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‘Child Labour’ and Law in Ancient Rome. A New Approach to Research?



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ABSTRACT

‘Child Labour’ and Law in Ancient Rome

The aim of paper is to present an initial, absolutely provisional, assessment of the legal regulation of what, in modern terminology, we have called ‘child labour’. The point of view is that of the legal historian, but in an interdisciplinary perspective it can also assume relevance in the medical sphere, as it allows us to better focus on certain aspects, referring in particular to the conditions of psycho-physical stress of children and adolescents engaged in work activities, which can then be reflected in bio-archaeological analyses. More precisely, the aim of this paper is to submit to scholars working on these themes the proposal to extend research to a hitherto unexamined sphere that, on the basis of the testimonies of the ancient sources, we can define as ‘work for the gods’, meticulously regulated by law.

Keywords: Child labour - Roman Law - Vestals - *Flamen Dialis*

1. For a study of ‘child labour’ in ancient Rome. The contribution of law

The aim of these pages is to present an initial, absolutely provisional, assessment of the legal regulation of what, in modern terminology, we have called ‘child labour’¹. The point of view, in fact, is that of the legal historian, but in an interdisciplinary perspective, which is the one that characterises this research, it can also assume relevance in the medical sphere, as it allows us to better focus on certain aspects, referring in particular to the conditions of psycho-physical stress of children and adolescents engaged in work activities, which can then be reflected in bio-archaeological analyses. More precisely, the aim of this contribution is to submit to scholars working on these themes the proposal to extend research to a hitherto unexamined sphere that, on the basis of the testimonies of the ancient sources, we can define as ‘work for the gods’², meticulously regulated by law³.

The tasks entrusted to the priest-children (*sacerdotes-pueri*) are considered to be on a par with all other work activities, as can be deduced from the testimony of the ancient sources⁴ that use the same terminology to indicate this work as all other work activities: *labor, facere, opera, operam dare*⁵. The difference lies in the purpose of ‘work for the gods’, which is not the enrichment of the individual, but the public worship of Rome’s oldest and most important deities, Vesta and Jupiter.

Specifically, we will examine the vestal and *flamen Dialis* priesthoods, which, as we will see, share many common elements, starting with their origin, which predates the very birth of Rome⁶. On the other hand, we reserve the right to deal elsewhere with the duties and legal status of other *pueri* engaged in the performance of the ‘work for the gods’, such as the *camilli* and *tutulatae*, with respect to whom we have fewer sources and who require a very in-depth study, due to the links that these subjects, defined as *ministri/ministrae deorum/dearum*⁷, have, on the one hand, with the Greek religion and, on the other, with the Etruscan one⁸.

But before going into the merits of the research, it is important to dwell on a fact that emerged in many of the papers presented at this conference: namely the absence of a specific terminology that unambiguously defines, in terms of age, non-adult individuals⁹.

It is interesting to note how this vagueness also characterises law. The ancient authors in referring to the work performed by non-adult individuals¹⁰ use a rather generic definition, which is moreover substantially superimposable, in terms of age range, to that of today. They use the term *puer*, which already in archaic law indicates males and females¹¹, from birth to the age of seventeen or eighteen¹². The use of a single term to define a heterogeneous group of individuals, irrespective of gender and family ties, leads to the assumption that, for the pre-civic community, the socially and legally relevant fact was not having reached adulthood¹³. From the point of view of criminal responsibility, on the other hand, the distinction between pubescent and impubescent

has been relevant since fairly ancient times¹⁴, where, as is well known, originally the ascertainment of this physical condition took place on a case-by-case basis, by means of an *inspectio corporis*, and was subsequently set by jurists at fourteen for males and twelve for females¹⁵.

As has already been noted in other essays, archaic law recognises *puer* as having full legal subjectivity¹⁶. This is testified not only by the rules of *ius divinum*, on which we shall focus in the second part of this contribution in relation, in particular, to the obligations imposed on the *flamen Dialis*, but also by those of *ius humanum*, which are only partly the object of investigation here, but which are nevertheless important in order to better focus on certain aspects of a fundamental institution such as *patria potestas*¹⁷. This power allows the *pater* to economically exploit his children as a labour force to be used in his own activities or to rent them out to others, against payment of a fee, which is his responsibility and in the absence of any protection in favour of the children. In this respect, as we shall see, the *fili familias* are in fact equated with slaves.

2. The work of *pueri* according to *ius humanum*

Pueri, employed in labour activities from a very young age, could be free or slaves. The institution of slavery, which, as Gaius states, is of *ius gentium*, since it was widespread in many ancient civilisations¹⁸, indicates not only a precise legal qualification but, at the same time, reveals the profound difference between Roman society and ours. The way of life of slaves is not homogeneous: the more burdensome is the condition of those engaged in productive work, the less burdensome is that of the slaves in charge of domestic work or administration, who participate, in some cases, in the welfare of their masters, who belong to the ruling classes¹⁹. Slaves are considered *res*, more precisely they are called *instrumenta vocalia*²⁰. The qualification of slaves as means of production implies that their persons, their bodies, their very existences are indistinguishable from the labour skills and works they produce²¹. Slaves do not sell anything in their name; they have no bargaining power over those who profit from them. Slaves may manage assets separate from that of the *dominus (peculium)*, but the acts they perform produce effects only within the legal sphere of the free person²². *Fili familias* legally belong to the category of freemen, but in fact, their condition is not very dissimilar to that of slaves²³. The *patria potestas* attributes to the *pater* the *ius vendendi*, the right to sell the son to make a profit; the *noxae deditio*, the right to cede the offending son to the injured party so that he does not have to pay compensation for the damage at his own expense; the *ius vitae ac necis*, the power of correction that goes so far as to provide, in the most serious cases, the possibility of putting the son to death²⁴. These powers are identical to those the *dominus* has over slaves²⁵.

There are multiple testimonies of the employment of children, whether free or slaves²⁶, in labour activities²⁷. The ancient sources, and in particular the treatises *De agri cul-*

tura, document the active participation of *pueri* and *puellae* in all the different phases of harvesting²⁸ and processing the produce of the estate²⁹. *Pueri* and *puellae*, due to their small size and agility, lead their livestock, in particular sheep and goats, to pasture³⁰. Varro points out that some paths, very narrow and impervious, are only passable by children. The working hours are very long, from dawn to dusk, and coincide with the times of the animals' *pastio*³¹.

That this type of work activity was widespread is very clearly demonstrated by a rule in the Twelve Tables, which punishes the nocturnal grazing of animals on someone else's cultivated land and the harvesting, always at night and therefore by stealth, of the products of someone else's land. The punishment differs depending on whether the *puer* is pubescent, and therefore it is assumed that he has deliberately engaged in unlawful conduct, or impubescent, whose conduct is assessed less severely because he may not yet be fully aware of the consequences of his actions due to his age. In the first case, the offender is sentenced to death: he is tied to a sterile tree (*suspensio*) and left to die³². The deity to whom he is consecrated is Ceres, because by secretly gathering other people's harvests, he has prevented the owner of the land from offering the first fruits to the deity³³.

Tab. XII.9: *frugem quidem aratro quaesitam furtim noctu pavisse ac secuisse puberi XII tabulis capital erat, suspensumque Cereri necari iubebant gravius quam in homicidio convictum, inpubem praetoris arbitrato verberari noxiamve duplionemve decerni.*

“Indeed the Twelve Tables made pasturing animals by stealth at night on crops grown under the plough, or cutting it, a capital offence for a adult, and enacted that a person found guilty of it should be executed by hanging, in reparation to Ceres, a heavier punishment than in a conviction for homicide; while a minor was be flogged at the discretion of the *praetor* or sentenced to pay the amount of the damage or twice that amount³⁴.

The *pueri* are employed in the various activities that take place in artisan workshops, both in those tasks that are not too heavy but require a certain amount of skill and experience, such as mixing colours to obtain the desired shade³⁵, and in those that are physically heavier, such as moving the lathe³⁶. Children and adolescents then work in particularly unhealthy contexts, as in the widely documented case of fullonics³⁷, and in the purging and maintenance of *cloacae*³⁸. The spread of the phenomenon is confirmed by the precise and meticulous regulation of the most risky activities, especially with regard to liability and compensation for damages³⁹. Jurisprudence does not consider a seller, who has sold a slave assigned to purging sewers but has not immediately handed him over to the buyer, who has already paid the price, to be in default if the slave in the performance of his task, which consists of purging the sewer, has broken his leg. The connecting tunnels (*cloacae*), which, as archaeological excavations have shown, are long and particularly narrow and therefore require, in addition to specific skill, a particularly petite physical structure combined with great agility⁴⁰. Moreover,

as Ulpianus points out well, it is slaves at a young age who are bought and sold, to the point that the jurist states that *pueros* is the term used to indicate *omnes servos*⁴¹.

3. The work of *pueri* according to *ius divinum*

3.1 The Vestals

The priestesses in charge of the cult of Vesta are called *Virgines Vestales*⁴², a name that emphasises the two essential characteristics of the priesthood: female gender and chastity. The virgins destined to attend the public cult of the goddess are chosen from among girls of patrician rank, aged between six and ten⁴³, whose parents are both living and married according to the ancient rite of *confarreatio*⁴⁴. Vestal girls must be good-looking and have no hearing or speech defects⁴⁵ or other physical defects⁴⁶. Entry into the priesthood is by means of the *captio* exercised first by the rex and then by the *pontifex maximus*⁴⁷. Following this act, the chosen one officially assumes the priesthood and enters the *Atrium Vestae*, the seat of the college, located next to the temple of Vesta, where she lives together with her companions⁴⁸. The duties to which the virgins must attend, only in part, as scholarship has pointed out, coincide with those of the *materfamilias* and this very fact has led most scholars to rule out the existence of a derivative relationship between the Latin cult of Vesta and the Greek cult of Hestia⁴⁹. From this point of view, two data appear most relevant: the age of the priestesses; elderly and experienced women in the case of the cult of Hestia, children in that of Vesta; the nature of the cult, which in Greece is both public and private, while in Rome it is only public⁵⁰. The tasks the Vestal Virgins have to perform are multiple and are all marked by a great responsibility that has significant and inevitable repercussions in terms of psycho-physical stress. The priestesses must ensure that in the public hearth, the fire, a guarantee for the survival of Rome and its citizens, is never extinguished⁵¹. This continuous surveillance activity, to protect the *ignis inextinctus*, proves psychologically and physically very taxing, since the priestesses are originally four and later six. Consequently, the shifts of vigilance are long and the rest breaks short⁵². If the extinguishing of the fire is caused by negligence, the vestal on duty is led to a dark place and flogged by the *pontifex maximus*⁵³; if, on the other hand, the fire goes out without a cause, this is considered a terrible *omen*, as it makes it manifest that the vestal on duty has lost her virginity and consequently divine wrath will fall upon the city and its inhabitants⁵⁴. This nefarious act can therefore only be atoned for through the elimination of the culprit⁵⁵ and the rekindling of the fire, which takes place according to a precise ritual⁵⁶.

Another very important task relates to the preparation of the *mola salsa*, a mixture of water, flour and salt, used to sprinkle the victims destined for sacrifice⁵⁷. This is a complex task that engages the vestals for several days and consists of distinct work activities that require effort and skill, as Cicero also states⁵⁸: harvesting, roasting and

grinding⁵⁹. In fact, we know from other sources that the vestal college is the owner of several estates used for cultivation⁶⁰.

Serv. in Verg. Buc. 8.82: virgines Vestales ex nonis Maiis ad pridie idus Maias alternis diebus spicas adreas in corbibus messuari isponunt easque spicas ipsae virgines torrent, pinsunt, molunt atque ita molitum condunt. ex eo farre virgines ter in anno molam faciunt, Lupercalibus, Vestalibus, idibus septembribus, adiecto sale cocto et sale duro.

The virgins are then engaged in the celebration of *sacra publica* in honour of the goddess, the *Vestalia*, aimed at invoking the divinity's protection over the harvests⁶¹ and *sacra pro populo Romano Quiritibus*, a formula that reveals the antiquity of such ceremonies, to be correlated with the birth of the city, or even, as has been hypothesised, of pre-civic origin⁶². Vestals also participate in solemn celebrations officiated by other priests⁶³.

As the sources point out, it is the responsibility of these young priestesses to slit the throats of the animal victims destined for sacrifice with the sacrificial knife, the *cultrum*.

Fest. verb. sign. s.v. Secespita, 472 L: Secespitam esse Antistius Labeo ait cultrum ferreum, oblungum, manubrio eburneo rotundo, solido, vincto ad capulum argento aureoque, fixum clavis aeneis, aere Cyprio, quo flamines, flaminicae, virgines, ponteficesque ad sacrificia utuntur.

The tasks performed by the vestals also included *stercoratio*⁶⁴, the solemn cleansing of the temple, which took place on a predetermined day, indicated in the calendar.

3.2 The *flamen Dialis*

Like the vestal, the *flamen Dialis* also entered the priesthood following the *captio*, an act that sanctioned the individual's departure from the family to which he or she belonged and the passage to the status of subject *sui iuris*, without undergoing any *capitis deminutio*⁶⁵.

The origin of this priesthood, which was also held by *pueri*⁶⁶, is obscure and very ancient, as Varro notes⁶⁷. The *flamen Dialis* must be of patrician status⁶⁸ and born of parents married with the solemn rite of the *confarreatio*⁶⁹. Compared to the vestal, who as a rule begins the priesthood at the age of six, the flamen is chosen from among young boys who have reached puberty, since a necessary condition for the exercise of his ministry is that he contract a solemn marriage⁷⁰. If the flamen's wife, the *flaminica*, who takes an active part in the sacred rites together with her husband, dies, the flamen immediately ceases from the priesthood⁷¹.

As doctrine has amply pointed out, this is a very ancient institution, dating back to the pre-civic age and to be correlated, as with the Vestal Virgins, with the political and socio-cultural reality of the *curiae* and the more ancient religion founded on the divine triad of Jupiter, Mars and Quirinus⁷². The term *flamen*, which Dumézil juxtaposes with the Sanskrit brahman, would derive, according to the ancients, from the white wool

bandage, the *filum* or *filamen*, that descends from the characteristic pointed headdress (*apex*)⁷³. The *flamini* are priests specialised in the worship of a single deity: *Divisque aliis sacerdotes, omnibus pontifices, singulis flamines sunt*. “For some deities there are some priests, for all the pontiffs, for only some the *flamini*”⁷⁴. All three major *flamines* have the privilege of having *calatores* in their service, but the *Dialis* is the only one to whom certain important rights are granted: participation in the meetings of the assembly of *patres*, the right to use the chariot and to be escorted by the *lictor*, the latter two whom he shares with the *vestal virgins*⁷⁵.

This priest must perform specific activities and respect a multiplicity of prohibitions that have a very strong impact in terms of psycho-physical stress, since the salvation of the community, founded on the maintenance of the *pax deorum*, the bond of friendship between the community and the divinities, the only guarantee of survival for the *civitas*⁷⁶, depends on the *flamen*’s correct execution of actions and scrupulous observance of the prohibitions. It is up to Jupiter’s *flamen* to carry out the solemn *precationes* for the *salus* of the *populus Romanus*⁷⁷: during the *Vinalia* ceremony, after sacrificing a lamb to Jupiter, it is up to him to pluck the first bunch of grapes and then give orders to the *cives* to proceed with the harvest⁷⁸. This priest, according to the testimony of the jurist Gaius Ateius Capito, celebrates the solemn sacrifice of the pig, using, like the *vestals*, the ritual knife, the *cultrum*⁷⁹.

The priest of Jupiter shall not: sleep outside the city for more than one night⁸⁰; take an oath⁸¹; see the army in arms⁸²; use a mount⁸³; wear a ring, unless it is broken or open⁸⁴; accommodate in his house people with bound hands or feet⁸⁵; may not touch or name the goat, uncooked meat, ivy and broad beans⁸⁶; pass under vine shoots tied up⁸⁷; stand uncovered without a headdress⁸⁸; touch flour mixed with yeast⁸⁹; undress his ‘intimate’ tunic except in a covered place⁹⁰; enter the place where corpses are burnt or touch a dead person⁹¹, but may attend the funeral⁹².

In the *domus* of the *flamen*, not unlike that of the *vestals*, there is a hearth that must always remain lit and it is only permitted to use the flame taken from it for the celebration of sacred rites⁹³.

The priest of Jupiter also has a number of obligations that add to the burden of life. The *flamen Dialis* must marry upon reaching puberty, around fourteen years of age, by means of the ancient ritual of the *confarreatio*⁹⁴; resign in the event of his wife’s death⁹⁵; have his hair cut only by a free man and bury cut hair⁹⁶ and nails under a fruit-bearing tree⁹⁷; not sleep in the same bed for no more than three nights⁹⁸; keep a container for sacrificial buns at the foot of the bed⁹⁹.

