

# ფიზიკური ანთროპოლოგია

## PHYSICAL ANTHROPOLOGY

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### **The Activities and Results of the Laboratory of Physical Anthropology at the Ca' Foscari University, Venice (Italy)**

Starting from 1998 with the first of a long series of cooperation works conducted together with the teaching of Medieval Archaeology, that is the excavation and study of the medieval cemetery of San Michele alla Verruca (Pi), up to date, the Laboratory of Physical Anthropology of our University directed by one of the Authors has been involved in a series of excavations of necropolises and cemeteries and in the study of the human remains dating back to Prehistory, Roman Age, Middle Ages and Modern Age, both in Italy and abroad (Syria, Sudan, Georgia, Armenia). Our studies and excavations have been conducted in cooperation with several other archaeological activities led by our Department of Studi Umanistici, mostly with the teaching of Medieval Archaeology by Prof. S. Gelichi, but also with History of the Ancient Near East (Prof. L. Milano), Archaeology of the Near East (Prof. E. Rova), Egyptology Prof. E. Ciampini), Classical Archaeology (Prof. D. Cottica), Maritime Archaeology (Prof. C. Beltrame), Etruscology and Italic Antiquities (Prof. Gambacurta). We also offer our expertise to private firms working in the archaeological field and to archaeological Superintendencies.

Human skeletal remains represent a unique occasion of study for those involved in archaeological research because from human bones, that are quite hard and resistant to putrefaction and diagenesis biological elements, we can obtain data on sex, age at death, physical characteristics, stature, metrics and morphometrics, medical procedures, stress markers and markers of occupational stress, discontinuous traits, dental and skeletal pathologies that help us to reconstruct demography, lifestyle and health patterns of ancient human populations offering us a direct (even if sometimes biased by several factors such as preservation and recovery strategies) and valuable insight in past human societies.<sup>1,2</sup>

The excavation of burial sites has to be led by highly specialized personnel trained both in human osteology and funerary archaeology in order to collect data on the burials' typology, give evaluations of the topographical extension and chronological

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<sup>1</sup> Bertoldi, *Determinazione di sesso ed età*.

<sup>2</sup> Bertoldi, *Lora, Indicatori ergonomici*.

Table 1. The human sample excavated and studied by our Laboratory

<b>SITE</b>	<b>Datation</b>	<b>Number of individuals</b>	<b>Adults</b>	<b>Juvenes</b>	<b>Males</b>	<b>Females</b>	<b>Undet Ad.</b>
Forli Celletta dei Passeri (FC)	Neolithic-Copper Age (IV-III millennium BC)	50	40	10	18	7	15
Tell Beydar (Syria)	Bronze Age (2500-2100 BC)	51	17	34	8	2	7
Doghauri (Georgia)	Kura Araxes and Late Bronze age	108	81	27	24	30	27
Hatsarat (Armenia)	Iron Age (XI-IXth century BC)	6	6		4	2	
Padova Via Tiepolo (PD)	Iron Age (IXth century)	16 cremations	12	4			
Modena Novi Sad	Roman Age (IIIrd century BC)	2	2		2		
Vidor (TV)	Roman Age (IVth century AD)	120: 62 cremations+58 burials	72	15			
Tezze (VI)	Roman Age (? . sporadic)	13	8	5			
Gebel Barkal (Sudan)	LA (II-Vth century AD)	21 (Museum)+1 mummy+2 (site)=24	20	4	11	8	1
Piazza Corrubio (VR)	LA (II-VIIIth century AD)	394 tombs (180 studied)	123	57	45	40	39
Baggiovara (MO)	LA (IV-Vth century AD)	20	12	8	8	4	

