavia 8
- Scipio Africanus the Elder 163
- Scipio the Younger 164
- Scotland 20, 63, 145–9, 151–2, 155; *see*
also Britain, British Isles
 in Gough Map 145–9, 151–2, 155
 sculpture 6–7, 10, 47–8, 137, 189
 on pilgrimage churches 6–7
 seasons 116, 158, 174, 210
- Sebokht, Severus 189
- Secreta Fidelium Crucis* (Marino Sanudo) 5
- Seine, river 20
- “semiotic enclaves” 129, 135–7, 141
- Serego, Elizabeth 49
- Serego, Marcantonio 49
- Serego-Alighieri, count 49
- sesselkutshe 52
- Severn, river 145
- Seville 92, 179
- sextant 179
- shadow square 177, 184
- Sheen, palace 63
- Shen Gua 171
- Sheppey Castle, Kent 149
- Sherwood Forest 149
- “Shipman’s Tale” in *Canterbury Tales* (Geoffrey Chaucer) 204–5

- ships and shipping 8–9, 17, 31–41, 50, 56–7, 63, 66, 161, 171–2, 176, 204–8
- ship design 31–40
- ship functions
- military 8–9, 31–40
 - oceanic voyages in Age of Exploration 8–9, 207–8
 - transport of building materials 56–7, 63, 67
 - transport of luxury items, 37–40
- ship types
- barge 9–10, 65–6
 - galley 31–40
 - round ship (*navis*) 32–5
 - Viking ship 8–9
- see also* specific ship names: *Carrocia*, *Falcone*, *Leopardo*, *Olympias*, *Paradisus Magnus*, *Richignona*, *Roccafortis*, *Rosa*
- Shipston-on-Stour 66
- shoute 66
- shrines 71, 77, 139
- Sibylla, Princess of Cleves 48
- Sichem (Shechem) 123
- Sicily 33, 86, 193
- Siena 9, 71–95
- Antiporto di Camollia 75–6
 - Castelvecchio 72
 - Church of San Francesco 10, 83, 85, 89–91, 94
 - Martyrdom of the Franciscans* (Ambrogio Lorenzetti) 10, 83, 89, 91
 - Contado* 73
 - Franciscan Chapter Hall
 - Execution of the Minorite Friars in Tana, India* (Ambrogio Lorenzetti) 89, 91
 - Palazzo Pubblico 10, 83–4, 87, 89–90, 95
 - Good Government in the Countryside* (Ambrogio Lorenzetti) 10, 83–4, 87
 - Sala dei Nove 87–8 - Palazzo Salvani 75
 - Porta di Camollia 73–5, 77–9
 - Porta di Pescaia 75–6
 - Porta Pusterla 82
 - Porta Romana 72–6, 78–9, 83
 - Porta San Marco 72
 - Porta della Vergine, 75–6
 - San Lazzario di Terzole 75
 - Santa Maria dell'Assunta 81
 - Santa Maria della Scala 77
 - Spedale di Santa Croce 75
- Sigismund III, King of Poland 52
- Silk Road 88, 170
- Simonides of Ceos 128
- sinopia* 78–9
- Slavs and Slavic civilization 18, 83
- slaves and slavery 10, 40, 83, 86–7, 91, 150
- Sloane, Desmond 60
- Slotte, William 59
- Slough 59, 67
- Society of Antiquaries 145
- Solomon 98–101, 121
- Somme le roy* 103–4
- Southampton 148
- Southard, Edna Carter 87
- Southwark 67
- Spain 18–19, 53, 83, 177, 179, 189, 191, 194, 196
- speeds (of transport) 8, 31–3, 36
- sphere, universe as 116
- Spittalfields 67
- standardization 9–10, 28–9, 147, 177
- stereographic projection 182, 184, 188, 209
- stirrups 8
- “Stockholm Roll” 52
- Stonor 59, 67
- Stour, river 65–66
- Stowe, John 42, 44
- Strada Romana* 71
- Straits of Gibraltar 38
- Stratford-upon-Avon 66
- Striker, Cecil 94
- Sudbury 66
- Suffolk 55, 57, 65–6
- Suger, Abbot of St. Denis 135
- Sultanabad 202
- Sultan Yakoub 203
- Sumption, Jonathan 138
- sundials 187, 204
- surveying 169, 179, 208
- suspensions (of carts and wagons) 43–53
- Swanson, Robert N. 139
- Syracuse 34
- Syria 5, 93, 158, 160–61, 189
- Syriac language 189
- T-O diagrams 160
- tablet (navigational instrument) 178