The observance of these prescriptions, which considerably limit the freedom of this child-priest, entails a condition of considerable and continuous psycho-physical stress, since, as mentioned above, failure to perform the tasks entrusted to him or failure to comply with the duties he is required to perform endangers the existence of the community and the *salus* of the *populus Romanus*.

4. *Pueri* ‘and work for the gods’. Some preliminary observations for a re-examination of ‘child labour’ in ancient Rome

The characteristics of these two priesthoods, held by girls and boys, show how, in the community of the origins, it is distinctions based on age and gender that are relevant on a socio-cultural and, consequently, on a juridical level¹⁰⁰.

In this respect, of particular interest are certain rules concerning the celebration of *sacra* by the *curiae*. Ancient sources agree in affirming the existence of rites and cults celebrated by non-adult individuals of both sexes. Dionysius of Halicarnassus, who cites an authoritative source such as Varro, author of the *Antiquitates divinarum*, writes:

Dion. Hal. 2.22.1: ἐπεὶ δὲ καὶ διὰ γυναικῶν ἔδει τινὰ ἱερά συντελεῖσθαι καὶ παίδων ἀμφιθαλῶν ἕτερα, ἵνα καιταῖα γένηται κατὰ τὸ κράτιστον, τάς τε γυναῖκας ἔταξε τῶν ἱερέων τοῖς ἑαυτῶν ἀνδράσι συνιεῖσθαι, καὶ εἴ τι μὴ θέμις ἦν ὑπ’ ὀργιάζεσθαι κατὰ νόμον τὸν ἐπιχώριον, ταύτας ἐπιτελεῖν καὶ παῖδας αὐτῶν τὰ καθήκοντα λειτουργεῖν: τοῖς δὲ ἄπαισιν ἐκ τῶν ἄλλων οἶκον τοὺς χαριστάτους καταλεγέντας ἐξ ἑκάστης φράτρας, κόρον καὶ κόρη, τὸν μὲν ἕως ἡβῆς ἐπὶ τοῖς ἱεροῖς, τὴν δὲ κόρη ὅσον ἂν ἦ χρόνον ἀγνῆ γάμων.

“And because some rites were to be performed by women, others by children whose fathers and mothers were living, to the end that these also might be administered in the best manner, he (scilicet *Romulus*) ordered that the wives of the priests should be associated with their husbands in the priesthood; and that in the case of any rites which men were forbidden by the law of the country to celebrate, their wives should perform them and their children should assist as their duties required; and that the priests who had no children should choose out of the other families of each *curia* the most beautiful boy and girl, the boy to assist in the rites till age of manhood, and the girl so long she remained married”¹⁰¹.

According to the law of the place, κατὰ νόμον τὸν ἐπιχώριον, - the historian explains - certain sacrifices must be officiated by παῖδας. Consequently, those who have no children within their *curia* choose from the other *curias* a boy and a girl to perform the sacred rites, one until puberty, the other until marriage. Dionysius then specifies that both the cults and the deities honoured are different for each *curia*, and that some of these were instituted as a consequence of the diarchy of *Romulus* and *Titus Tatius*¹⁰². This role that the *pueri* play in officiating the *sacra publica pro curis* leads one to believe that they are recognised as having full legal subjectivity. An important confirmation of this is precisely the two pre-civic priesthoods, both reserved for *pueri*, examined above. The vestal must be no younger than six years old and no older than ten¹⁰³, while the *flamen Dialis* is chosen from among young men who have reached puberty¹⁰⁴.

The rites and institutions through which *pueri* become *vestalis* and *flamen Dialis* respectively are of particular interest for our purposes. Both become priests, *vetusto more*¹⁰⁵, through the ancient rite of *captio*, which determines the subject’s exit from

the *patria potestas*, *sine emancipatione* and *sine capite deminutione*¹⁰⁶, so much so that Gaius, in describing the ways of extinguishing *patria potestas*, equates it to the death of the *pater familias*¹⁰⁷. The circumstance that the exit from *patria potestas* is not the consequence of a voluntary act of the person having power, such as *emancipatio*¹⁰⁸, together with the fact that there is no change of status in the legal condition of the subject, make it possible to hypothesise that these priesthods date back to a period in which the *familia proprio iure*, founded on the absorbing power of the father, had not yet taken on the value of “struttura fondante della comunità giuridica”¹⁰⁹.

The sovereignty of the *civitas* can only fully assert itself on condition that the political autonomy of the *gentes* is eliminated or at least significantly reduced¹¹⁰. *Patria potestas* was born with the city insofar as it was functional to the maintenance of the new social and political order resulting from the synecism of the ancient village communities into a larger community, the *urbs*. From this point of view, as the doctrine has well pointed out, the *proprio iure* family, due to the transient nature of *patria potestas*, appears much more compatible with the affirmation of a strong central power in the head of the king than the *gentes*. While in fact, on the death of the father, the family is dissolved and the sons become *patres* in their turn, giving rise to as many *familiae*, this does not happen for the gens: the new families will continue to belong to it. The process of disintegration of tribal and gentilitial bonds, which is fundamental to the transformation of ancient village communities into new and more complex forms of social and territorial organisation, is made possible thanks to the powers that archaic Roman law already attributed to the pater, the sole subject of full rights and holder of all legal and economic relations¹¹¹. Hence the affirmation of another distinction, destined to last for a long time, that between *sui iuris* and *alieni iuris*. The affirmation of this distinction also has considerable consequences with reference to the subject we are interested in.

With the exception of the vestals and the *flamen Dialis*, who retained their importance even within the new political-institutional order of the *civitas*, because they officiated in public cults, in the meaning proper to the adjective, which derives from *populus*, the other cults that were always celebrated by boys and girls for the *salus* of the individual *curiae* and not of the entire people lost their importance. *Camilli*¹¹² and *tutulati*¹¹³, which Dionysius always tells us about, have only an auxiliary function, their service to the deity is temporary and they remain in the condition of *alieni iuris* subjects, subject to their father’s *patria potestas*.

Even worse is the condition of the *fili familias* not destined to ‘work for the gods’ (*sacer labor*): in fact, they are equated with slaves and used by their father exclusively as labour power, without any protection.

Bibliography and notes

1. On the different concept of work in antiquity, see De Robertis FM, *Lavoro e lavoratori nel mondo romano*. Bari: Adriatica Editrice; 1963. p. 9 ff.
2. See § 3.1 and 3.2 below.
3. See § 3.1 and 3.2 below.
4. *Ex multis*: Plaut. *Curc.* 532, Liv. 1.20.3: *his (scl. virgines Vestae) ut adsiduae temple anti-sties essent stipendium de publico statuit...* Cic. *har. resp.* 37, Cic. *rep.* 2.8, 2.9, 2.12. Cf. also Liv. 25.7.9, Sen. *Dial.* 8.2.2, Dion. Hal. 2.65.2, 2.66.1, 2.67.2.
5. De Robertis FM, Ref. 1, pp. 11-17.
6. See below, § 4.
7. For the term *administra*, see Varr. *ling. Lat.* 7.34 and for the term *praeministri* see Serv. *Aen.* 11.543.
8. In this respect, particularly interesting is the testimony of Dion. Hal. 2.22.2.
9. Roggini M, D'avanzo M, Pepino D, Gobbi E, Aspetti radiografici di reperti scheletrici pediatrici risalenti al I-II sec. d.C. In: *Children in the History of Medicine. New intradisciplinary and transdisciplinary approaches to infantile disease, lifestyle and labour*. Rome; Sapienza University of Rome, 16/06/2022; Cintura F, Baldoni M, De Angelis F, Catalano P, Stasolla FR, Gazzaniga V, Rickards O, Martinez-Labarga C, He or she. The use of an integrated approach for sex determination in bioarcheological research. In: *Medicina nei Secoli* 2022;34(3):119-140; Panella S, Micarelli I, Paine R, Tafuri MA, Manzi G, *Analisi paleopatologica dei subadulti dalla necropoli della Selvicciola (Ischia di Catro, VT)*. In: *Children in the History of Medicine*.
10. See *supra*, note 9.
11. On the archaic nature of the term, whose etymology is unclear, see Prosdocimi AL, *Forme di lingua e contenuti istituzionali nella Roma delle origini*. I. Naples: Jovene; 2016. p. 133. Gell. *noct. Att.* 10.28.1 and Ulp. 2 *fidecomm.* D. 34.1.14.1 on which recently Brutti M, *Il diritto privato nell'antica Roma*. Torino: Giappichelli; 2015. p. 144.
12. Gell. *noct. Att.* 10, 28, 1 and Ulp. 2 *fidecomm.* D. 34.1.14.1 on which recently, Brutti M, *ibid.*, p. 144.
13. On this point Capogrossi Colognesi L, *Dalla tribù allo stato: le istituzioni dello stato cittadino*. Rome: La Sapienza Editrice; 1990. p. 23 ff., who points out how this situation seems to be reflected in the archaeological documentation from the necropolis of Osteria dell'Osa. This may explain why the feminine *puera* and the more recent *puella* have established themselves in the common lexicon in rather recent times and have not taken on a legal value. Cf. s.v. *Puer*. In: Ernout A, Meillet A, *Dictionnaire etymologique de la langue latine*. Paris: Klincksieck; 1951. p. 957.
14. See below, § 2.
15. In this respect, the linguistic history of *puer* is clearly distinguished from those of *filius familias* and *filia familias*, terms that indicate the subject even at a young age in relation to the position he has within the family. Cf. s.v. *Filius*. In: Ernout A, Meillet A, ref. 13, p. 234. In this case, the presence *ab origine* of the masculine and feminine signifies that the gender element is legally relevant. A very important confirmation in this regard is offered by the creation, in the indirect cases of the plural, of the form *filiabus*, functional to distinguish always and in all circumstances male sons from female daughters. Brutti M, ref. 11, pp. 147-149.

16. Faced with such a different social and legal conception of the individual at a young age, the doctrine has essentially followed two paths: denying historical reliability to the testimony of the sources; tracing the rules of *ius divinum* and *ius humanum* of the royal and republican ages that mention the *puer* within the *pater familias-filius familias* relationship. This thesis, which is the one followed by the majority of the doctrine, presents a series of difficulties that are hard to overcome, in the writer's opinion, starting with the terminological datum. The reference is, in particular, to two royal laws, the first issued by Romulus and Titus Tatius, and concerning the *nurus*, the second, attributed to Servius Tullius, has as its object the *peur*, responsible for acts of violence against *the parens*, the parent. If *puer* and *parens* must in fact be interpreted as father and son, it is unclear why the terms *pater* and *filius* were not used, as is, moreover, the case in the laws regulating relations between these two subjects since the royal age. (For such laws see Franciosi G (ed.), *Leges regiae*. Naples: Jovene; 2003. p. 45 ff.). Secondly, and this appears to be a much more relevant problem, it is necessary to explain why the *ius vitae ac necis* of the person having power does not apply to *alieni iuris* and young subjects, as in the case of *puer* and *nurus*.
17. On the subject, recently, Tassi Scandone E, *Familia, gens, civitas. All'origine della patria potestas*. In: Franchini L (ed.), *Armata sapientia. Scritti in onore di Francesco Paolo Casavola per i suoi novant'anni*. Naples: Editoriale Scientifica; 2020. pp. 897 ff.
18. Gai. 1.52.
19. Brutti M, Ref. 11, p. 124.
20. Varr. *re rust.* 1.17.1.
21. Brutti M, Ref. 11, p. 124.
22. Serrao F, *Impresa e responsabilità a Roma nell'età commerciale*. Pisa: Pacini; 1989. See also Petrucci A, *Mensam exercere. Studi sull'impresa finanziaria romana*. Naples: Jovene; 1991. Di Porto A, *Impresa collettiva e schiavo 'manager in Roma antica. (II sec. a.C - II d.C)*. Milan; Giuffrè; 1984. Id., *Filius, servus, e libertus. Strumenti dell'imprenditore romano*. In: Marrone M (ed.), *Imprenditorialità e diritto nell'esperienza storica (Erice 22-25 November 1988)*. Palermo: Arti Grafiche Siciliane; 1992. p. 231 ff. Id., *Il diritto commerciale romano. Una "zona d'ombra" nella storiografia romanistica e nelle riflessioni storici-comparative dei commercialisti*. In: *Nozione formazione e interpretazione del diritto dall'età romana alle esperienze moderne. Ricerche dedicate al Prof. Filippo Gallo, III*. Naples: Jovene; 1997. p. 413 ff.
23. Capogrossi Colognesi L, *La costruzione del diritto romano*. Bologna: Il Mulino; 2016. 36, 48 ff.
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27. For archaeological data, see Battistini A, Caldarini C, Catalano P, Di Giannantonio S, Pantano W, Zavaroni F, *The Work Done in Rome by Children and Adolescents: Hypothesis Based on the Anthropological Analysis of Three Suburban Necropolises of the Imperial Age*. *Medicina nei secoli* 2022;34(3):21-30.
28. Varr. *re rust.* 2.10.1.
29. Plin. *nat. hist.* 35.66.4, 35.66.5.

30. Varr. *res rust.* 2.10.1., 2.10.1.5, 2.10.1.7, 2.10.2.1.
31. Varr. *res rust.* 2.10.1: *eos cogere oportet in pastionem diem totum esse*. On particularly heavy hours, albeit with reference to adult labour, see already De Robertis FM, ref. 1, pp. 189-190.
32. Most probably under the blows of rods, as happens in the case of the *suspensio* all'*arbor infelix* of one accused of treason. Cf. Cantarella E, I supplizi capitali in Grecia e a Roma. Milan: Feltrinelli; 2011. p. 197 ff. Miglietta M, Le norme di diritto criminale. In: Corsi MF (ed.), *Le XII Tabulae*. Testo e commento, II. Naples: Jovene; 2018. pp. 495-497.
33. Miglietta M, *ibid.* p. 497.
34. Cf. Plin. *nat. hist.* 18.3.12. Pliny, *Natural History, V, Books 17-19*. In: Rackham H (translated by), Loeb Classical Library 371. Cambridge, MA: Harvard University Press; 1950.
35. Plin. *nat. hist.* 35.85.9, 35.86.1.
36. Plin. *nat. hist.* 36.90.3.
37. Plin. *nat. hist.* 35.143.2, 35.143.4.
38. D. 19.1.54.pr.
39. The law allows the use of slaves and men of free condition and even minors in the performance of activities dangerous to health, as in the case of fullonics or the purging of sewers. The case, dealt with by Labeo, of the sale of the sewer maintenance slave who breaks his leg when descending into the sewer pipe to purge it is emblematic. The jurist asks whether the seller, after the conclusion of the contract but before the delivery of the slave, is liable to the buyer. Such liability is excluded, because the slave is purchased to perform the task in which he is specialised. Since the accident occurred in the course of performing the ordinary task of emptying the sewer, for which it was necessary to descend into the pipe, the seller could not have been held liable. See Lab. 2 *pith.* D. 19.1.54 pr.
40. Palombi D, Receptaculum omnium purgamentorum (Liv. 1, 56, 2). Cloaca Massima e storia urbana. *Archeologia Classica* 2013;64:133-168.
41. Ulp. 2 *ep.* Alf. D. 50.16.204: '*Pueri*' *appellatio tres significationes habet: unam, cum omnes servos pueros appellaremus: alteram, cum puerum contrario nomine puellae diceremus: tertiam, cum aetatem puerilem demonstraremus*.
42. Varr. *ling. Lat.* 6.17: *Dies Vestalia, ut virgines Vestales ab Vesta*. The number of priestesses is uncertain for the early period. The majority tradition admits four, two from each of the original tribes (Ramnes and Titienses), raised to six by Tarquinius Priscus following the addition of the Luceres tribe. The interesting element is the close link between the Vestals and the system of tribes and curies, which appears to predate the birth of the *urbs*. On this point, see de Francisci P, *Primordia civitatis*. Rome: Apollinaris; 1959. p. 449 and recently Capogrossi Colognesi L, *Storia di Roma tra diritto e potere*: Bologna: Il Mulino; 2014. pp. 28-29.
43. The maximum age is set at ten years. Cf. Gell. *noct. Att.* 1.12.1 on which Guizzi F, *Aspetti giuridici del sacerdozio romano*. Naples: Jovene; 1968. p. 81. About legal status of vestals, see Ortu R, *Condizione giuridica e ruolo sociale delle Vestali in età imperiale: la Vestale Massima Flavia Publicia*. I. Le immunità. Cagliari: Sandhi Editore; 2018.
44. This is an archaic rite, reserved for patricians only, in which the two spouses, in the presence of the highest religious authorities and ten witnesses, divide and eat a spelt flatbread (*panis farreus*), offering part of it as a sacrifice to Jupiter Farreus (*Iuppiter Farreus*). Cf. Astolfi R, *Il matrimonio romano classico*. Naples: Jovene; 2018, p. 227 ff. with discussion of sources and literature.
45. *Fronto* 116 on which Guizzi F, Ref.43. p. 82.
46. Gell., *noct. Att.* 1.12.1-3, on which Guizzi F, Ref. 43. p. 83.