Andrazza (UD)	EMA (VII-XIth century AD)	53	46	7			
Comacchio, San Cassiano (FE)	EMA (VII-XIth century AD)	37	28	9	10	15	3
Jesolo (VE)	EMA (VII-XIth century AD)	65	31	34	11	18	2
Colle Garampo (FC)	EMA (VII-XIth century AD)	3	1	2	1		
Vicopisano, San Michele alla Verruca (PI)	LMA (XI-XIVth century AD)	184 (84 monks and 59 lays of both sexes)	176	8			
Castel San Pietro, San Pietro (BO)	LMA (XI-XIVth century AD)	177	137	40	56	48	33
Modena Novi Sad, Monastero dei Romitani (MO)	LMA (XI-XIVth century AD)	58	54	4	30	22	2
Formigine, San Bartolomeo (MO)	LMA (XI-XIVth century AD)	268	162	106	79	71	12

Continuation of Table 1

Nonantola 1, San Lorenzo (MO)	LMA (XI-XIVth century AD)	182	96	86	52	39	5
Nonantola Abbazia (MO) UTS 12 and 22	LMA (XI-XIVth century AD)	3	3		3		
Imola, San Francesco (BO)	LMA (XI-XIVth century AD)	131 tombs (90 studied)	58	32	23	23	12
Dogaletto, Monastero SS. Ilario e Benedetto (VE)	LMA (XI-XIVth century AD)	20	15	5	6	6	3
Comacchio, Villaggio S. Francesco (FE)	LMA (XI-XIVth century AD)	4	3	1		2	1
Santa Maria del Faro (RA)	LMA (XI-XIVth century AD)	232	211	21	112	65	34
San Giacomo in Paludo (VE)	LMA (XI-XIVth century AD)	3	3		3		
Bagazzano, S. Maria (MO)	LMA (XI-XIVth century AD)	11 (in course of study)	11				
Spilamberto, Ospedale (MO)	LMA (XI-XIVth century AD)	53	43	10	21	5	17
Imola, San Francesco Chiesa Superiore (BO)	REN-MOD (XV-XIXth century AD)	10: a mummy plus a multiple burial of 9	7	3	1	3	3
Comacchio, San Cassiano (FE)	REN-MOD (XV-XIXth century AD)	134	96	41	46	26	24
Mercure Vessel	1812 AD	7+ sparse remains	7		7		

LA: Late Antiquity; EMA: Early Middle Ages; LMA: Late Middle Ages; REN: Renaissance; MOD: Modern Age.

duration of the burial areas, of their intensity and continuity of use, draw relationships with habitation areas and ecclesiastical structures, reconstruct their internal organization and changes in time and record taphonomical data of the graves. These last such as the distinction between primary or secondary interments, reconstruction of the primary position of the skeletal elements (as for the skull from the observation the cervical ver-

tebrae), recognition of eventual disturbances have to be conducted directly on the site with accurate graphical and photographic records. This is the reason why we decided to dedicate part of our time to the organization of summer schools and courses on the sites in order to disseminate our knowledge also to students and personnel from other Universities and countries and obtaining enthusiastic feedbacks. Another field of interest is the reconstruction of burial areas and single graves and the presentation of our finds in museums and exhibitions.

The majority of our projects has been focused on Classical-Late Antiquity and Early and Late Middle Ages with a database of anthropological data that comprehends up to date more than 2200 subjects and constitutes a unique skeletal record in physical anthropology and paleopathology (Table 1).

The bulk of our materials comes from medieval cemeteries located in Emilia Romagna region (Modena Novi Sad,<sup>1,2</sup> Castel San Pietro,<sup>3</sup> Formigine,<sup>4,5,6,7,8,9,10</sup> Nonantola San Lorenzo,<sup>11,12,13,14,15,16,17,18,19</sup> Nonantola Abbazia,<sup>20</sup> Ravenna Santa Maria del Faro, Imola San Francesco,<sup>21</sup> Comacchio, Spilamberto<sup>22</sup>) and often connected to cathedrals, churches, parishes and pilgrims' hospitals-Spilamberto, with some cases in

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<sup>1</sup> Bertoldi, Penzo, Sisalli, *Studio paleobiologico*.