- Tanaka, Hidemichi 88
 Taranto 159
 Tartars 86, 88, 92
 Tatershall Castle, Lincolnshire 60–61, 65
 Tetry 18
 Thames, river 65, 67, 145
 throne
 astrolabe component 185
 of God 80, 99
 of Solomon 98–101
 of Sultan 83–4
 of Virgin Mary 98–101
 Theodosius I, emperor 23–4
 Theodisius II, emperor 24
 Theon of Alexandria 189
 Thirtle, John
 Boatbuilder's Yard near the Cow Tower, Norwich (Norwich, Castle Museum) 66
 Thomas of Celano (Life of St. Francis) 93
 Thompson, Augustine 82, 133,
 “Three Living and the Three Dead” 104
 Tiber, river 161
 tides 65, 205
 tilt (carriage component) 44–7, 52
Timaeus (Plato) 115–6
 timekeeping 186–7, 209–10
 Tizio, Sigismondo 90
 topography 10, 74, 119
 Tortosa 158
 tourism 77, 137
 Tournai 22
 Tours 19, 23, 25
 tracks and trails 21
tractoria system 22, 24, 29
 transport revolution of 16th century 42, 53
Treatise on the Astrolabe (Chaucer) 181
 Tredington 66
 Tremeirchon 63
Très Riches Heures du Duc de Berry 120
 Trier 21
 trigonometry 185
Trinoda Necessitas, 24
 trireme, 9, 31, 35–9
 Trojans 150
 Tropics of Cancer, Capricorn 182
 di Tuccio, Bartolomeo 87
 Tunisia 33
 Tuscany 71, 77, 83, 86
 Tyers, Ian 131
 tympan (astrolabe component) 12, 182, 184,
 187, 191, 202
 Tyre 34
 Ugolino di Nerio 93
 Ukraine 86
 Ulugh Beg 202
 Ulysses 161
 Urban II, pope 4
urbanitas 73
urbes 20–22
 Ursa Minor 206
Ut pictora poesis 128
 “Uxor Loth” 129, 139, 141
 Valmarana, Nicolo 49
 Valois dynasty 98, 104, 110, 190
 Vaucelles 123
 Vaucluse 157–8
 Vegetius
 De re Militari 25
 vehicles 7, 9, 12, 28–9, 41–4, 46, 50–51, 53,
 57–8, 65, 203
 land vehicles
 for Carolingian military 17–31; *see also basternae, carra ad hostem*
 for English delivery of building
 supplies 55–67; *see also cart, wagon, wain*
 for late medieval aristocrats 41–53;
 see also carretta, carriage, chariot, coach, katchi wagen
 ships 8–9, 17, 31–41, 50, 56–7, 63, 66,
 161, 171–2, 176, 204–8
 see also ships and shipping
 Venice 5–6, 32–4, 38–9, 157, 164, 177
 Grand Canal 39
 San Marco 39, 72
 Vergil
 Aeneid 159
 Vesconte, Pietro 164
 Veste Coburg, Bavaria 48, 51
 Via Francigena 10, 71–6, 78–9, 83, 87, 89
 Viarii 71, 74
 Vibius Sequester 159
 Vienna 9, 51
 vignettes (on maps) 147
 Vikings 2, 8, 170
 Villard de Honnecourt, Portfolio 126
 Vincennes 103
 Vincent of Beauvais 108–9

- Virgin Mary 10, 71–2, 80–82, 98–9, 101–2, 138
 Marian devotion 72, 80–81
 Marian imagery 10, 72, 79
 as patron of Siena 72–4
 Regina Caeli 80, 82
- Visconti family 157–8
- Visigoths 19, 22
- Vitodurani, Johannes 92
- Vitruvius (Marcus Vitruvius Pollio) 121, 188
- de Vitry, Jacques 97
- de Voragine, Jacopo 79
- Wackernagel, R. H. 41
- wages 40, 57
- Waghenaer, Lucas Janz 179
- wagons 43, 46, 50, 57–8, 65–6
 kotchi wagen 50–51
- wains 57–8, 65
- Wales 63, 146–8, 150–53; *see also* Britain,
 British Isles
 North Wales 63–4
- Warefield, John 59
- Warwick
 St. Mary's Church
 Beauchamp Tomb 47–9
 effigy of Richard Beauchamp, Earl
 of Warwick 47–9
- Warwickshire 66
- Watts, Rob 154–5
- Wear, river 149
- Webb, Diana 77
- weddings 44, 47–51
- Welsh language 136–7
- Weltchronik* (Rudolph von Ems) 45
- Wensum, river 61, 65
- Westminster 45
- Westrem, Scott 134
- wheelbarrows 59
- wheels (of vehicles) 42–4, 47, 49–52, 57–9
- Wilbergh, Richard 62
- William, Lord Hastings 58
- William the Younger, Duke of Brunswick-
 Lüneburg 51
- Willyot, Thomas 62
- windmills 42
- windpower 8, 34, 171
- Winds (North, East, South, West) 116–7
- Windsor 67
- Witham, river 60, 65
- Wittelsbach Collection 41
- womb (astrolabe component) 182
- wonders 4, 127, 134, 161, 163
- woodcut 46, 50, 152
- World War I 60
- worship and worshippers 4, 6, 101–2, 106,
 109, 137; *see also* piety
- Wu Jing Zong Yao* 170
- xenophobia 4
- Xu Jing 171
- Yale University 152
- Yare, river 66
- York 145, 147–8, 154, 197
- Yorkshire 151
 Yorkshire East Riding 59
- Ypres 62
- Zaccaria, Benedetto 38
- Zacuto, Abraham 190
- zenith 177, 179, 182, 209–10
- Zeno, Carlo 34
- zodiac 164, 184, 210
- Zorsi, Alexander 177
- Zurich 45