47. Gell. 1.12.11. See Ravizza M, Pontefici e Vestali nella Roma repubblicana. Milano: Edizioni Universitarie di Lettere Economia Diritto; 2020. p. 80 ff.
48. Cf. Coarelli F, Il Foro romano I. Periodo arcaico. Roma: Edizioni Quasar; 1985. 28 ff.; Carandini A, Roma. Il primo giorno. Roma-Bari: Laterza; 2007. p. 70 ff.; Filippi D, Regio VIII. Forum Romanum Magnum. In: Carandini A (ed.), Atlas of ancient Rome. Biography and Portraits of the city. Princeton: Princeton University Press; 2017. pp. 143-206.
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50. Giannelli G, Il sacerdozio delle Vestali romane. Florence: Galletti e Cocci; 1913. p. 9 ff.
51. Cf. Scheid J, The religious Roles of Roman Women. In: A History of Women: from ancient Goddesses to Christian Saints. I. Harvard: Belknap Press; 1992. p. 380 ff., Ravizza M, Ref. 47. p. 88 ff.
52. Val. Max. 1.1.6.
53. Cantarella E, Ref. 32. p. 160.
54. Cantarella E, Ref. 32. p. 159. Ortu R, Vestali, crimina e processo in Roma antica. Roma: Inschibboleth; 2021.
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56. Plut. *Numa*, 9.10-15. See De Sanctis G, La religione a Roma. Luoghi, culti, sacerdoti, dei. Rome: Carocci; 2012, p. 127.
57. Cfr. TLL s.v. *immolare*.
58. Cic. *leg.* 2.26.14.
59. Guizzi F, Ref. 43. p. 123, Diluzio MJ, A place at the Altar. Priestesses in Republican Rome. Princeton-Oxford: Princeton University Press; 2016. pp.190-192.
60. Hyg. *Grom. cond. agr.* 117, 5-11 Lach. = 80, 7-13 Th.; Sic. Flac. *cond. agr.* 162, 28-163, 4 Lach. = 127, 14-20 Th.; 235, 4-7 Lach.; 283, 18-23 Lach.
61. Varr. *ling. Lat.* 6.16, 6.17, 6.21.
62. Gell., *noct. Att.* 1.12.14; Fest. *verb. sign.* s.v. *Sex Vestae sacerdotes*, 468 L.
63. Luc. *bell. civ.* 1.595, 1.597; Plin. *nat. hist.* 28.39.5, Aug. *res gest.* 2.30, 2.31, 2.39, 2.40, 2.41, Tac. *ann.* 2.86.
64. Cic. *leg.* 2.20; Liv. 28.11.6; Fest. *verb. sign.* s.v. QRCE, 310 L, Cf. Dumézil G, *Quaestiunculae Indo-Italiae*. 7. Trois règles de l'aedes Vestae. REL. 1959;37:97 ff.; Guizzi F, ref. 43. p. 109; Wildfang RL, Rome's Vestal Virgins. A study of Rome's Vestal Priestesses in the Late Republic and Early Empire. London-New York: Routledge; 2006. p. 119.
65. Guizzi F, Ref. 43. p. 31 ff.
66. Guizzi F, Ref. 43. pp. 34-35. See also Sull. *comm. rer. gest.* 2.2.
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68. Cf. Guizzi F, Ref. 43. p. 78.
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70. Cfr. Liv. 27.8.4-5; Gell. *noct. Att.* 10.15.1. Cf. Santi C, Iuppiter nella religione civica di Roma arcaica. Chaos e Kosmos 2014;15:3.
71. Gell. *noct. Att.* 1.12.1.
72. Cf. Prosdocimi AL, Forme di lingua e contenuti istituzionali nella Roma delle origini. I. Naples: Jovene; 2016. p. 431 ff.
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74. Cic. *leg.* 2.8. Cf. De Sanctis G, La religione a Roma. Luoghi, culti, sacerdoti, déi. Roma: Carocci; 2012. p. 112.

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77. Vell. Pat. *hist. Rom.* 2.22.2.
78. Cf. Varr. *ling. Lat.* 6.15.
79. Cf. Ateius Capito (Macr. *Sat.* 3.10.3): *Iovi tauro, verre, ariete immolari non licet.*
80. Liv. 5.52.13.5: *...flamini Diali noctem unam manere extra urbem nefas est.*
81. Liv. 31.50.7.2; Gell., *noct. Att.* 10.15.5.
82. Fest. *verb. sign.* s.v. *procinctam classem*, p. 295 L.
83. Gell. *noct. Att.* 10.15.4. This prohibition is also imposed on the ancient dictator. On the possible reasons, cf. Valditara G, Studi sul magister populi. Dagli ausiliari del rex ai primi magistrati repubblicani. Milan: Giuffrè; 1989. p. 353.
84. Gell. *noct. Att.* 10.15.6.
85. Gell. *noct. Att.* 10.15.7-8.
86. Gell. *noct. Att.* 10.15.12.
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88. Gell. *noct. Att.* 10.15.17.
89. Gell. *noct. Att.* 10.15.19.
90. Gell. *noct. Att.* 10.15.19-20.
91. Gell. *noct. Att.* 10.15.24.
92. Gell. *noct. Att.* 10.15.24. For such prohibitions see also Plut. *Quaest. Rom.* 40, 44, 50, 107-113. On which see Mora F, Nuclei of interest and interpretative strategies in Plutarch's *Quaestiones Romanae*. *Gerion* 2007;25(1):332,345-347. Plutarch also states that the *flamen Dialis*, unlike the other priests, cannot hold magistracies, although, like the vestal, he is entitled to have the *lictor* and *sella curulis*. Cf. Fest. *verb. sign.* s.v. *Flaminius lictor*, p. 82 L.: *Flaminius lictor est, qui flamini Diali sacrorum causa praesto est.*
93. Gell. *noct. Att.* 10.15.7-8.
94. Ov. *Fast.* 3.397.
95. Ov. *Fast.* 3.397.
96. Gell. *noct. Att.* 10.15.11-12.
97. Gell. *noct. Att.* 10.15.15-16.
98. Gell. *noct. Att.* 10.15.14.
99. Gell. *noct. Att.* 10.15.14.
100. Cf. Capogrossi Colognesi L, ref. 13. p. 25.
101. Dionysius of Halicarnassus, *Roman Antiquities, Volume I: Books 1-2*. Cary E (Translated by), Loeb Classical Library 319. Cambridge: Harvard University Press; 1937.
102. Macr. *Sat.* 1.16.32 on which Franciosi G, Ref. 16, p. 39-40.
103. Gell. *noct. Att.* 1.12.1.
104. The *flamen Dialis* ceases from the priesthood in the case of the death of his wife. Cf. Gell. *noct. Att.* 10.15.1.
105. Guizzi F, Ref. 43. pp. 38-39. Cf. Tac. *ann.* 4.16.
106. Gell. *noct. Att.* 1.12.9. Cf. also Gai. 3.114 on which Guizzi F, Ref. 43. p. 45., Cf. Capogrossi Colognesi L, Ref. 25.
107. Gai. 3.114 with reference to the *Flamen Dialis* mentions the *inauguratio*. In the oldest sources the *flamen Dialis* is *captus* (Liv. 27.8.4.5; Tac. *ann.* 4.16) like the vestal. It can be assumed that from a certain moment in history, which we cannot determine with certainty, such a priest is inaugurated. The effects of the *inauguratio* are, however, identical to those of the *captio*: the

liber comes out of the *potestas* of the father *sine capite deminutione*. Cf. also Gai. 1.130, Tit. Ulp. 10.5. On these aspects, see Guizzi F, Ref. 43. p. 32 ff. This situation could be at the origin of the divergence of opinions among jurists, reported by Gell. *noct. Att.* 1.12.15.

108. Brutti M, Ref. 11. p. 180.

109. Capogrossi Colognesi L, Ref. 23. p. 24.

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111. Capogrossi Colognesi L, Ref. 13 pp. 30-31.

112. Fest. *verb. sign.* s.v. *Camillus*, p. 38 L: *Camillus proprie appellatur puer ingenuus*. See also Fest. *verb. sign.* s.v. *Flaminius Camillus*, p. 82 L.

113. Fest. *verb. sign.* s.v. *tutulus*, p. 484 L.

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The Work Done in Rome by Children and Adolescents: Hypothesis Based on the Anthropological Analysis of Three Suburban Necropolises of the Imperial Age

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ABSTRACT

The Work Done in Rome

We analyzed 95 non-adult individuals from three Imperial Roman burial grounds to explore the child labour in ancient Rome. The necropolis' analysed are Casal Bertone, Castel Malnome, and Lucrezia Romana, characterised by three different subsistence economy patterns. Considering the total sample, 69.5% of individuals have enthesopathies attributable to work commitments of medium severity. Specifically, individuals from Casal Bertone and Castel Malnome were the most affected in the scapular girdle, which is consistent with the activities carried out in the Fullery (*fullonica*) and the salt plains, respectively. Conversely, the enthesopathic alterations in Lucrezia Roman seem to be attributable to agricultural works.

Keywords: Skeleton - Children - Casal Bertone - Enthesopathies - Castel Malnome - Imperial Age

Introduction

The ancient sources on the phenomenon of the work done by children and adolescents in the Roman world are very scarce¹. Also, the archaeological documentation collected during the numerous excavations of burial grounds of the imperial age carried out in Rome - mainly following the intense preventive archeology activity conducted by the Special Superintendence of Archeology, Fine Arts and Landscape of Rome between the last years of the last century and the first fifteen of the current - rarely provides useful information in this regard. To overcome these limitations, anthropological research was undertaken, which using the data collected from both in the field and during subsequent laboratory investigations, could provide explanations on such an interesting aspect of daily life in Rome during the Imperial age.

Materials and methods

Herein this presented work, 95 individuals of sub-adult age were examined, coming from three Roman burial grounds from the Imperial age era (I-III century AD), which came to light during the preventive archeology investigations conducted by the Special Superintendence of Archeology of Fine Arts and Landscape of Rome in the suburbs of the city (Fig. 1). In particular: 38 individuals were recovered in the funerary complex excavated in the Casal Bertone² district, about 1.5 km from the Aurelian Walls, between via Tiburtina to the north and via Prenestina to the south, near an extensive production plant relevant to a *fullonica*; 33 individuals in the funerary complex of Via Lucrezia Romana³, in the south-eastern area of the city, along the current Via Tuscolana and the route of the ancient Via Latina, in the immediate vicinity of the Villa dei Settebassi monument, to whose agricultural application it would refer, and 24 individuals in the necropolis of Castel Malnome⁴, in the South-West area, near Via Portuense, just before Ostia Antica, in an area adjacent to a Roman salt plains⁵.

The choice fell on these burial grounds mainly for three reasons: the numerical significance of the totality of the skeletal samples recovered (Casal Bertone N Individuals = 324; Lucrezia Romana N = 412; Castel Malnome N = 297)⁶, from which the criteria selected was that of sub-adult; the different types of subsistence and environmental economies hypothesised for the reference sites; the generally good state of conservation of the finds, rather infrequent in the infantile skeletons of contemporary Roman necropolises⁷. The diagnosis of age at death was mainly based on the degree of development of the teeth⁸, on the size of the diaphysis of the long bones and on the welding of the epiphysis with the diaphysis⁹. As regards the determination of sex, with an awareness of the impossibility of determining the sex of infants I and II based on morphological criteria¹⁰, an attempt has been made to diagnose individuals over the age of 16, when changes due to puberty should have allowed the development of secondary sexual characteristics on the skeleton.

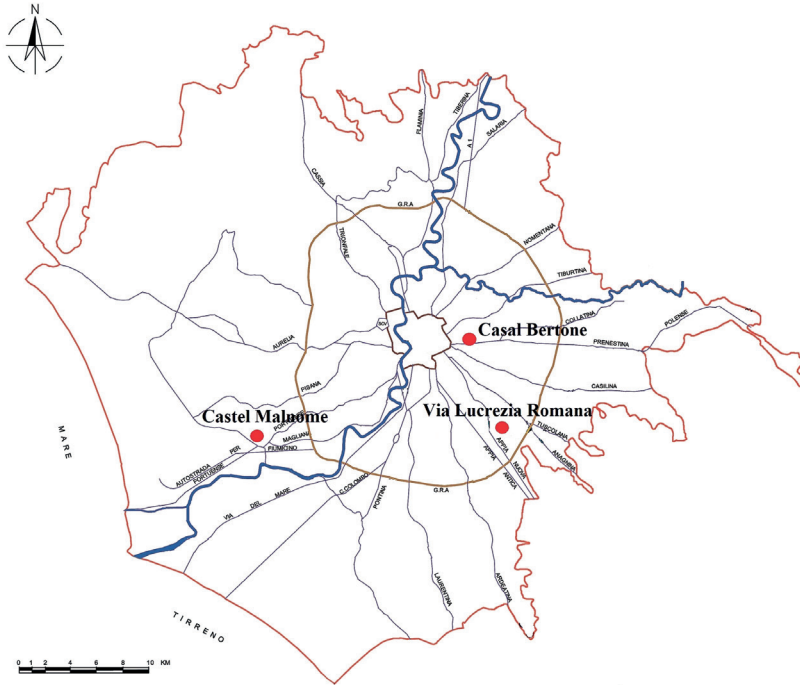


Fig. 1. Pianta di Roma con le necropoli prese in esame

The duration of laboratory investigations carried out on the infantile II (7 - 13 years) and juvenile (14 - 19)¹¹ components of the samples identified a frequency of pathological changes resulting from intense physical and work activity was noted (MOS: markers of occupational stress)¹², despite the difficulties of interpretation¹³, it was decided to subject these sub-samples to a systematic investigation, following the standardised detection method proposed by Valentina Mariotti^{14,15}. Enthesis are the insertion areas of tendons and ligaments: if subjected to stress, they can show bone proliferation and/or erosion. These alterations are consequent to a non-specific pathological state, defined as enthesopathy. Enthesopathies are divided into: osteophytic proliferative forms (OF) and osteolytic erosive forms (OL) and are classified according to three degrees of expression that define the pathological levels: the first corresponds to slight porosity and exostosis of less than one millimeter (OL1; OF1); the second to numerous areas of erosion and exostosis ranging from one to four millimeters (OL2; OL2); the third with alterations greater than four millimeters (OL3; OF3). (Fig. 2) shows the entheses detected in the course of this work.

Entesi	Movimento
Deltoida (clavicola)	Abduzione del braccio
Legamento costo-clavicolare (clavicola)	Tutti i movimenti della spalla
Legamento trapezoide	Tutti i movimenti articolazione scapolo-clavicolare

Entesi	Movimento
Gran pettorale (omero)	Adduzione e rotazione interna del braccio
Gran dorsale e gran rotondo (omero)	Adduzione, estensione e rotazione interna del braccio
Bicipite brachiale (radio)	Flessione dell'avambraccio sul braccio e del braccio sulla spalla
Pronatore rotondo (radio)	Pronazione e flessione dell'avambraccio
Brachiale (ulna)	Flessione dell'avambraccio sul braccio
Grande gluteo (femore)	Estensione e rotazione esterna del femore
Soleo (tibia)	Estensione del piede

Fig. 2. Entesi di muscoli e legamenti rilevati nel presente lavoro

Results

In the totality of the examined samples, an individual frequency of enthesopathies equal to 69.5% was found. 24.2% of individuals with enthesopathies died between 7 and 13 years, 75.8% between 14 and 19 years. Observing the distribution of the phenomenon in the three necropolises, it is noted that the frequency of enthesopathic individuals in Casal Bertone is 81.6% (among these 32.3% fall into the 7-13 year old age group, 67.7 % in class 14-19); in Castel Malnome it is 50% (of these 25% died in the 7-13 class, 75% in the 14-19 class); in Lucrezia Romana it is 69.7% (among these 13% are in the 7-13 class, 87% in the 14-19 class). The average value of the individual frequencies of enthesopathies in the upper limbs is 60%, in the lower limbs is 35.8%; in Casal Bertone it is respectively 76.3% and 55.3%; in Castel Malnome by 41.7% and 25%; to Lucrezia Romana by 54.5% and 18.2%.

The whole of the data sets indicates a greater effort exerted by the upper region of the body compared to the lower in all three necropolises; moreover, the difference between the values of Casal Bertone and those of Castel Malnome may be due to the different types of activities hypothesised for the two communities of reference: in fact, while the participation of children and adolescents in the work of the *fullonica* is also proven by the Pompeian frescoes of the *Fullonica* by *Lucius Veranius Hypsaesus*, preserved at the National Archaeological Museum of Naples, a small number of sub-adults seem to be involved in the activity carried out in the salt plains, since it is too onerous a job, unsustainable for their still developing physique. For Lucrezia Romana, the data seem compatible with the hypothesis of a commitment to agricultural work.