<sup>2</sup> Bertoldi, *Note antropologiche alle sepolture celtiche*.

<sup>3</sup> Bertoldi (et al.), *The XIVth century cemetery*.

<sup>4</sup> Bertoldi (et al.), *Paleopathological data*.

<sup>5</sup> Bertoldi (et al.), *Gli inumati*.

<sup>6</sup> Bertoldi (et al.), *Il cimitero della chiesa di San Bartolomeo*.

<sup>7</sup> Bertoldi, Grandi, *Archeologia di un abitato*.

<sup>8</sup> Bertoldi, *Lo studio antropologico e paleopatologico*.

<sup>9</sup> Gasparin (et al.), *Il cimitero*.

<sup>10</sup> Gelichi (et al.), *Il castello di Formigine*.

<sup>11</sup> Bertoldi (et al.), *The cemetery of Nonantola*.

<sup>12</sup> Bertoldi, Lora, *Lo scavo del cimitero*.

<sup>13</sup> Bertoldi (et al.), *Il campione sub-adulto*.

<sup>14</sup> Bertoldi, Librenti, *Nonantola 2*.

<sup>15</sup> Bertoldi, Lora, *Archeologia funeraria e antropologia*.

<sup>16</sup> Bertoldi (et al.), *Il campione adulto*.

<sup>17</sup> Bertoldi, Bullegato, *Il campione sub-adulto di Piazza Liberazione*.

<sup>18</sup> Bertoldi (et al.), *Analisi odontologica*.

<sup>19</sup> Bertoldi (et al.), *Il cimitero di San Lorenzo*.

<sup>20</sup> Bertoldi (et al.), *Seppellire nel monastero*.

<sup>21</sup> Gelichi (et al.), *Il convento di San Francesco*.

<sup>22</sup> Bertoldi, *I pellegrini*.

the Venetian lagoon area (San Giacomo in Paludo,<sup>1,2,3</sup> Dogaletto,<sup>4,5</sup> Jesolo<sup>6</sup>), Tuscany (Monastery of San Michele alla Verruca<sup>7,8,9</sup>) and Friuli (Andrazza,<sup>10</sup> Early Middle Ages, Lombard culture). The Iron Age vast incineration necropolises in Padua have been recently added to our sample (fig. 1) and a very large necropolis featured by several burial types has been brought to light in Piazza Corrubbio-Verona<sup>11</sup> and dated to Late Antiquity (fig. 2 a-d). The Laboratory has also been involved in the underwater excavation and recovery of the skeletons from the vessel *Mercure* sunk in 1812,<sup>12,13,14</sup> a unique case for the preservation of human remains from an underwater site (fig. 3). Our missions abroad saw us involved at the prehistoric sites of Tell Beydar (Syria),<sup>15,16,17,18,19</sup> Doghauri (Georgia)<sup>20,21</sup> where we recovered the largest human sample of Bronze Age, Hatsarat (Armenia)<sup>22</sup> and Gebel Barkal (Sudan) working on skeletal and mummified human remains.

While the majority of burials (fig. 4) consisted in primary, single depositions in the ground (with the exception of the Piazza Corrubbio necropolis, Modena Novi Sad, Santa Maria del Faro, Nonantola Abbazia and S. Michele alla Verruca, that feature many different burial typologies at the same site), we encountered sometimes other grave typologies and extremely peculiar funerary contexts. Putting aside the rite of cremation and secondary burial of the remains (Padova, Vidor) that is common in classical

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<sup>1</sup> Bertoldi, Lora, *I resti umani*.

<sup>2</sup> Bertoldi, *I custodi*.

<sup>3</sup> Bertoldi, Sisalli, *Le sepolture di San Giacomo*.

<sup>4</sup> Bertoldi (et al.), *Taphonomic and paleobiological preliminary notes*.

<sup>5</sup> Bertoldi, Rasia, *Lo scavo e lo studio dei reperti osteologici*.

<sup>6</sup> Bertoldi, Rasia, Sisalli, *Un cimitero sulle case*.

<sup>7</sup> Bertoldi, *Note Antropologiche*.

<sup>8</sup> Bertoldi (et al.), *Pathologies and stress markers*.

<sup>9</sup> Bertoldi, Giacomello, *Analisi paleobiologica e paleopatologica*.

<sup>10</sup> Bertoldi (et al.), *The early middle age burials*.

<sup>11</sup> Cottica (et al.), *Le attività di scavo*.

<sup>12</sup> Bertoldi, *Appendice*.

<sup>13</sup> Bertoldi, Beltrame, Sisalli, *Human skeletal remains*.

<sup>14</sup> Bertoldi (et al.), *Osteological analysis of the crew*.

<sup>15</sup> Bertoldi, Rova, Milano, *Le sepolture di Tell Beydar*.

<sup>16</sup> Bertoldi (et al.), *Paleonutritional evidence*.

<sup>17</sup> Bertoldi, *The human skeletal remains*.

<sup>18</sup> Milano, Bertoldi, *Paleonutrition and food*.

<sup>19</sup> Molleson, Liversidge, Bertoldi, *Report*.

<sup>20</sup> Bertoldi (et al.), *The Human Remains from Doghauri*.

<sup>21</sup> Rasia (et al.), *Bronze Age burials*.

<sup>22</sup> Bertoldi (et al.), *The Human Remains from the Collective*.

and prehistoric age, facing double (fig. 5) or even multiple or collective burials (fig. 6) of skeletal remains happens quite frequently (and it is therefore important to establish if the graves are contemporary or not and if they have been re-opened and used as family burials and ossuaries as the stone coffins of San Michele alla Verruca, with the presence of several non-contemporary adult burials (fig. 7 a-b) and that of a mother and a child (fig. 8), the family grave of early middle Ages at the site of Andrazza (fig. 9) and the contemporary interments of adults and children at S. Ilario-Dogaletto (fig. 10 a and b) probably due to a plague episode. At the Early Middle Ages site of Comacchio (FE) the high occurrence of specific discontinuous traits in a cluster of burials points to the genetic proximity of several subjects buried in a dedicated area of the cemetery. At the church of Imola San Francesco the activity of rearrangement of bones and replacement of various skeletal elements (not exactly in their correct anatomical position) of a multiple burial by the undertakers is clear and visible (fig. 11) as we have to record the unique presence of a natural mummy with a precious garment and soft tissues biological evidence (fig. 12). Cases of “reductions” of earlier interments in the same burial space are quite common (fig. 13), as tombs that are often cut (fig. 14) or rearranged to make space for others.

The orientation of the graves become peculiar in the Christian era with the canonical W-E alignment while the ordinary position of the head as indicated by the cervical vertebrae (fig. 15) and of the upper and lower limbs is extremely variant and not really depending on any identifiable factor such as sex or age of the subject.

While we could not trace any real difference between funerary habits connected to the sex of the deceased we have to notice a certain variety in the treatment and disposal of children, that is neonates, perinates, infants and older subjects. Children burials in Late Antiquity and Middle Ages are sometimes placed around the apse of a church (as in the case of San Bartolomeo church in Formigine- fig. 16) or along a wall (as in San Lorenzo – Nonantola) if the subjects are neonates or perinates, while sometimes they are buried with an adult, male or female and placed on its lower limbs (fig. 17) and eventually they are protected under a roof tile in single burials (fig. 18); in Classical age, Late antiquity and Early Middle Ages they are rarely buried in amphorae with the rite named “*enchytrismos*” (Jesolo and Colle Garampo represent two occurrences<sup>1</sup>). Two cases of pregnant women died with the fetuses still in the womb have been also documented from the site of Formigine and one was pregnant with twins (graves 222 and 244-fig. 19).