A detailed examination of the alterations of the single insertions, of how they are distributed on the skeletal segments, and of the different degrees of expression that define their severity allowed, as explained below, to confirm these hypotheses.

Observing Figs. 3, 4 and 5, it is immediately evident that the bone of the upper limbs most stressed is the clavicle, in particular, at the point of insertion of the costo-clavicular ligament: this joins the costal tuberosity of the clavicle to the upper margin

clavicola	%	omero	%	radio	%	ulna	%
costo-clavicolare	44,7%	gran pettorale	28,9%	bicipite brachiale	5,3%	brachiale	2,6%
deltoide	44,7%	g. dorsale g. rotondo	18,4%	pronatore rotondo	18,4%		
trapezoide	7,9%						

Fig. 3. Incidenza delle entesopatie sugli arti superiori a Casal Bertone

clavicola	%	omero	%	radio	%	ulna	%
costo-clavicolare	29,2%	gran pettorale	12,5%	bicipite brachiale	8,3%	brachiale	4,2%
deltoide	25,0%	g. dorsale g. rotondo	8,3%	pronatore rotondo	---		
trapezoide	8,3%						

Fig. 4. Incidenza delle entesopatie sugli arti superiori a Castel Malnome

clavicola	%	omero	%	radio	%	ulna	%
costo-clavicolare	45,4%	gran pettorale	15,1%	bicipite brachiale	---	brachiale	3,0%
deltoide	9,1%	g. dorsale g. rotondo	12,1%	pronatore rotondo	3,0%		
trapezoide	3,0%						

Fig. 5. Incidenza delle entesopatie sugli arti superiori a Lucrezia Romana

of the first costal cartilage and is involved in all shoulder movements (Fig. 6). The highest individual frequencies are noted in Lucrezia Romana (45.4%) and Casal Bertone (44.7%, even higher than that found in the adult fraction of the sample which is 38.5%)¹⁶, while in Castel Malnome the value is 29.2%, much lower than that of adults (55.3%). Cost-clavicular enthesopathies are all present in osteolytic erosive form (OL): in Casal Bertone (OL1 = 40%; OL2 = 44%; OL3 = 16%) and in Lucrezia Romana (OL1 = 29.2%; OL2 = 54.2%; OL3 = 16.6%) the alterations of major pathological level (OL2 + OL3) are more frequent than the less severe ones (OL1), while in Castel Malnome (OL1 = 63.6%; OL2 = 36, 4%; OL3 = 0) the situation is reversed. Regarding the insertion on the collarbone of the deltoid, the shoulder muscle that determines the abduction movement of the arm, it is noted that the individual frequency is much higher in Casal Bertone (44.7%) than in Castel Malnome (25%) and even more than that of Lucrezia Romana (9.1%). The enthesopathies of the deltoid occur in the three necropolises both in an osteolytic erosive form (OL) and - to a greater extent - in an osteophytic proliferative form (OF) and generally define a level of the pathology that is not serious. The trapezoid ligament constitutes the anterior bundle of the coraco-clavicular ligament, which unites the coracoid process of the scapula to

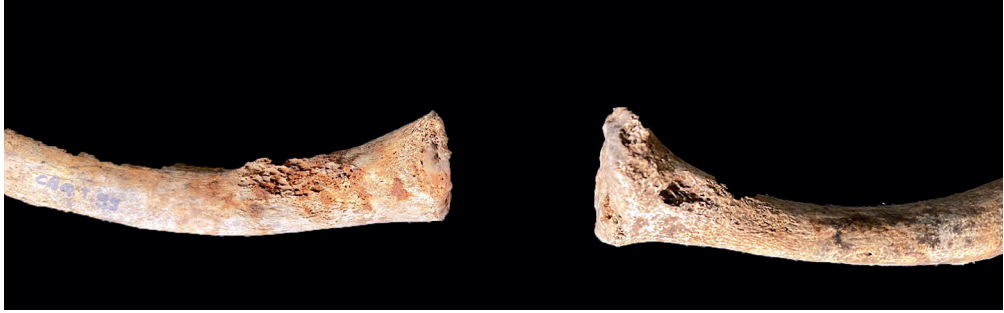


Fig. 6. Entesopatia del legamento costo-clavicolare nell'individuo della tomba 99 (9-11 anni) di Casal Bertone

the clavicle, participating in all movements of the joint: in all three necropolises the frequency of its enthesopathy is low and is always identified as OF1.

The most stressed insertion on the humerus is that of the pectoralis major muscle, primary functions are flexion, adduction, and internal rotation of the humerus inside the arm. The individual frequency is 28.9% in Casal Bertone, 12.5% in Castel Malnome and 15.1% in Lucrezia Romana. The alterations are all that of the osteolytic erosive type, except in two cases in Casal Bertone, where they occur in an osteophytic proliferative form; they never reach the third level of severity, distributing themselves with similar frequencies between the first two. Lower, but not by much, the individual frequencies of the alterations of the insertions of the great dorsal and the great round, muscles that intervene in the movements of adduction, extension and internal rotation of the humerus; also in this case, the enthesopathies are mostly of the osteolytic type, of the first and second pathological level.

Only four individuals (two from Casal Bertone and two from Castel Malnome) show signs on the radius enthesopathies of the biceps brachial muscle, which acts on the flexion of the forearm on the arm and this on the shoulder. Enthesopathy of the Pronator teres muscle, which contributes to pronation and flexion movements of the forearm, is more frequent in Casal Bertone (18.4%), while it affects only one individual in Lucrezia Romana and none in Castel Malnome.

Enthesopathy of the brachialis, the most powerful flexor muscle of the forearm, was found on the ulna, but only in three individuals, one for each necropolis. Both on the radius and on the ulna, the alterations are never of the third level of severity.

Regarding the lower limbs (Fig. 7, 8 and 9), gluteus maximus enthesopathy was detected on the femur, which extends and rotates the thigh outward, was present only in Casal Bertone individuals (18.4%), mostly in osteolytic erosive form, never third degree. Enthesopathy of the soleus (Fig. 10) (which contributes to foot extension and leg flexion) is present on the tibia in all three necropolises, but with different frequencies: in Casal Bertone it is very widespread (47.4%), sometimes even in severe form; less so in Castel Malnome (12.5%) and in Lucrezia Romana (15.1%) and never in severe form.

femore	%	tibia	%
grande gluteo	18,4%	soleo	47,4%

Fig. 7. Incidenza delle entesopatie sugli arti inferiori a Casal Bertone

femore	%	tibia	%
grande gluteo	---	soleo	12,5%

Fig. 8. Incidenza delle entesopatie sugli arti inferiori a Castel Malnome

femore	%	tibia	%
grande gluteo	---	soleo	15,1%

Fig. 9. Incidenza delle entesopatie sugli arti inferiori a Lucrezia Romana



Fig. 10. Entesopatia del soleo nell'individuo della tomba 60 (16-17 anni) di Lucrezia Romana

Having availability to the anthropological data of the field, the number of individuals with funeral equipment (28.4% of the entire sample) and those who were without them was related to the number of individuals with enthesopathic lesions: even if the results are to be considered purely indicative, since Roman burials of the Imperial

age, the grave goods can rarely be indicative of belonging to higher social classes, generally including objects of common use and not of merit¹⁷, it is interesting to note that only 27.3% of individuals with enthesopathies have accompanying goods, while 72.7% do not have them. These values are very similar to those obtained by examining the three necropolises individually.

It was possible to determine the sex of 17 individuals: among the eight males, six had enthesopathies, while among the nine females, only three showed them. The sample is too small to allow us to hypothesize a differentiation between the two sexes with respect to work activities, but it is hoped that the molecular diagnosis of sex, of which the best preserved individuals are currently undergoing tests at the Laboratory of the Molecular Anthropology Center for study of ancient DNA, at the University of Rome Tor Vergata, can provide useful data for this purpose as soon as possible.

Conclusions

During the excavation of the three necropolises examined, it was not possible to recover any useful element to insert with certainty the individuals analyzed among the slaves, the freedmen or the free, but it is important to underline that child labour in Rome during the Imperial age could interest everyone. The social levels¹⁸, excluding only the wealthy and aristocrats, never directly involved in the transformation processes of the materials. However, the excavation documentation and laboratory analysis in our possession do not allow us to place the sub-adults examined among the privileged. In any case, it was the servile state that condemned the children to carry out some form of, more or less, physically demanding work at an early age. Our data indicate that overall, 69.5% of individuals have enthesopathies and of these 75.8% died in youth, 24.2% in childhood II.

In Casal Bertone, where children with alterations are 32.3%, the most affected bone of the upper limbs and shoulder girdle is the clavicle, in particular at the level of insertion of the costo-clavicular ligament (44.7%), whose development is connected to the lifting of weights above the head¹⁹ and to the continuous movements of extension and flexion of the arms - similarly to what Luigi Capasso found in the boy E33 of Herculaneum²⁰ - due in our case to the treatment of the tissues inside the basins and their subsequent spreading for drying. Injuries to the insertion of the deltoid muscle are also widespread (44.7%), probably following the effort exerted by the shoulders in pivoting with the arms moving and lifting the basins into position on the wall shelves.

Quite high frequencies were also detected at the insertion on the humerus of the pectoralis major (28.9%), of the great dorsal and great teres (18.4%) and on the radius of the pronator teres (18.4%): these too alterations can be related to the type of work done within the *fullonica*. In the lower limbs, enthesopathy at the origin of the soleus on the tibia is particularly widespread (47.4%), even greater than that found in adults

(37.9%)²¹, due to a continuous plantar hyperflexion, which is a supposed exercise during the pressing of the fabrics with the feet inside the basins.

In Castel Malnome the most stressed bone is the clavicle, at the point of insertion of the costo-clavicular ligament (29.2%) and the deltoid muscle (25%): these frequencies, however, are decidedly lower than those found in the adult portion of the sample. (Respectively 55.3% and 60.8%)²², confirming the hypothesis of a reduced involvement of children and adolescents in the heavy work of lifting the bags of salt. This hypothesis is reinforced by the observation of the lower limbs, where the most frequent enthesopathy is at the origin of the soleus (12.5%), indicating a strenuous walking on uneven ground, but the value is significantly lower than that of adults. (51.6%).

For Lucrezia Romana, no comparisons with the adult fraction of the sample are available at present, but our data indicates the involvement, in particular, that of adolescents, in the manual work carried out in the fields²³, as supposed on the basis of archaeological evidence. In fact, the following were found: a high frequency of enthesopathies of the costo-clavicular ligament (45.4%), a probable effect of hoeing works; alterations on the humerus at the insertion of the pectoral grandis (15.1%) and the grand dorsal and grand rotunda (12.1%), due to the effort made by pulling weeds; injuries on the shins upon insertion of the soleus (15.1%), a consequence of walking on steep terrain. It is hoped that the continuation of the research will provide further useful elements to clarify such an interesting and little-known aspect of the social history of ancient Rome.

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Children in Greco-Roman Society: Age, Development, Work and Nosological Relevance. A Historical-Medical Perspective

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ABSTRACT

Children in Greco-Roman Society

The definition of childhood in historical studies is as recent a problem as the attention devoted by scholars to this age group. A reflection on the nomenclature used in Greek and Latin literary, epigraphic, legal and properly medical sources and the comparison with paleopathological studies allows us to interpret the historical perception of childhood in terms of incompleteness. In the Hippocratic and Galenic tradition this incompleteness unites children to fragile and marginalized categories, namely women and the elderly, but above all it does not recognize their specific diseases, delaying the birth of pediatrics for centuries.

Keywords: Children - Occupational Diseases - Incompleteness -
Ligurinus - Anthimianus - Fullonica

The history of children, to whom research seems to give more and more space recently, is the last to have won the interest of scholars. They are gradually trying to give voice to a significant phase of human existence, necessarily marked by silence before birth, and by the inability to articulate meaningful words immediately after¹. As a matter of fact, infancy extends its boundaries around the age of seven, if Quintilian², rhetorician and school teacher under the Flavian dynasty, overlaps *infans*³ and *puer*⁴. It seems as if the etymological origin of the word ‘infant’ (unable to speak) and the silence of historical sources, which rarely give explicit attention to children, are consistent with each other. In this difficult path of investigation, the history of ancient medicine offers a research perspective particularly functional to the topic. In fact, it is methodologically accustomed to collecting data which are distributed in the most varied and heterogeneous fields of knowledge. Therefore, historians of medicine are used to collaborate with all their “sister disciplines”, traditional and new, in the reconstruction of nosological frameworks.

Specifically, the anthropological investigation on the skeletal remains of individuals of subadult age, found in the Roman necropolises of the imperial age, provides us with the extraordinary opportunity to subject to a multidisciplinary approach the study of the lifestyles of children and adolescents. Otherwise, their age and social condition would exclude any possibility of historical reconstruction. The first level of multidisciplinary comparison concerns the definition of non-/sub-adult age which is different from the point of view of the discipline that deal with it. Besides, we have to take into account all the significant fluctuations that each specific historical-cultural contexts implies. This is particularly evident from the study of the sources relating to the ancient Roman world. The criteria adopted are rather flexible and indicative⁵. Just to give an example, the Quintilian scan of the phases of non-/sub-adulthood places the child’s aptitude for speech around the age of seven.

However, Quintilian does not seem to associate this age with a too rigid cognitive watershed; instead, he emphasizes the early gradualness and progressiveness of an intellectual development whose fruits will be capitalized upon once *adulescentia* is reached⁶. The articulation of the ages for hebdomades, moreover, does not have a simply magical-symbolic connotation, or at least not only⁷. The encephalo-myelogenetic theory of semen, which the sources attribute to the physician Alcmaeon of Croton (VI century BCE), in fact, associates cognitive maturation with sexual maturation and fixes on a biological basis the scanning of ages according to an hebdomadal scheme⁸. The criterion of seven is also actively applied in the legal field.

Roman law, however, tends to distinguish the phases of childhood in a more rigid way than Quintilian does, although without formalizing the distinction in norm⁹: the aptitude for speech is associated with cognitive maturation, but to the extent that it allows the individual a deliberative act consciously consequent to the exercise of *voluntas*. For the time span between 0 and 14 years, it is even possible to infer from the sources

a further distinction between those who cannot speak (*qui fari non possunt*), those who can speak without understanding (*qui fari possunt sine intelligere*) and those who can speak (*qui fari possunt*) with an understanding adequate to involvement in a negotiation act¹⁰. The last ones are flanked but not replaced by a guardian at least until entry into puberty (14 years for male, 12 for female)¹¹: again sexual maturation and cognitive maturation overlap. It follows that the so-called *infantia maior* coincides with *pueritia*, which is defined, for purely practical and formal reasons, from the age of seven¹².

The recurrence of the number seven both to define the ages of man's life and to quantify its duration suggests a parameterization of Roman law which seems to be inspired by a very ancient belief. This associates the seven and its multiples to the relationship between sexual maturation and socio-political function of gender, which is intellectual in the case of the male and reproductive in the case of the female¹³. The biopolitical value of the scan into hebdomades also has nosological relevance. It plays a remarkable role in the interpretation of the symptoms and in the therapeutic approach¹⁴ to the disease within the CH, as the importance of the number seven in the identification of the critical days of a pathology testifies. Even before birth, the CH defines the stages of intrauterine life¹⁵ on an arhythmological basis according to which the fetus of seven months survives and that of eight months has a higher risk of dying¹⁶.

The terminological inhomogeneity that the ancient historical, literary and medical sources highlight with respect to the identification of certain boundaries to determine childhood, has led to a significant reflection also in bioarchaeology. In this field of study, the prevailing nomenclature is either "sub-adult" or "non-adult": they are used to indicate the skeletal remains of an individual under the age of 19¹⁷. Whether one or the other is preferred, the problem remains the historical-social perception of childhood that continues to be defined in a relationship of subordination with respect to adulthood or in terms of its denial. Little difference, therefore, with respect to the Aristotelian perspective of the child as an adult in power: in a teleological vision of existence the adult constitutes the formal and final cause of childhood¹⁸. No doubt the convenience of the nomenclature facilitates classification, but partly obscures the specifics of this existential segment that should be defined in dynamic continuity with intrauterine life and adulthood. On balance, the metaphorical language of literature, which often expresses the idea of conception, growth and development through images drawn from the plant and animal world, seems to represent with less rigidity the phases of childhood. As Rosa Rita Marchese acutely points out, the physical and psychological portrait, probably of the young Ligurinus, which Horace traces in *Odes* 4.10, expresses with epigrammatic intensity the transition as gradual as inexorable, from youth to maturity¹⁹. The description has the advantage of simultaneously calling into question the two main paradigms of the passage from one age to another: the vegetable one²⁰, through the image that associates youth and *flos rosae puniceae* (v. 4),

where adulthood is characterized by a more prosaic and less healthy *color* (v. 4)²¹; the animal one that associates the appearance of the beard²² with the appearance of feathers²³ in adult birds. The two paradigms are widely exploited by Aristotle: he seems to superimpose the continuity of the phases of human life on the biological continuity of natural species²⁴, according to a scheme that defines the hierarchy of living organisms starting from the gradualness of the functions that characterize them (vegetative, sensitive and rational)²⁵.