Wood coffins were occasionally used as it was shown by the presence of metal nails arranged in a row, traces of the wood container (in the two cases from Imola Chiesa Superiore two whole coffins without their lids have been brought to light)

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<sup>1</sup> Bertoldi, Gasparin, Sisalli, *Le sepolture di V-VI secolo*.

and the appearance of the skeleton itself as decomposed in an originary empty space, as archaeologically documented is the use of a shroud (extreme constriction of the clavicles, reduction of the distance between the humeral heads, constriction of the rib cage) or ligatures (fig. 20) keeping the knees and arms together in one case with a metal clasp (San Giacomo in Paludo). Funerary pillows were both of perishable materials and they appear only from the positions of the skull on its basal norma, as they were often made with a brick or stone (fig. 21 a and b). External grave markers appeared in few cases as a *tumulus* still visible on the ground or a stone grave marker as in Formigine (fig. 22) and Dogaletto, while no wood markers have been found but should have been common in the past as crosses, poles... At the site of Formigine we were able to reconstruct the reuse of the same roof tiles from “*cappuccina*” older graves that were shifted from one tomb to the other and re-employed during time.

Proper grave goods as pottery, weapons (as the magnificent copper daggers of Cellette dei Passeri<sup>1,2</sup> or the bronze grave goods of Tell Beydar and Doghlauri-fig. 23 a-c), animal offers that are present in prehistoric and protostoric graves and during classical age, have not been recorded in Middle Ages when we often noticed only the presence of metallic parts of the clothes (buttons, pins, clasps, buckles) and objects of adornment (rings, ear rings) or religious devotion (lignite rosaries and scallop shells hanging from a stick or sewn into a hat as a sign of the pilgrimage at Santiago de Compostela, an infant Jesus made of pottery or an oyster shell on the chest-fig. 24 a-f). A unique case is represented for Late antiquity by the necropolis of Baggiovara (MO) with the evidence of both ritual mutilation of the corpse of an adult and the presence of sacrificed toad remains in a child burial.<sup>3,4</sup>

About demography we can immediately notice that in cemeteries that appear as demographically representative of a pre-industrial community, that is the large majority of those that have been analysed, the percentage of juveniles on the total ranges between 30 % and 50 % of the buried subjects with a fairly equal representation of adult males and females (Jesolo, Formigine, Imola, Dogaletto, Castel San Pietro and Nonantola represent very well these features during Middle Ages). Children mortality rates show a peak around birth and around 2-3 years of age due to the risks connected to birth and most probably to delayed weaning after a prolonged breastfeeding. Female adult mortality also shows a marked and common peak at reproductive age around 20-30 years while males seem to reach generally older ages.

Of course we can record notable and peculiar distinctions when cemeteries do not represent the real composition of a past society but a selected sample of population.

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<sup>1</sup> Bertoldi (et al.), *The eneolithic necropolis*.

<sup>2</sup> Bertoldi (et al.), *La necropoli eneolitica*.

<sup>3</sup> Bertoldi, *Analisi paleobiologica del gruppo di inumati*.

<sup>4</sup> Labate (et al.), *Le tombe 8 e 13*.



Selected by sex as the case of the monastic cemeteries of San Michele alla Verruca (PI) and Nonantola Abbazia (MO), where the majority of the population is represented by adult males or among the skeletons of the sailors embarked on the *Mercure* vessel, or by age as Santa Maria del Faro (RA) where few children have been found or among the domestic burials of perinates and infants at Tell Beydar (Syria) and in the sample of Nonantola 2 where a huge percentage of non-adults burials was present in close proximity to the church's wall, that is their dedicated area.