It is true, however, that the definition of childhood in close dependence on adulthood is reflected in the way in which this phase of life is dealt with by medical treatises at least until the mid-fifteenth century, when Bagellardo dal Fiume publishes in Padua his *Libellus de aegritudinibus infantium ac remediis* (1472). Until that moment, in fact, medicine deals with the theme of childhood in an asystematic way and in subordination to embryology, gynecology, dietetics and in general with respect to all other areas of care. An exception is the treatise *De curis puerorum* by Rhazes that circulates in the Latin West thanks to the translation by Gerard of Cremona (IX-X century)²⁶ and which, as Karl Sudhoff²⁷ already points out, represents one of Bagellardo's main references²⁸. The medical sources of antiquity and, due to the persistence of Hippocratism and Galenism, of the Middle Ages and part of the Modern Age²⁹, seem to recognize only incidentally the child's body as a place of specific diseases and particular care. Leslie Dean-Jones' detailed review of CH's writings also highlights the difficulty of correctly interpreting the use of terms such as *παῖς*, *παιδίον*, *παιδίσκη*, *μειράκιον* and *παρθένος*³⁰, especially in reference to specific clinical cases, and therefore to isolate a specific field of pediatrics: none of the above words unequivocally indicates childhood³¹. Where the context allows, the child's body is defined in relation to the primary qualities of the natural elements, specifically heat and humidity. In the growth path, in fact, what matters is the principle of proximity to the prenatal condition in which the nourishment is attributable to the constitutive excess of moisture in the female body (normally balanced by the menstrual flow, which is interrupted during pregnancy so that the blood is diverted to the embryo) and the development of the innate heat that allows the coction, that is to say the thickening of the *γονίη*³². The vegetal paradigm of the seed, planted in the earth and nourished by it, well defines conception³³ from the enunciation of the formula with which, in Attic law, the father entrusts the *nubenda* to the bridegroom hoping for "the plowing of legitimate children"³⁴.

The persistence and diffusion of the plant paradigm also in the nosological field is evidenced by a famous metric inscription³⁵. It is a funerary epitaph (Rome³⁶, II-III century AD) for the little Lucius Minicius Anthimianus destined for an early death (4 years, 5 months, 20 days) as a result of a series of pathologies to which his father, perhaps a physician, tries in vain to cope³⁷. The complexity of the clinical story of this *παῖς ἄωρος*, which makes a precise retrospective diagnosis extremely difficult, seems to be a sort of *cursus morborum* that takes on the contours of a tragic pathography,

of a competitive effort aimed at removing the child from his inevitable destiny of death through sophisticated medical care. The term νήπιον (v. 6), which legally places Lucius Minicius Anthimianus in the age segment of *infantia minor*, can be associated with the adjective εὐερνής (v. 15) which connotes the first phase of the child's short life in the sense of flowering, exploiting the semantic field proper to vegetation³⁸. Galen³⁹ also uses it by quoting a comment by Zeuxis of Taranto (empirical school, III century BC) to Hippocrates in which children are defined νήπια until they reach puberty (ἥβη): in the passage the children σαρκοῦνται [...] μᾶλλον καὶ εὐερνέστερα γίνεται [...] (“they put on more meat [...] and they become much more prosperous [...].”)⁴⁰. Perhaps the association between νήπιος (here almost a condensation of the stages of life) and εὐερνής in the text of the epigraph is less *naïve* than one might believe and comforts us in hypothesizing the medical profession, or at least a certain habit of reading medical texts, for the unfortunate father. More generally, the passage in question reiterates, adding to the authority of Hippocrates that of Herophilus, that νήπια are all children up to puberty, not those whose age is between birth and 5-6 years, “as most are now saying”⁴¹, a sign that the scan of the age groups was not homogeneous even in the medical field. The discrimination is determined by the extent of spermatogenesis and menstrual flow that contribute to the balance of humors and temperature in the transition from childhood to adolescence (and therefore the distance from the actors of conception). In both Hippocrates and Galen, therefore, pediatric etiopathogenesis would seem to be marked by the common denominator of incomplete development⁴²: it determines a unbalance that unites children, women and the elderly in a condition of fragility and greater exposure to diseases, which is a constant in pathocenotic frameworks through centuries. The τελειότης as a prerequisite of health has probably discouraged the interest of ancient Greek and Roman medicine to define an autonomous nosological and therapeutic field for children⁴³ as they are simply characterized by an incomplete development of bone tissues, glands responsible for the absorption of excess humors⁴⁴, and the immune system, it could be added today, because of their high mortality rate compared to the spread of infectious diseases. It is no coincidence that in the passage of Galen to which reference has been made, the distinction between childhood and adolescence is introduced precisely in relation to a disease found more in children, namely epilepsy: it is attributable to a humoral excess of black bile or phlegm (cold and wet) that must be drained through the use of medical matter (diuretics and emetics) and that in any case is reduced with development because puberty is warmer and drier⁴⁵. In this form of humoral imbalance, childhood and old age are united, even if they represent the physiological extremes of existence. Childhood, in fact, due to excess moisture and heat, corresponds to spring; old age, on the other hand, as cold and dry, corresponds to winter. However, when the distribution of primary qualities is associated with the four humors, the phlegm, which is not cold and dry, but cold and wet, seems to prevail. Galen⁴⁶ tries to resolve this

apparent contradiction by identifying in old age both the dryness of the solid parts of the body, due to the exhaustion of the innate humor, and an excess of acrid substance similar to phlegm, due to the exhaustion of innate heat that hinders the perfection of the concoction processes. This cold moisture of old age overlaps with that of childhood affected by epilepsy: both, in fact, are due to phenomena of incompleteness that alter the humoral balance⁴⁷.

The case of the little Lucius Anthimianus offers a sort of nosological *compendium* that manifests in succession an inflammation of the testicles, a bone necrosis and an infection of the bowels generally traced back to the effects of three forms of tuberculosis: urogenital, osteomyelitic, peritoneal. However, a more cautious approach that takes into account the generic nature of the symptoms described and the little information on the environmental conditioning that could have facilitated the onset of the disease or diseases that have affected Lucius Anthimianus is absolutely acceptable⁴⁸. Tuberculosis is a hypothesis consistent with the pathocenotic framework coeval with the inscription, but in the uncertainty of retrodiagnosis the only certain fact with respect to the possibility of identifying the etiopathogenesis of the diseases mentioned in the epigraph in a pathogen (not necessarily tuberculosis) is the ease of children to contagion, especially in densely populated urban contexts. The case of Rome from the end of the Republican age to the III-IV century AD is emblematic in this sense. The demographic increase, to which significant migratory flows from the countryside and provinces contribute, the influx of slave labor, the increase in housing units and commercial and craft activities affect the quality of life also from a health point of view. The interdictal decrees and literary sources testify how “abusive” sewage discharges and some commercial activities such as *fullonicae* polluted the air, water and agricultural funds, exposing especially children to the contagion of infectious diseases. The air that surrounds the body and enters the body through the inhalation and intake of food and drink are among the factors to which Galen⁴⁹ attributes the quality of health. The osteological lesion to the left femur of a child aged between 2 and 4 years, whose remains were found in tomb 46 of area Q in the necropolis of Casal Bertone, fits perfectly into this context and seems to have some affinity with the case of Lucius Anthimianus. The skeletal remains reveal, in fact, the action of pathogenic microorganisms attributable to the polluting effects of the sewage of a *fullonica* near which the child and his family lived. Polluted water, air, food are alike to be at the origin of the infection, not to mention that the bacterial load may have been transmitted to the baby through breast milk⁵⁰. Lucius Anthimianus was also breastfed by his mother by paternal will (v. 14) and could therefore have been exposed to the pathogenic effects of environmental pollution both directly and by vertical contagion. Finally, in the semeiotics of the third disease, the reference to the swelling of the bowels is accompanied by the “fusion” of the other parts (v. 28), which the text expresses through the verb ἐκτῆκω.

Swelling and abdominal consumption are among the symptoms identified by the CH for a specific pathology of *fullones*⁵¹, to which Ramazzini refers talking about the occupational diseases of those who use urine to stain and dye tissues⁵². It is probably a nosological framework attributable to an etiopathogenesis of an infectious nature⁵³ and surprises, also in this case, the precision of the epigraph in the use of the medical lexicon: the verb ἐκτίκω, in fact, seems to echo the Hippocratic use of verb ξυντήκω used precisely to express the abdominal decay of *fullones*. If, therefore, the impact of the environmental factor on the characterization of pathocenosis and on the interpretation of nosological frameworks so ambiguous and distant in time is evident, the role of socio-economic variables in the effects produced on the lifestyle and health of children assumes equal importance. The definition of the child as a non-adult/sub-adult is perfectly superimposable to his biological perception of incompleteness⁵⁴ and this seems to be the only parameter of social relevance of childhood in the Greco-Roman world. Free children or children of servile condition are in various ways involved in work activities compatibly with the functionality of the relationship between the task and the level of development of physical and intellectual abilities. It was not necessary to wait until puberty for this to happen “quia etiam impuberis aliquae operae esse possunt”, says the Digest⁵⁵. The work of children is a constant of the imperial age and takes on more significant dimensions as, starting from the fifth century AD, the servile system goes into crisis⁵⁶.

However, how does work affect their health? There is still no systematic study on the occupational diseases of the ancients, and therefore even less on the occupational diseases of children whose relevance in the productive system of the imperial age is only recently beginning to be considered by scholars. Even for adult workers we have very few traces in the sources. Apart from the abovementioned case of *fullones*, Hippocrates explicitly associates a severe nosological framework with the activity in mines⁵⁷. Galen deals with the diseases of *fullones*⁵⁸ and Juvenal mentions the varicose veins of the charioteer forced to stand for a long time⁵⁹. As a matter of fact, the first text on occupational medicine is precisely the eighteenth-century one by Bernardino Ramazzini who once and a while, in accordance with erudition and long durations of Hippocratism and Galenism, refers to the Greek and Roman world. The iconographic tradition and the epigraphic and literary testimonies attest to the participation of minors in many professional activities; anthropological and molecular analysis on skeletal remains reveals the effects that these activities, often exhausting, produce on the body. In particular, the transport of loads, the iteration of certain movements, contact with potentially toxic and infectious substances produce lesions that on the body of the child worker are manifested with greater aggressiveness.

The findings of Herculaneum⁶⁰ and the most recent ones of Casal Bertone, Via Lucrezia Romana and Castel Malnome⁶¹ have highlighted the exposure of childhood skeletons to significant weight stresses. The historical-medical sources document a

certain awareness of bone fragility in the prepubertal phase that is framed in the incompleteness of tissue development. To this must be added the effects of deficiency diseases or in any case of a regimen often insufficient to support growth⁶² in conjunction with strenuous and exhausting work. In the case of *fullonicae*⁶³, then, repeated loads and movements are associated with direct exposure to aggressive and toxic substances that came into contact with the skin (many detergents, such as montmorillonite or bentonite were applied by hand) and that were inhaled in the fumigation processes used to whiten and soften the wool⁶⁴. Finally, urine, used as a detergent for its alkaline properties, exposed *fullones* not only to bad smell, but also to the effects of its bacterial load. In this industrious hell, it is not surprising that children⁶⁵ died early from fatigue and respiratory diseases. Seneca's observation on the beneficial effects that the movements of the *fullones*⁶⁶ would entail is worth as much as the invitation of the Athenaeus of Attalia⁶⁷ to the Roman matrons to keep fit by adopting the diet and practicing the domestic activities of their slaves⁶⁸, but above all it testifies to the distance between the traditional historical sources and the occupational diseases that united adults and children.

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1. See Prosperi A, *Dare l'anima. Storia di un infanticidio*. Torino: Einaudi; 2005. pp. 129-131.
2. Quint. *Inst.* I 1, 18.
3. See Varr. *De l. L.* VI 7, 52.
4. See *DELL* s.v. *Infans, Infantis*.
5. Cfr. Rawson B, *Children and Childhood in Roman Italy*. New York; Oxford University Press; 2003, pp. 135-136; for a quick excursus on the scan of the ages of man from the Greek world to the Renaissance see Harcum CG, *The Ages of Man: a Study suggested by Horace, Ars Poetica, Lines 153-178*. *The Classical Weekly* 1914;7(15):114-118, 114-115.
6. See Quint. *Inst.* I 1, 19 where the author binds, without passing through *pueritia, infantia* and *adulescentia*.
7. *Contra* Rawson B, Ref. 5, p. 136; see Knothe HG, *Zur 7-Jahresgrenze der 'infantia' im antike Römischen Recht*. *SDHI* 1982;XLVIII:239-256.
8. See Cilione M, *Pythagorica Medica. Scienza e sapienza nella tradizione preippocratica*. Roma-Bristol, CT: L'Erma di Bretschneider; 2022.
9. See Albanese B, *Le persone nel diritto privato romano*. Palermo: Tip. S. Montaina; 1979. p. 434.
10. See D. 46.6.6 (Gai 27 *ad ed. prov.*) from which it can be deduced that Gaius distinguishes, as evidenced by Lamberti F, *Su alcune distinzioni riguardo all'età dell'impubere nelle fonti giuridiche romane*. In: Cagnazzi S et al. (eds), *Scritti di storia per Mario Pani*. Bari: Edipuglia; 2011. pp. 211-236, 216, three circumstances for the legally capable child because it is not subject to someone's *patria potestas: infans*, capable of pronouncing at least the *verba stipulationis*, capable of speaking and understanding the terms of the negotiating act.
11. See Petermandl W, *Kinderarbeit im Italien der Prinzipatszeit. Ein Beitrag zur Sozialgeschichte des Kindes*. *Laverna* 1997;8:113-136, p. 115; Vuolanto V, *Child and Parent in Roman Law*. In: du Plessis PJ et al. (eds), *The Oxford Handbook of Roman Law and Society*. New York: Oxford University Press; 2016. pp. 488-489.
12. See Lamberti F, Ref. 10. pp. 213-214.
13. See Amundsen DW, Diers J, *The Age of Menarche in Classical Greece and Rome*. *Hum Biol* 1969;41:125-132; Andò V, *La verginità come follia: il "PERI PARTHENION" ippocratico*. *Quad stor NS* 1990;25,75,3:715-737, 716; Cilione M, Gazzaniga V, *Born to go Hungry: Female Physiology, Ethics and Dietetics from Presocratics to Late Antiquity*. *Byzantinische Forsch* 2021;33:245-262, 251.
14. See Dean-Jones LA, *The child patient of the Hippocratics: early pediatrics?*. In: Grubbs JE, Parkin TG (eds), *The Oxford handbook of childhood and education in the classical world*. Oxford-New York: University Press; 2013. p. 108.
15. In the treatise *De semine* I 9 (Kühn IV, 542-543), Galen articulates intrauterine life in four steps: γονή, κύημα, ἔμβρυον, παιδίον.
16. See CH *Sept./Oct.* II and VII Joly; see also Cens. *De die nat.* 10, 5-6, which associates the numbers of physiological passages of state in embryogenesis (from seed to blood, from blood to flesh, from flesh to human figure) to musical scales.
17. See Lewis ME, *The Bioarchaeology of Children. Perspectives from Biological and Forensic Anthropology*. Cambridge: University press; 2007. pp. 82-84. Valuable table that marks the phases of "non-adult" age starting from intrauterine life (*Ibid.*, p. 99).
18. See Li Causi P, *Diventare pienamente umani: la teoria dello sviluppo morale integrato nell'epistola 124 di Seneca*. In: Giorgianni F, Li Causi P, Maggio MC, Marchese RR