The practice of cutting, reopening and reduction of earlier burials in densely exploited cemeteries results in a higher percentage of undetermined individuals (as in Piazza Corrubio, Castel San Pietro, Santa Maria del Faro and Comacchio Late Phase) given that they lack diagnostic skeletal parts for sex and age diagnosis thus giving a more uncomplete picture of paleodemographical data with a large percentage of unsexed individuals. The difficulties of precise age determination for adults and senile subjects have been recently overcome by a systematic application of more precise techniques of age determination by radiographic Cameriere method<sup>1</sup> that helped used to refine our traditional anthropological ones. An adequate recovery and treatment of non-adult remains by trained specialists can overcome most of the problems connected to the fragility and smallness of these remains starting even from foetal age. For a better evaluation of the health status and growth patterns of juveniles we record a full set of measurements other the mere diaphyseal lengths including circumferences and thicknesses of diaphyses and metaphyses of non-fully developed bones.<sup>2</sup>

Our human skeletal sample for the number of subjects, the precise and well-defined archaeological context of provenance and its chronological and geographical extension represents a unique chance to collect data on a number of cases that have been extensively analysed, building an impressive database on human remains and burial archaeology and offering a very useful comparison sample.<sup>3,4</sup>

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<sup>1</sup> De Luca (et al.), *Age estimation by tooth*.

<sup>2</sup> Micheletti Cremasco, Boccone, *Evaluation*.

<sup>3</sup> Bertoldi, *Un progetto di ricerca*.

<sup>4</sup> Bertoldi, Lora, *Un progetto*.

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## ფრანჩესკა ბერტოლდი, პიერა ალევრა რასია

### ვენეციის (იტალია) კა' ფოსკარის უნივერსიტეტის ფიზიკური ანთროპოლოგიის ლაბორატორიის საქმიანობა და შედეგები

#### რეზიუმე

ნაშრომში წარმოდგენილია კა' ფოსკარის უნივერსიტეტის ფიზიკური ანთროპოლოგიის ლაბორატორიის საქმიანობა იტალიაში და მის ფარგლებს გარეთ (სირია, სუდანი, საქართველო და სომხეთი) 1998 წლიდან დღემდე. ამჟამად ჩვენ ხელთაა სხვადასხვა არქეოლოგიურ ძეგლზე მოპოვებული 2000-ზე მეტი პალეობიოლოგიური ნიმუში, პრეისტორიული ხანიდან მოყოლებული თანამედროვე ეპოქის ჩათვლით. ყველა ნიმუში გაანალიზებულია ტაფონომიური, ანთროპოლოგიური, პალეოდემოგრაფიული და პალეოპათოლოგიური კუთხით და წარმოადგენს მონაცემებისა და ნიმუშების უნიკალურ კოლექციას. ამ ნიმუშების უმეტესი ნაწილი შუა საუკუნეების ეკლესიების, ტაძრების, მომლოცველთა საავადმყოფოების, მონასტრების და სააბატოების სასაფლაოებიდანაა აღებული. ჩვენ ასევე გვაქვს პრეისტორიული კრემაციისა და ინჰუმაციის ნიმუშები, რომაული და გვიანანტიკური ხანის ნეკროპოლისებიდან და თანამედროვე პერიოდში კატასტროფის შედეგად წყალში ჩაძირული გემებიდან მოპოვებული მასალა. ჩვენი კვლევის მიზანთა შორის ერთ-ერთი საკითხია პალეოპოპულაციაში ზრდასრულებისა და მოზარდების ასაკის განსაზღვრა ახალი, უფრო ზუსტი მეთოდების გამოყენებით. შუა საუკუნეების სასაფლაოებზე, რომლებიც კარგად წარმოაჩენს წარსული წინარეინდუსტრიული საზოგადოების დემოგრაფიას, დაკრძალულთა საერთო რაოდენობიდან ახალშობილთა, ჩვილთა და ბავშვთა პროცენტული მაჩვენებელი 30%-დან 50%-მდე მერყეობს, ხოლო გარდაცვლილი ზრდასრული მამაკაცებისა და ქალების რაოდენობა თითქმის თანაბარია. ჩვილთა სიკვდილიანობა პიკს აღწევს დაბადებისას და 2-დან 3 წლამდე ასაკში, რაც დაკავშირებულია ორსულობის, მშობიარობის და შესაძლოა, ხანგრძლივად ძუძუთი კვების რისკებთან. ზრდასრული ქალების სიკვდილიანობა ასევე მნიშვნელოვნად მაღალია 20-30 წლის ასაკში, ხოლო მამაკაცები, როგორც წესი, უფრო დიდხანს ცოცხლობენ. ადამიანის ჩონჩხის ნიმუშთა სიმრავლე, მათი წარმომავლობის არქეოლოგიური კონტექსტი, ქრონოლოგიური ჩარჩოები და განსახლების გეოგრაფია გვაძლევს უნიკალურ შესაძლებლობას მოვიპოვოთ მთელი რიგი ყოველმხრივ გაანალიზებული მონაცემები და შევქმნათ ადამიანის ძვლოვანი ნაშთებისა და სამაროვნის არქეოლოგიის მონაცემთა ბაზა, რაც შედარებისთვის საუკეთესო საშუალება იქნება.