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19. See Marchese RR, Le conseguenze del crescere. Una rilettura di Orazio, *Carmina* 4.10. In: Giorgianni F, Li Causi P, Maggio MC, Marchese RR (eds), ref.18. pp. 259-273.
 20. See Repici L, *Uomini capovolti. Le piante nel pensiero dei Greci*. Pisa: Edizioni della Normale; 2020.
 21. The reference to purple rose could allude to a health condition linked to the bright red color of healthy blood: the alteration of the humoral balance and therefore of the relative state of health is manifested through the alteration of the complexion. In this sense, the use of verb “verto” (v. 5) could have a medical-diagnostic value linked to the Greek correspondent ἐκτρέπειν (cf. Boehm I, *Le couleur du corps chez Galien. Coloration naturelle et couleurs modifiées dans la polychromie du vivant*. In: Collard F, Samama É, *Le corps polychrome. Couleurs et santé. Antiquité, Moyen Âge, Époque modern*. Paris: L’Harmattan; 2018. pp. 11-22, 16).
 22. It is a *topos* that marks the transition from adolescence to adulthood (see Catenacci C, *L’eros impossibile e ruoli omoerotici* (Simonide fr. 21 West), *QUCC* n.s.2000;66(3):57-67, 62).
 23. If one accepts the reading “pluma” (v. 2), with all due respect to Fedeli P, Ciccarelli I (eds), *Q. Horatii Flacci Carmina. Liber IV*. Firenze: Le Monnier; 2008. pp. 455-459, which also seems consistent with the “involitant” of the next verse. The Hippocratic treatise *On the Nature of the Child* explicitly alludes to the possibility of comparing “the nature of a bird with that of a human being” (Giorgianni F (ed.), *Ippocrate, La natura del bambino dal seme alla nascita*. Palermo: Sellerio; 2012. p. 201).
 24. See Laspia P, *Per una crescita felice. Immagini della natura nell’ontogenesi umana all’interno del Corpus aristotelicum*. In: Giorgianni F, Li Causi P, Maggio MC, Marchese RR (eds), ref. 18. pp. 147-183. *Alexandrian poetry feeds on the science of nature: it is not surprising that Horace may have done the same*.
 25. See Repici L, ref. 20. pp. 8-10.
 26. See Bos G, McVaugh M (eds), Al-Razi, *On the Treatment of small Children (De curis puerorum)*. The Latin and Hebrew Translation. Leiden-Boston: Brill; 2015. pp. 15-30, 16.
 27. See Sudhoff K, *Erstlinge der pädiatrische Literatur: Drei Wiegendrucke über Heilung und Pflege des Kindes*. München: Münchener Drucke; 1925. pp. VII-XXII.
 28. See Maggioni G, *Paolo Bagellardo dal Fiume e il suo Libellus de aegritudinibus et remediis infantium* (1472). *Med. Secoli*. 2009;21(3):1205-1224; Rinaldi M, *Il dibattito pediatrico all’università di Padova tra la fine del Cinquecento e l’inizio del Seicento*. In: Zucchello F, Perilongo G, Silvano G (eds), *La pediatria a Padova. Una storia secolare*. Roma-Bari: Laterza; 2022. pp. 35-55, 44.
 29. It is no coincidence that the epistemological status of pediatrics emerges precisely in Padua where anatomical studies, including those on fetuses and children who died prematurely, would have progressively deconstructed one after the other the convictions of Galenism (see *Ibid*, pp. 44-45).
 30. See Dean-Jones LA, Ref. 14. pp. 110-112.
 31. See Gourevitch D, *I giovani pazienti di Galeno*. Bari: Laterza; 2001. pp. 9-10.
 32. See Giorgianni F, Ref. 23. pp. 55-57; Giorgianni F, *Come un tenero virgulto: termini e ideologie della crescita nel pensiero greco pre-aristotelico*. In: Giorgianni F, Li Causi P, Maggio MC, Marchese RR(eds), Ref. 18. pp. 79-94.
 33. See Pl. *Teag*. 121 b-c.

34. Cfr. Men. *Perik.* 435-436; Cilione M, Gazzaniga V, La fabbrica dei figli: i Greci e la $\tau\epsilon\kappa\nu\omicron\sigma\iota\upsilon\alpha$ nelle fonti epigrafiche e letterarie. In: Capocci M, Cilione M, Giorgianni F (eds), *I nomi del male e i segni dell'eredità. Pensare, nominare e curare la malattia "genetica" dai Greci a noi.* Bologna: il Mulino; 2019. pp. 73-100, 91. On the meters of the inscription see Gallavotti C, *Metri e ritmi nelle iscrizioni greche.* Roma: Accademia nazionale dei Lincei; 1979. pp. 48-50.
35. *CIG 3272 = GV 1166 = IGUR 4, 1702.*
36. The inscription is placed on the epigraphic wall of Palazzo Barberini alle Quattro Fontane.
37. The information that places in a Christian church of Smyrna the discovery of the epigraph dates back to Thomas Reines (1682) and has been recognized as false (cfr. Petzl G, *GVI 1166 — eine Krankengeschichte aus Smyrna?*. *Chiron* 1981;11:303-308; Moretti L (ed.), *Inscriptiones Graecae urbis Romae IV (1491-1705).* Roma: Istituto italiano per la storia antica; 1990. p. 139). There is no clue within the text suggesting a Middle Eastern origin that would also support the density of medical competence of the inscription. Between the second and third centuries, in fact, Smyrna is one of the most beautiful cities of the Empire thanks to the reconstruction that took place after the earthquake of 178 by the will of Marcus Aurelius and through the intercession of Aelius Aristides (cfr. Distefano SS, *Roman culture in a Greek context: Smyrna between the first and the fourth century AD. Some preliminary observations.* In: Gavagnin K, Palermo R (eds), *Imperial Connections. Interactions and Expansion from Assyria to the Roman Period. Volume 2. Proceedings of the 5th "Broadening Horizons" Conference (Udine 5-8 June 2017).* Trieste: EUT; 2020. pp. 289-298, 292). But above all Smyrna is a lively cultural center where studies on Platonism and medical interests flourish. Around 149 the young Galen is in Smyrna for the death of his father and to spend a few days with two masters: the anatomist Pelope and the philosopher Albino. During his stay in the city, Galen wrote, among others, three books *De pulmonis et thoracis motu* (cf. Gal. *Libr. Propr.* II 1-5 Vegetti; Cadoux CJ, *Ancient Smyrna. A history of the city from the earliest times to 324 A. D.* Oxford; Blackwell; 1938. p. 266). In the same period, templar and theurgical medicine also received a strong revival in Smyrna, thanks to the construction of a temple dedicated to Asclepius (cf. Paus. II 26, 9; *Ibid.*, pp. 267-268).
38. See Hesych. 6807 * $\epsilon\upsilon\epsilon\rho\nu\epsilon\iota\varsigma$ - $\kappa\alpha\lambda\omega\varsigma$ $\beta\lambda\alpha\sigma\tau\acute{\alpha}\nu\omicron\nu\tau\epsilon\varsigma$ A¹⁶ Latte (Cunningham).
39. Gal. *In Hipp. Ep.* VI I 5, 20 (= XVIIa 826 K.).
40. Development ($\acute{\epsilon}\kappa\lambda\alpha\mu\upsilon\iota\varsigma$) makes children more talented ($\beta\epsilon\lambda\tau\acute{\iota}\omicron\nu\alpha$) in terms of strength ($\delta\upsilon\nu\acute{\alpha}\mu\epsilon\iota$) and reasoning ability ($\lambda\omicron\gamma\iota\sigma\mu\tilde{\omega}$).
41. Gal. *In Hipp. Epid.* VI I 5, 21 (= XVIIa 826 K.).
42. See Dean-Jones LA, *Women's bodies in classical Greek science.* Oxford: University Press; 1994. pp. 45-48; Dean-Jones LA, Ref. 14.
43. See Mudry Mudry P, *Non pueri sicut viri: Petit aperçu de pédiatrie romaine.* In: Dasen V (ed.), *Naissance et petite enfance dans l'Antiquité. Actes du colloque de Fribourg, 28 novembre-1^{er} décembre 2001,* *Orbis Biblicus et Orientalis 203.* Fribourg: Academic Press; 2004. pp. 339-348.
44. See Dean-Jones LA, Ref. 14. p. 113.
45. See Cels. *Med.* III 23, 1.
46. See Gal. *Temp.* 1. 579-582 K.; Gal. *HNH* 15.185-190 K.
47. See Schäfer D, *More than a fading flame. The physiology of old age between speculative analogy and experimental method.* In: Horstmanshoff M, King H, Zittel C (eds), *Blood, Sweat and Tears. The changing concept of physiology from Antiquity into Early Modern Europe.* Leiden: Brill; 2012. pp. 241-266, 248.

48. See Graumann LA, Horstmanshoff M, “This I Suffered in the Short Space of my Life”. The Epitaph for Lucius Anthimianus (CIG 3272; Peek GV 1166). In: Petridou G, Thumiger C (eds), *Homo Patiens-Approaches to the Patient in the Ancient World*. Leiden-Boston: Brill; 2016. pp. 23-80, in part. 47-68.
49. See Gal., *Thrasysb.*, 18.55-56 Helmreich; Gal., *Ars*, 23.6-10 Boudon.
50. See Catalano P, Cilione M, De Angelis F, Gazzaniga V, Ancient Roman pathocenosis: an integrated medical journey. Bodeaux Paris: Ausonius Édition; (*forthcoming*).
51. *CH Epid.* 5.59.
52. See Catalano P, Cilione M, De Angelis F, Gazzaniga V, ref. 50.
53. See Jouanna J (ed.), (notes de Grmek MD). Hippocrate, *Épidémies V et VII*. Paris: Les Belles Lettres; 2000. pp. 158-159.
54. The use of neuter nouns Greek is supposed to be consistent with the idea of the transition to adulthood in conjunction with spermatogenesis and menstruation.
55. *Dig.* VI 1.31; Laes C, Child slaves at work in Roman antiquity. *AncSoc* 2008;38:235-283, 241.
56. See Laes C, Children and Occupations in Late Ancient Rome (300-700 CE). In: Laes C, Mustakallio K, Vuolanto V (eds), *Children and family in Late Antiquity. Life, Death and Interaction*. Leuven: Peeters; 2015. pp. 79-109.
57. See *CH Epid.* IV 5, 164, 15.
58. See Flohr M, *The world of fullo. Work, Economy, and Society in Roman Italy*. Oxford: University Press; 2013. no. 63.
59. *Juv. Sat.* VI 397.
60. See Capasso L, Di Domenicantonio L, Work-related syndesmoses on the bones of children who died in Herculaneum. *Lancet* 1998;352:1634.
61. See Battistini A, Caldarini C, Catalano P, Di Giannantonio S, Pantano W, Zavaroni F, The work done in Rome by children and adolescents: hypothesis based on the anthropological analysis of three suburban necropolises of the imperial age. *Medicina nei secoli* 2022;34(3):21-30.
62. See Minozzi S, Catalano P, Calderini C, Fornaciari G, Palaeopathology in Roman Imperial Age. *Palaeopathology* 2012;79:268-283.
63. See Pl. *NH* 35, 196-198. For an overview see Monteix N, *Les Lieux de métier. Boutiques et ateliers d’Herculanum*. Rome: EFR; 2010. pp. 169-217.
64. Plin. *NH* 35, 175.
65. The legal tradition (see Porena P, *Il lavoro infantile*. In: Marcone A (ed.), *Storia del lavoro in Italia. L’età romana. Liberi, semiliberi e schiavi in una società premoderna*. Roma: Castelvechi; 2016. pp. 663-794, 678) and iconographic (the frescoes of the *fullonica* by L. Veranius Hypsaesus, in particular VI 8, 2.20) testifies to the presence of children at work in the *fullonicae*.
66. Sen. *Ep.* 2, 15, 4.
67. See Orib. *Coll. Med., Lib. Inc.* 5, 5-8.
68. See Cilione M, Gazzaniga V, ref. 13. p. 252.



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Disabled Children: Changing Perspectives Between Ancient World and Early Christianity

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ABSTRACT

Disabled Children: changing perspectives between Roman world and early Christianity

Terms such as “handicap/disability” are absent from ancient thinking, and disabled people are not at all a focus of interest for the ancient authors. The attitude of an individual and of a society towards deformity is a cultural product informed by a particular value system (Garland 1992), and this is especially true for the perception and treatment of children born with malformations. The rejection of “defective” infants after birth was a practice thought morally acceptable in the Greek and Roman world. Conversely, Christian authors appear to have sided with their Jewish counterparts in challenging the morality of abortion, exposure, and infanticide under any circumstances. The late imperial laws partly transposed this new orientation. This paper will try to understand the Greek, Roman and Christian discourse on physical malformation and its actual impact on the daily life of adults and children. Above all, it will focus on the changes that have occurred in the different cultural passages, but nonetheless on the aspects that have remained constant over time.

Keywords: Children - Disability - Birth defects - Greco-Roman world - Christianity

I *disability studies* si presentano come un campo di ricerca in continua espansione e dalla forte caratterizzazione interdisciplinare¹. Negli ultimi venti anni si è particolarmente accentuato l'interesse verso il mondo antico e ciò ha comportato un profondo ripensamento metodologico, soprattutto per quanto riguarda l'ambito della ricerca storica².

Inizialmente ci si è orientati verso l'accoglimento di una definizione generale di disabilità, che ricalcasse più o meno quanto dichiarato dall'OMS nel 1980, poi precisato in successivo intervento del 2001, con la pubblicazione dell'ICF, acronimo indicante l'*International Classification of Functioning, Disability and Health*. In tale contesto si è proposto di intendere la disabilità come "la condizione personale di chi, in seguito ad una o più menomazioni, ha una ridotta capacità d'interazione con l'ambiente sociale rispetto a ciò che è considerata la norma, pertanto è meno autonomo nello svolgere le attività quotidiane e spesso in condizioni di svantaggio nel partecipare alla vita sociale"³.

Questa soluzione, tuttavia, non ha mancato di suscitare forti perplessità e ciò soprattutto, anche se non solo, in relazione al mondo antico. Tale prospettiva è sembrata infatti troppo staticamente fondata su una rappresentazione della disabilità sempre uguale a se stessa. Al contrario, da più parti si è sottolineato come la stessa applicazione della definizione sopra richiamata possa dare esiti diversi in contesti diversi. Si è visto ad esempio, che la struttura delle società antiche, non certo omologabile con i moderni assetti occidentali, consentiva una integrazione nel mondo del lavoro molto più ampia di quanto siamo portati ad immaginare⁴, mentre un rapporto con il dolore più assiduo e intenso rispetto a quanto oggi sperimentiamo poteva far apparire come "normali" situazioni considerate nel presente altamente invalidanti⁵. Se poi si sposta l'attenzione dalle concrete condizioni di disabilità alla loro percezione, possiamo facilmente constatare quale divario esista fra le nostre e le loro valutazioni, basti pensare ai casi emblematici di Omero, Tiresia, Edipo⁶.

Forse ritenere che la disabilità sia solo in "The Eye of the Beholder", secondo la proposta suggestiva di Robert Garland⁷, potrebbe apparire riduttivo, ma certo, come giustamente nota Christian Laes, appare ugualmente impossibile circoscriverla nei limiti d'un mero problema di salute, presentandosi questa piuttosto come un fenomeno complesso, che riflette l'interazione tra le caratteristiche del corpo di una persona e le caratteristiche della società in cui vive⁸. Soprattutto, secondo la felice intuizione di Martha Lynn Rose e dello stesso Robert Garland, l'atteggiamento di un individuo o di una società nei confronti della disabilità è una costruzione culturale, che può essere indagata e compresa solo all'interno delle specifiche dinamiche che l'hanno prodotta⁹. Ciò solleva però immediatamente altri problemi di carattere metodologico. Le fonti scritte cui possiamo ricorrere per lo più toccano il tema solo tangenzialmente, nella maggior parte dei casi accennandovi per parlare d'altro¹⁰. Anche laddove i testi presentino descrizioni più o meno dettagliate, si è constatata la difficoltà di proiettarvi diagnosi "retrospettive", sia perché gli antichi – medici, filosofi o retori – muovevano

da presupposti diversi rispetto agli attuali, sia perché la terminologia da loro adottata risulta vaga e discontinua¹¹.

Il nostro mondo si dibatte ormai da anni nella ricerca di un linguaggio che possa sfuggire all'accusa di *ableism* e gli studi storici non di rado si sono dovuti confrontare con critiche anche severe¹². Dobbiamo però mantener viva la consapevolezza che si tratta di problematiche moderne, ignote al mondo antico¹³. Questo infatti, per quanto è stato possibile appurare, non concettualizza il tema "disabilità"¹⁴, mentre il linguaggio adottato per le tante situazioni che noi facciamo rientrare in questo *umbrella term*¹⁵ oltre ad essere impreciso, risulta spesso urticante per la sensibilità moderna.

In tal senso appare significativo il caso dei bambini nati con malformazioni. L'atteggiamento tenuto nei loro confronti e la terminologia con la quale vengono descritti appare oggi, a dir poco, cinicamente crudele. Tuttavia, si tratta di un caso che merita certamente attenzione, sia perché sembrerebbe essere stato l'unico effettivamente problematizzato dal mondo antico, con un convergere di interessi che tocca l'ambito religioso, legislativo e sociale; sia perché esso consente di cogliere la lenta trasformazione di un mondo e, forse, sfatare alcuni miti.

Le fonti relative alla spinosa questione sono state analizzate più volte. Esse, tuttavia, se considerate in una prospettiva di lunga durata, dal periodo arcaico all'età imperiale, attraversando le trasformazioni del Tardo antico e del primo cristianesimo, possono forse rispondere a nuove domande e consentirci di distinguere, almeno in qualche misura, la distanza fra le petizioni di principio e la realtà quotidiana, nonché quel lento trascolorare di culture che avrebbe dato origine ad un nuovo sentire, pur nel permanere di forti linee di continuità.

Questo il percorso che ci avviamo ad intraprendere, nel tentativo di ricostruire un quadro più sfumato del nostro passato, non per assolvere né per giudicare, ma per conoscere e comprendere. Una funzione per la quale, almeno come primo passo, risulta imprescindibile adottare il punto di vista emico, cioè il punto di vista dei nostri lontani attori e dunque anche la loro terminologia, per cui *absit iniuria verbis*.

Il mondo greco fra teoria e prassi

La vulgata di un mondo antico cinicamente avverso ai bambini nati con malformazioni trova il suo punto focale in una norma attribuita al mitico νομοθέτης Licurgo. Stando alla testimonianza di Plutarco, che scrive almeno settecento anni dopo i fatti, i genitori spartani avrebbero dovuto presentare i loro figli ad una sorta di commissione di anziani della tribù. Questi, nel caso avessero trovato il bambino sano e robusto, ne avrebbero concesso l'allevamento, aggiungendo a tal fine l'assegnazione di uno dei novemila lotti di terra; se però fosse apparso loro debole o deforme (ἀγεννὲς καὶ ἄμορφον), l'avrebbero destinato ad un precipizio presso il monte Taigeto, considerando che la sua vita non sarebbe stata di vantaggio né per lui né per Sparta (Plut. *Lyc.* 16, 1-2).

Nelle altre città greche le cose non sarebbero andate diversamente, anche se, forse, all'infanticidio si sarebbe preferita l'esposizione, vale a dire l'abbandono del neonato per via o fuori città.

Platone, nella *Repubblica* (Plat., *Rep.* V. 460b- 461b), sembrerebbe infatti destinare la prole degli "inferiori" e chi era nato "difettoso" (ἀνάπηρον) ad un allontanamento misterioso, che ne occultasse la sorte per tutti. Sebbene un passo del *Timeo* (19a) lasci forse intravedere una possibilità di recupero almeno per alcuni di questi bambini, conseguente a successivi riesami, altri interventi (Plat., *Rep.* III. 415 b-c; V. 459 d-e; *Theaet.* 160e-161a) mostrano chiaramente che individui imperfetti non potevano trovar posto nella polis vagheggiata dal filosofo.

Aristotele sarebbe stato non meno reciso, addirittura auspicando, per il suo stato ideale (Arist., *Pol.* 1335b) una legge che vietasse l'allevamento del bambino deforme (πηπηρωμένον)¹⁶.

La concordanza delle tre fonti sembrerebbe lasciare ben poche speranze a chi fosse nato con non meglio specificati difetti fisici. Occorre tuttavia tenere presente che sia la testimonianza relativa a Sparta che quelle riguardanti Atene rispecchiano non tanto la realtà dei fatti, quanto l'utopia dei loro autori, impegnati a disegnare una società regolata sul concetto tipicamente greco di *καλοκαγαθία*, fusione inscindibile di perfezione fisica e morale. Si trattava, però, di una visione del mondo elitaria che non toccava tutti e non da tutti era necessariamente condivisa¹⁷.

La rigida selezione voluta dalla presunta legge di Licurgo si applicava, infatti, alla sola classe superiore degli Spartiati, cui era demandato il compito di difendere e dirigere la città, ma non ai Perieci né agli Iloti, destinati a funzioni più umili, per le quali, evidentemente, non si esigevano le medesime abilità fisiche ed intellettuali. Anche Platone, negli interventi sull'argomento, si mostra soprattutto interessato a popolare la sua città ideale d'una nuova classe di "migliori", per la cui procreazione fornisce una serie di consigli che potremmo definire eugenetici¹⁸. Infine, Aristotele si pone più o meno nella stessa linea, ma proprio il suo auspicio in favore della legge cui si accennava, induce ad ipotizzare che la soppressione dei bambini "deformi" non fosse così sistematica come il filosofo avrebbe voluto¹⁹.

Alcuni riscontri concreti supportano oggi tale ipotesi. Gli scavi archeologici condotti sotto il monte Taigeto, ad esempio, non confermano la strage di bambini desumibile dalla testimonianza di Plutarco²⁰, mentre studi paleopatologici effettuati su scheletri pertinenti il mondo greco pongono in rilievo la presenza in individui adulti di malformazioni presumibilmente esistenti sin dalla nascita²¹.

Con ciò concordano, del resto, ulteriori informazioni desumibili da altre fonti. Sappiamo, ad esempio, che fra gli scritti medici della scuola ippocratica, si trovano indicazioni per il trattamento di alcune affezioni congenite, quali ad esempio lussazioni dell'anca, della caviglia e del polso (Hp. *Art.* 55) o il cosiddetto piede torto (Hp. *Art.* 62). Così come siamo informati su alcuni personaggi le cui "disabilità" furono

computate come una caratteristica identificante o, addirittura, un'attrazione. Fra i primi, vengono per lo più ricordati il re di Sparta Agesilao, l'ateniese Pericle, il re di Macedonia Filippo²²; fra i secondi i protagonisti di scene trasmesse da una serie di documenti iconografici²³. Probabilmente è vero, come è stato osservato, che la condizione sociale incideva significativamente sia sulla percezione delle diverse "disabilità"²⁴ che sulla scelta dei genitori, così come non è improbabile che a far scattare il rifiuto o l'accettazione non fosse solo la maggiore o minore gravità delle malformazioni, peraltro mai precisate, quanto piuttosto l'interesse o le aspettative di una famiglia nei confronti del nuovo nato.

Tali aspettative avrebbero potuto agire in positivo, nel caso di un bambino fortemente voluto, come ipotizza Cynthia Patterson²⁵, ma anche in negativo, provocando delusione e vergogna.

La nascita di un essere che derogasse in modo più o meno evidente dalle norme condivise veniva infatti recepita come segno di una punizione divina, inflitta ai genitori per una colpa precedente²⁶. Una questione privata, che non coinvolgeva nel danno l'intera comunità e quindi non richiedeva espiazione, come sarebbe invece avvenuto a Roma, ma certo gettava discredito sulla famiglia, comportando tra l'altro per questo figlio imperfetto la futura esclusione da tutti quei sacerdozi e magistrature che esigevano il preliminare accertamento dell'integrità fisica²⁷. Una questione che, ancora una volta, avrebbe riguardato solo le classi più elevate.

In conclusione, dal punto di vista normativo, nessuna legge, se non forse a Sparta, imponeva in Grecia l'obbligo di eliminare, mediante infanticidio o esposizione, i bambini malformati, così come nessuna legge, mai, lo ha vietato. Ragioni di ordine sociale, economico e, non ultimo, affettivo orientarono di volta in volta le scelte. Forse, di fronte a malformazioni particolarmente gravi, poté influire la consapevolezza di una scarsissima e penosa aspettativa di vita. E forse in periodi di crisi questi bambini sarebbero stati i primi ad essere sacrificati²⁸. In ogni caso il fenomeno rimane per noi difficile da quantificare, anche semplicemente in percentuale. Possiamo solo dire che la soppressione dei neonati "imperfetti" non fu così sistematica e scontata come un tempo si credeva ed il quadro, nonostante la relativa scarsità delle fonti, appare oggi molto più sfumato ed articolato.

Roma, dall'età arcaica all'avvento del cristianesimo

Anche a Roma una serie di testimonianze invita a ritenere l'infanticidio e l'esposizione dei bambini una pratica comune ed anche in questo caso i primi riferimenti hanno una connotazione particolare, sotto alcuni aspetti non diversa da quanto si è visto per la Grecia.

Stando, infatti, ad una notizia trasmessa da Dionigi di Alicarnasso, vissuto a Roma nell'ultimo scorcio del I secolo a.C., Romolo avrebbe ordinato agli abitanti della città

di allevare tutti i figli maschi e la primogenita delle femmine e di non uccidere alcun bimbo al di sotto dei tre anni di età, a meno che questi non fosse stato deforme o mostruoso (*παιδίον ἀνάπηρον ἢ τέρας*) (D.H. *Ant. Rom.* II,15,3). Nel caso si fosse verificata tale ultima eventualità, sarebbe stato concesso di esporre il neonato, a condizione che i genitori lo avessero presentato a cinque uomini del vicinato, ottenendone il consenso (*ibidem*).

Questa legge ha suscitato discussioni sia per l'attribuzione al mitico fondatore di Roma²⁹, sia per il rinvio all'esame dei vicini. Brent Shaw, in particolare, ha supposto che quest'ultimo fosse solo una rielaborazione retorica della norma spartana ricordata da Plutarco³⁰. Bisogna però osservare che i rapporti cronologici fra i due, Dionigi e Plutarco, impediscono una dipendenza diretta, mentre una notizia affine viene riportata anche per un diverso contesto geografico e culturale. Quinto Curzio Rufo, autore delle *Storie di Alessandro*, ricorda infatti che in India, ai tempi del suo eroe, la decisione di allevare un infante non era soggetta all'arbitrio dei genitori, ma demandata a individui incaricati di farne l'esame, i quali avrebbero ordinato di ucciderlo (*necari iubent*) in caso di anomalie evidenti (Curt. IX, 1).

Forse tutti questi richiami a strutture collegiali esterne alla famiglia potrebbero tradire il desiderio di sollevare i genitori da una scelta difficile o, viceversa, cautelare la prole da chi poteva essere interessato a sbarazzarsene.

In ogni caso, anche Cicerone proietta in un passato lontano la consuetudine di eliminare (*cito necatus*) il neonato deforme (*insignis ad deformitatem*), facendola risalire alla legge delle XII tavole (*XII Tabb.* IV,1, *apud Cic. leg.* 3, 8, 19)³¹. Sulla stessa linea si muovono, poco dopo, Seneca il Retore e Seneca il filosofo. Il primo ricordando come molti padri preferissero *proicere* anziché *exponere* i bambini nati con qualche parte del corpo danneggiata (Sen. *contr.* 10, 4, 16)³². Il secondo precisando con lucidità oggettiva che non derivava da ira, bensì da ragionevolezza separare gli inutili dai sani (*a sanis inutilia discernere*), eliminando i feti mostruosi (*portentosos fetus*) e affogando gli stessi figli se nati invalidi o mostruosi (*debiles monstrosique*) (Sen. *ira* 1,15,2).

Questi autori danno l'impressione di ritenere che l'eliminazione dei bambini con malformazioni contribuisse non solo allo stabilirsi di una società ideale³³, ma anche d'una società protetta dai presagi nefasti di cui tali bambini si facevano portatori. I termini utilizzati da Dionigi di Alicarnasso e Seneca – *τέρας*, *portentosus*, *monstruosus* – rinviano infatti all'orizzonte del religioso, lo stesso su cui si disegnano i racconti di nascite eccezionali riportati da Tito Livio, Giulio Ossequente, Plinio il vecchio o Valerio Massimo. Costoro qualificheranno l'evento o il neonato come *prodigium*, *miraculum*, *ostentum*, *portentum*, *monstrum*³⁴, termini che recano ciascuno sfumature di significato diverse, soprattutto nella loro storia remota, ma finiranno spesso per essere impiegati in modo interscambiabile³⁵, rinviando tutti all'ambito dei *prodigia*.

Ma cosa si intendeva con questa espressione? Può certo considerarsi ancora valida, in linea di massima, la sintetica definizione di Auguste Bouché-Leclercq, che vi vedeva

dei: “Phénomènes ou incidents quelconques, dont la cause supposée était une action directe et voulue de quelque divinité, et destinés à révéler (*prodere, prodicere*) l’intention de cette divinité”³⁶.

Per quanto riguarda l’età repubblicana, si dovrebbe però aggiungere almeno un richiamo alla carica emotiva che si riconnetteva a tali fenomeni: per gli uomini del tempo, il *prodigium* rappresentava infatti il segno terrificante della collera degli dèi, presagio di grandi mali, quali guerra, carestia, sconvolgimenti nell’assetto politico. Mali che toccavano, evidentemente, non solo la singola famiglia, come accadeva in Grecia, ma l’intera comunità.

Questo il motivo per cui la decisione sulla sorte dei neonati classificati come *prodigia* esulava dalla sfera privata ed il loro trattamento si inscriveva nei riti di espiatione, più esattamente nella *procuratio prodigiorum*. Almeno in teoria, chiunque fosse venuto a conoscenza di una nascita fuori della norma doveva notificarlo. Uno dei consoli ne avrebbe riferito al senato, ed i *Patres* si sarebbero incaricati di valutare la questione. Se il *prodigium* fosse apparso loro di una gravità tale da meritare considerazione, allora si sarebbero rivolti ai pontefici, ai decemviri o agli aruspici, quindi avrebbero fissato i riti espiatori raccomandati da questi collegi³⁷.

Grazie a questa complessa procedura, nonché al valore che le veniva attribuito nella vita della *respublica*, riusciamo a sapere qualcosa di più sulle caratteristiche fisiche di questi neonati. I tanti riferimenti a nascite straordinarie di Tito Livio e Giulio Ossequente si inquadrano infatti nella pubblicazione dei *prodigia* e forniscono un quadro ricco e articolato, soprattutto se integrati con i dati provenienti da Plinio il Vecchio, Cicerone, Valerio Massimo, Flegonte di Tralle, Plutarco, Appiano e Cassio Dione. Annie Allély ne ha elaborato una lista sintetica con specificazione non solo dei singoli luoghi, ma delle malformazioni riscontrate e, ove disponibile, del trattamento riservato ai diversi casi³⁸.

Il gruppo che emerge forse con maggior evidenza, poiché risulta sempre specificato il “trattamento”, riguarda gli androgini o ermafroditi. La casistica si dimostra piuttosto diversificata, comprendendo sia neonati immediatamente caratterizzati da ambiguità sessuale (Liv. XXVII,11,4; XXVII, 37,5; XXXI,12,6; Obseq. XVIIa; XXXII; LXVII; LXVIII; L; LIII; Val. Max. I,6,5; Phleg. *mir.* X; Oros. V,4,8), sia bambini più grandi o adolescenti (Liv XXXI,12,6; XXXIX,22; Obseq. XXXIV; XXXVI; III), sia cambiamenti di sesso prodottisi, per così dire, *in itinere* (Liv. XXIV, 10, 10; Plin. *nat.* VII, 36; Gell. IX, 4, 16; Diod. Sic. XXXII, 12). Difficile, stando alle descrizioni, precisare meglio le diverse situazioni e rapportarle correttamente alle odierne conoscenze scientifiche³⁹. In ogni caso, probabilmente sotto l’influsso di idee etrusche, il fenomeno sembra suscitare un vero e proprio orrore, meritandosi la qualifica di *foedum ac turpe prodigium* – un prodigio funesto e vergognoso (Liv. XXVII, 37, 5). Gli androgini, quale che fosse la loro età, venivano destinati all’annegamento, per lo più in mare, talvolta nel fiume, procurando che la loro morte non contaminasse il suolo romano⁴⁰.

Una tale reazione di rigetto derivava dal fatto che queste nascite mettevano in dubbio la differenziazione non solo biologica, ma anche sociale fra maschio e femmina⁴¹, tanto che i giuristi si sarebbero preoccupati di dare indicazioni per la determinazione del sesso prevalente in situazioni implicanti questioni di carattere ereditario (cfr. Ulp. *Dig.* 28, 2, 6, 2 e Paul. *Dig.* 22, 5, 15, 1)⁴².

C'è da dire, comunque, che la presenza di bambini più grandi o adolescenti negli elenchi di cui si diceva, lascia supporre che i genitori abbiano talvolta ommesso di notificare la nascita del piccolo androgino, lasciandolo vivere, magari occultato. Solo successivamente una scoperta fortuita, forse sollecitata da un periodo di tensione politica o crisi sociale, avrebbe fatto scattare la denuncia e la conseguente necessità di espiazione. L'orrore dell'età più antica avrebbe poi ceduto il posto ad altri interessi, tanto che Plinio il Vecchio lamenta, nella sua *Naturalis Historia* (VII, 34), come gli ermafroditi, prima considerati *prodigia*, fossero ai suoi tempi riguardati quali fonte di piacere. Una nuova prospettiva che avrebbe cambiato la sorte sia dei nati liberi che dei piccoli schiavi⁴³.