tab. I



fig. 1



fig. 2a



fig. 2b



fig. 2c



fig. 2d



fig. 3



fig. 4

tab. II



fig 5a



fig 5b



fig 6

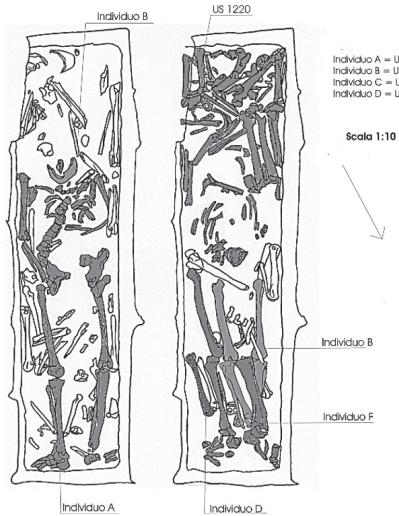


fig 7a

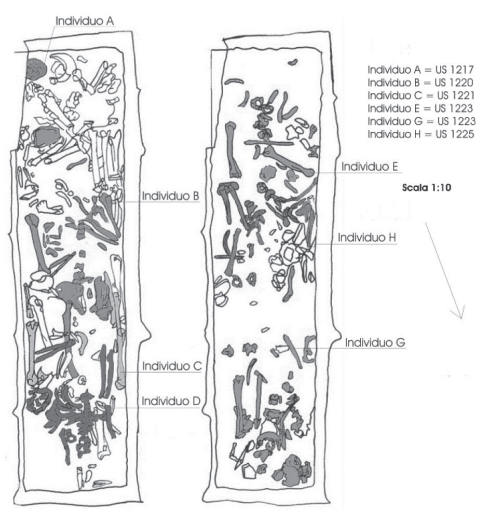


fig 7b

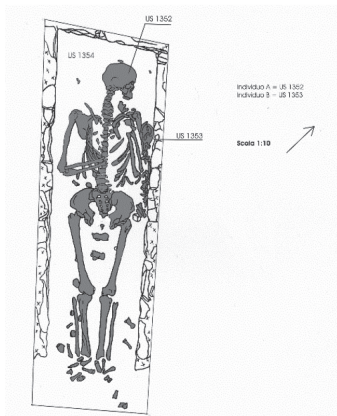


fig 8



fig 9



tab. III



fig. 10a



fig. 10b



fig. 11



fig. 12



fig. 13



fig. 14



fig. 15



fig. 16

tab. IV



fig. 17

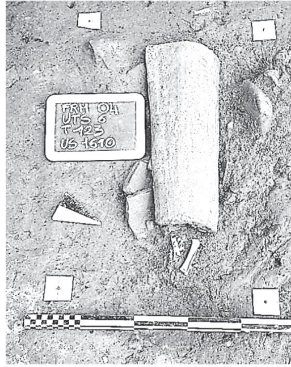


fig. 18

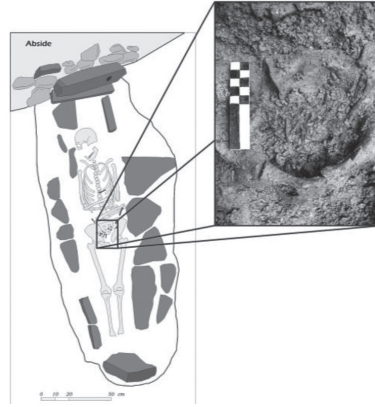


fig. 19



fig. 20



fig. 21a



fig. 21b



fig. 22



fig. 23a



tab. V



fig. 23b



fig. 23c



fig. 24a

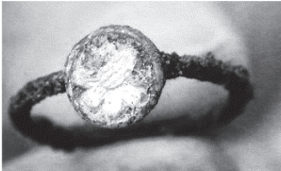


fig. 24b



fig. 24c



fig. 24d



fig. 24e



fig. 24f

## **Description of Illustrations:**

Fig. 1. Several funerary urns dating to Iron age found in Padova.

Fig. 2 a-c. The necropolis of Piazza Corrubbio (VR) is featured by many types of graves and funerary contexts such as burials in amphorae for adults and children, cappuccina graves and single and multiple stone coffins.

Fig. 3. The shipwreck of the brig *Mercure* with the human casualties killed during the battle of Grado in 1812.

Fig. 4. A single primary burial dug in the ground (Formigine-MO).

Fig. 5 a and b. Two double and contemporary burials from Formigine (MO) and a non-contemporary one from Santa Maria del Faro (Ra) as it is shown by the relationships among anatomical connections.

Fig. 6. A collective burial from Formigine (MO).

Fig. 7 a and b. The phases of excavation of a collective burial in stone coffin from San Michele alla Verruca (PI) in which every single subject is drawn in different colours. The upper part of the tomb is used as an ossuary.

Fig. 8. Grave of an adult female and a neonate died and buried several weeks before from San Michele alla Verruca (PI).

Fig. 9. Andrazza (UD): collective burial of Lombard age.

Fig. 10 a and b. Tomb 12 from S. Ilario-Dogaletto (VE) and its reconstruction (drawing by P. A. Rasia). The grave marked by a stone slab is the contemporary burial of two adults and two children died most probably during a plague episode.

Fig. 11. Imola San Francesco-Chiesa Superiore. A burial in a wood coffin and several others sometimes rearranged while non respecting the correct anatomical position.

Fig. 12. A natural mummy from Imola San Francesco-Chiesa Superiore buried in a wood coffin in which we can notice the laced garment and the peculiar spiral ligatures of the body.

Fig. 13. The practice of reduction of previously interred bodies in a tomb from Formigine-San Bartolomeo (MO).

Fig. 14. A tomb cut by the later excavation of another grave from Nonantola-San Lorenzo (MO).

Fig. 15. The original position of the head can be reconstructed only through the careful observation of the cervical vertebrae.

Fig. 16. Neonates buried along the church's apse in Formigine-San Bartolomeo (MO).

Fig. 17. Children were sometimes buried together with a male or female adult on their lower limbs (Formigine-San Bartolomeo).

Fig. 18. Roof tiles were often employed to protect small children's burials (Formigine-San Bartolomeo).

Fig. 19. One of the two burials of pregnant women found in Formigine-San Bartolomeo (MO).

Fig. 20. A burial from Nonantola-San Lorenzo showed the practice of ligatures and constriction of lower limbs.

Fig. 21 a and b. Comacchio-San Cassiano and S. Ilario-Dogaletto: evidence of a funerary pillow made with a brick or a stone.

Fig. 22. A grave marked with a stone in Formigine-San Bartolomeo (MO).

Fig. 23 a, b, c. Evidence of rich grave goods in Cellette dei Passeri (RA), Tell Beydar (Syria) and Doghlauri (Georgia) during prehistory.

Fig. 24 a-f. Evidence of objects found in Middle age cemeteries: buttons, rings, lignite rosary beads, scallop shells, clay infant Jesus and an oyster shell.