I casi più numerosi citati dai nostri autori riguardano, però, quei bambini che, nati con diversi tipi di malformazione, risultano per lo più indicati come *monstra*. Si tratta in genere di bambini ai quali manca qualcosa, per esempio gli occhi, il naso (Liv. XXXIV, 45, 7), qualche membro (Liv. XXXIV, 45, 7 e XXXV, 21), oppure manifestano un eccesso. Fra questi ultimi sono ricordati casi più semplici, come un numero di dita superiore alla norma (Dio Cass. XLVII, 40,30), ed altri più complessi, come bambini con due teste (Liv. XLI,31,12), con quattro mani e quattro piedi (Obseq. XII) o anche tre mani e tre piedi (Obseq. XII). Risultano anche altri tipi di malformazione, come la mancata apertura degli orifizi (Obseq. XXVI) o una mano attaccata al capo (Dio Cass. XLII, 26,5). Destano attenzione, infine, casi considerati di precocità eccezionale, come bambini nati con i denti (Liv., XLI, 21, 12; Plin. *nat.* VII, 69) o anzi-tempo parlanti (Liv. XXI, 62, 2; XXIV, 10, 10; Val. Max. I, 6, 5; Obseq. XLI; Phleg. *Olymp. fragm.* 13).

In generale non viene indicato il "trattamento" riservato a questi bambini, che vengono considerati più dei portatori di presagi che *prodigia* veri e propri. Diverso però è il discorso per l'unico caso di gemelli siamesi ricordato. Questo, evidentemente, suscitò lo stesso orrore provocato dagli ermafroditi, e ricevette un trattamento conseguente; su ordine degli aruspici i gemelli furono, infatti, bruciati e le loro ceneri disperse in mare (Obseq. XXV)⁴⁴.

Da questo rapido excursus emerge chiaramente come, in età repubblicana, si sia delineata una distinzione fra le diverse malformazioni, distinzione che sembra considerare prioritariamente non la loro gravità, bensì il potenziale destabilizzante rispetto ad una concezione del mondo ordinata e in linea con la *pax deorum*. Fu per questo che proprio quelle situazioni furono gestite facendo ricorso alla *procuratio prodigiorum*, spesso integrata da ulteriori cerimonie a carattere collettivo, quali processioni o canti⁴⁵.

Per quanto riguarda gli altri casi, o più leggeri o di minor impatto religioso, mancano notizie precise. Essi furono probabilmente gestiti a livello privato, con scelte che toccarono, si può presumere, i soli genitori, pertanto dettate da esigenze peculiari della famiglia o del momento.

Se dobbiamo dar credito ad una testimonianza di Ammiano Marcellino (II, 17-19), nell'ultimo scorcio del IV secolo le nascite fuori dalla norma sarebbero state ancora avvertite come presagi di eventi funesti, ma non avrebbero più richiesto il ricorso a riti espiatori. Segno di una razionalizzazione dell'approccio che, durante il principato, emerge anche da altre fonti.

Nell'ambito del diritto, un contesto sempre particolarmente interessante per comprendere la mentalità romana, si discute, ad esempio, sullo stabilirsi della personalità giuridica per i nati *contra formam humani generis*, ovvero privi di *humanae figurae*. Sia Ulpiano che Paolo, il primo operante fra II e III secolo, l'altro in pieno III, danno responsi alternativamente negativi o positivi. In linea di massima sembra potersi dire che questi neonati "imperfetti" non vengano computati fra i figli quando sia in questione il diritto ereditario, (Paolo in *Dig.* I,5,14; Ulpiano in *Dig.* XXVIII, 2, 12. 1), mentre vengano conteggiati laddove si rinvii alla *lex Iulia et Papia Poppea* (*Dig.* L,16,135), che aveva specifici obiettivi demografici⁴⁶.

Queste oscillazioni trovano la loro motivazione nel peculiare carattere delle decisioni giurisprudenziali, basate generalmente su esigenze pratiche. Esse dimostrano, nondimeno, come il rapporto con questo particolare tipo di nascite si stesse rapidamente "raffreddando", stesse cioè perdendo quella coloritura emotiva che lo aveva sino ad allora contraddistinto⁴⁷.

Lo stesso pragmatismo sembra del resto informare un significativo intervento del medico Sorano, operante a Roma nella prima metà del II secolo. Questi in una sezione dei suoi *Gynaecia*, si preoccupa di dare indicazioni per stabilire quali neonati "valesse la pena di allevare". Le istruzioni sono rivolte alla levatrice, sicuramente il personaggio che per primo sarebbe entrato in contatto con il bambino⁴⁸. La valutazione viene condotta per gradi. La donna, in primo luogo, dovrà controllare se il neonato sia maschio o femmina, quindi informarsi sulle condizioni di salute della madre durante la gravidanza, per accertarsi che il feto non abbia corso rischi, e sui tempi della gestazione, ritenendosi ottimali i classici nove mesi, ma ammissibili anche i sette e gli otto. Fatto questo, passerà all'esame oggettivo: se il pianto abbia la giusta forza, se il neonato sia perfetto in tutte le sue parti, se gli orifici siano liberi da ostruzioni, se le funzioni naturali di ciascun membro siano adeguate, se le giunture si pieghino e si allunghino, infine se tutto abbia in generale la giusta dimensione e forma, con una adeguata sensibilità complessiva (Sor. *Gyn.* II, 10). Solo dopo questa attenta ispezione la levatrice taglierà il cordone ombelicale ad una distanza di circa quattro dita dall'addome (Sor. *Gyn.* II, 10)⁴⁹.

Poiché Sorano non specifica la sorte del bambino giudicato inadeguato, ci si è chiesti cosa ne sarebbe avvenuto⁵⁰. Francamente la domanda appare superflua. In fondo la ri-

sposta potrebbe essere implicita in quel posporre il taglio del cordone alla valutazione del neonato. D'altro canto, in un mondo che praticava l'esposizione dei bambini come normale sistema di controllo delle nascite⁵¹, non è improbabile che ad essere abbandonati per primi siano stati proprio i più fragili.

Ciò comunque non avvenne sempre e conosciamo casi di persone con disabilità più o meno gravi che giunsero all'età adulta. Mi limiterò a citarne solo tre, particolarmente indicativi delle reazioni che mondo romano e genitori ebbero di fronte alla disabilità. Il più famoso riguarda indubbiamente l'imperatore Claudio. Questi, stando alla testimonianza di Suetonio, sin dall'infanzia sarebbe stato afflitto da problemi fisici che avrebbero influito anche sul suo comportamento. Lo storico romano ricorda il disprezzo della nonna Livia, della sorella Livilla, ma soprattutto della madre Antonia per quel figlio che le appariva come "una caricatura d'uomo" "cominciato ma non portato a termine" e così stolto da farsi metro di paragone per l'insipienza altrui (Suet. *Claud.* 3)⁵². Suetonio, però, riporta anche tre lettere di Augusto alla moglie, in cui l'imperatore si mostra seriamente interessato a valutare le reali capacità del ragazzo e al tempo stesso preoccupato di evitarne l'esposizione allo scherno altrui (Suet. *Claud.* 4)⁵³.

Un simile timore per il possibile discredito sociale derivante da una condizione di disabilità potrebbe aver motivato, nel IV secolo a.C., la scelta drastica del dittatore Lucio Manlio Imperioso, il quale aveva segregato in campagna, fra schiavi e bestiame, il figlio Tito Manlio, apparentemente affetto da un ritardo nel linguaggio (Liv. VII, 4)⁵⁴. Ben diverso il comportamento tenuto, verso la metà del II s. d.C., dal retore e uomo politico Erode Attico. Questi, preoccupato per la mancanza di progressi nella lettura del figlio Bradua, aveva acquistato per lui ventiquattro piccoli schiavi e imposto loro nomi che iniziavano con le lettere dell'alfabeto, così da facilitare l'apprendimento del ragazzo (forse dislessico). Lo stratagemma probabilmente ebbe successo, perché Bradua fece una brillante carriera, divenendo prima console ordinario e poi proconsole (Philostr. *VS* 551)⁵⁵.

I tre casi, nonostante l'alto livello sociale dei protagonisti, lasciano facilmente intuire come il diletto fosse un ostacolo frequente sul cammino di chi, per un motivo qualsiasi, non rispettasse i canoni di efficienza e forma fisica richiesti dalla società del tempo. E se ciò poteva accadere a membri di famiglie illustri, possiamo facilmente immaginare quale fosse l'incidenza del fenomeno per gli strati più deboli della popolazione. C'è però da dire che, in un mondo più cinico del nostro, tutto ciò poteva trasformarsi anche in un vantaggio economico per chi avesse potestà su questi bambini. Durante il principato si registra infatti un incremento di interesse per l'anomalia corporea, sicché fra le élites economiche e sociali si diffonde la moda di "allietare" le occasioni conviviali con dei *monstra*, persone portatrici di handicap di ordine fisico o mentale esibite per il divertimento degli ospiti⁵⁶. Ciò faceva sì che i bambini portatori di disabilità evidenti si trasformassero in merce preziosa sia per una famiglia in difficoltà sia per padroni di schiavi. Seneca il vecchio (*contr.* 10,4) riferisce, infatti, di un

mendicante accusato di mutilare gli esposti e utilizzarli per suscitare compassione nei passanti; Quintiliano (2,5,11) aggiunge che la presenza di qualche deformità faceva lievitare il prezzo degli schiavi; mentre Plutarco (*curios*. 10) testimonia l'esistenza a Roma d'un frequentatissimo mercato specializzato in *terata*, dove si esponevano individui privi di gambe, con braccia cortissime, tre occhi o colli di struzzo, insomma, "ogni genere di essere ibrido e orribile mostro"⁵⁷.

Probabilmente fra i due estremi, l'attento padre di Bradua e i bambini esibiti come fenomeni da baraccone, si sarà verificato un ampio spettro di situazioni.

In tal senso sembra illuminante l'intuizione di Emma-Jayne Graham, che ha giustamente richiamato l'attenzione sul contesto socioculturale in cui i nostri bambini si sarebbero trovati a vivere. Basandosi su dati forniti dalla paleopatologia, ha posto in luce come la maggior parte dei romani abbia sperimentato corpi imperfetti, segnati da limitazioni fisiche, dolore, disagio. Sebbene tutto ciò potesse esser sopravvenuto in un secondo momento e con variazioni di intensità anche notevoli, rimane il fatto che un corpo "normale" o pienamente efficiente non era la regola, non almeno da un punto di vista statistico. Ciò potrebbe aver indotto una percezione della disabilità diversa rispetto a quella moderna perché *disparity was actually the norm*⁵⁸.

Ma se questo fosse vero, allora anche i bambini sopravvissuti alla selezione iniziale potrebbero aver incontrato forme di inclusione ignote all'efficientismo del mondo moderno. Quel che è certo, è che nell'intero corso del principato, dunque nei primi tre secoli dell'era volgare, non si registra nessun specifico intervento a favore dei piccoli disabili, né alcuna legge proibisce infanticidio ed esposizione. I tempi però erano maturi perché qualche cosa cominciasse a cambiare.

Il Cristianesimo fra continuità e innovazione

Con l'avvento del cristianesimo emergono prospettive nuove che si riflettono sul trattamento dei bambini disabili, ma nei primi tre secoli risulta difficile individuare prese di posizione esplicite. Quel che accade in questa fase può essere colto solo interessandosi a questioni apparentemente collaterali, eppure determinanti per gli sviluppi successivi. In primo luogo, occorre considerare l'atteggiamento di Gesù quale viene descritto nei vangeli. In questi, prassi ed insegnamento gesuani risultano caratterizzati da una attenzione costante nei confronti dei marginali, mentre l'attività taumaturgica, esercitata efficacemente sia dal maestro che dai discepoli, coinvolge infermità di diverso genere, alcune delle quali possono ricondursi a malformazioni congenite⁵⁹. In almeno tre episodi si fa cenno ad una eziologia, ovviamente religiosa, dei casi affrontati, ma l'indicazione che ne deriva è tutt'altro che univoca.

In occasione del risanamento del cieco nato, miracolo narrato in Io 9,1-12, l'evangelista fa porre ai discepoli la domanda fondamentale "Rabbi, chi ha peccato, lui o i suoi genitori, perché egli nascesse cieco?" (Io 9,2). E la risposta risuona inequivocabile:

“Né lui ha peccato né i suoi genitori, ma è così perché si manifestassero in lui le opere di Dio”. (Io 9,3).

Di segno parzialmente diverso appare però un'altra guarigione miracolosa richiamata sia dallo stesso evangelista (Io 5,1-18) che in un passo matteoano (Mt 9,2-7). Questa volta Gesù risana un uomo affetto da paralisi, cui ordina di non peccare più. Non viene mai esplicitato un rapporto di causalità diretta fra peccato ed infermità, ma il contesto sembrerebbe suggerirlo.

Nei vangeli sono narrati diversi altri miracoli ed alcuni di questi riguardano dei bambini. Si tratta in particolare della purificazione da uno spirito immondo della figlia della siro-fenicia (Mc 7,24-30 e Mt 15, 21-28); della guarigione d'un giovane epilettico (Mc 9,14-29; Mt 17,14-20; Lc 9,37-42); della resurrezione della figlia di Giairo (Mc 5,21-24. 35-43; Mt 9,18-19. 23-26; Lc 8,40-42. 49-56) e del figlio della vedova di Nain (Lc 7,11-17) ed infine del recupero da uno stato prossimo alla morte d'un fanciullo (παῖδιον) figlio del funzionario reale (Io 4, 46-54).

In tutti questi casi, invariabilmente contrassegnati dall'eliminazione della disabilità o della malattia, il tema in questione è sempre la fede, presentata come elemento determinante ai fini del prodursi del miracolo⁶⁰. Non si torna però sulle cause che potrebbero aver indotto la condizione patologica, né si fa cenno ad eventuali norme relative all'accettazione o al rifiuto di figli con malformazioni.

Se i vangeli non offrivano indicazioni dirimenti né su una questione né sull'altra, il cristianesimo, nato come una costola del giudaismo, poteva però attingere, almeno per la seconda, al quadro concettuale della religione di provenienza.

Questa, infatti, era sempre stata caratterizzata da un'alta considerazione per la prole, tanto che l'ordine di procreare risultava iscritto nel processo genesiaco della creazione (Gn 1,28). Ne conseguiva che i figli erano visti come dono e benedizione di Dio (Ps 127,3-4; Ps 128,2-3), e la sterilità come un dramma, al tempo stesso, personale e sociale (Gn 30,1-2.22-23; 1 Sam 1,9-11; (Gn 15,2-6). Ciò spiega perché in tale contesto aborto, infanticidio ed esposizione dei neonati fossero rigettati e considerati pratiche pagane. Autori contemporanei del nascente cristianesimo, quali Filone o Giuseppe Flavio, sono assolutamente espliciti in tal senso⁶¹.

Oggi si tende a ridimensionare l'impatto del triplice rifiuto sulla vita quotidiana degli ebrei⁶², bisogna dire, però, che esso fu avvertito all'esterno come una loro curiosa peculiarità. Tacito (*hist.* V,5,3) ricorda, infatti, che per questo popolo non era lecito (*nefas*) uccidere i propri figli, neppure quelli sopraggiunti dopo la nascita d'un erede legittimo. Le prime comunità cristiane, ad ogni modo, seguiranno la stessa linea. La condanna per le tre forme di eliminazione degli infanti già appare nella *Didaché* (2,2), un testo risalente alla fine del I-inizio II secolo, per poi essere ribadita continuamente lungo tutta l'apologetica e oltre⁶³.

La veemenza di certe requisitorie ha fatto persino ipotizzare che dietro di esse debba leggersi soprattutto una affermazione identitaria⁶⁴. Certo, si può verosimilmente

presumere che non tutti abbiano seguito con lo stesso scrupolo i dettami dell'élite culturale e religiosa⁶⁵, tuttavia compaiono chiari segni d'una introiezione delle norme, e ciò anche in testi di gusto più popolare. Nella versione greca dell'*Apocalisse di Pietro* (26), un apocrifo risalente al II secolo, in un contesto escatologico, sono presentati bimbi abortiti, dai cui occhi escono raggi di fuoco che accecano le madri. Nella successiva recensione etiopica, i feti abortiti continuano a lanciare fiamme, ma ad essi si aggiungono i bambini esposti, che insieme a loro si fanno accusatori dei genitori (*Apoc. Pet.* 8). Infine, nella *Visio Pauli* (40), correlata agli altri due testi, ma ormai del IV secolo, i padri e le madri di abortiti ed esposti subiscono un eterno strangolamento⁶⁶. La posizione assunta in questa serie di testi non appare isolata, trovando riscontro anche nelle *Eclogae Propheticae* (41,48-49) di Clemente Alessandrino, dove pure si menziona una punizione eterna per coloro che uccidono i propri figli tramite aborto, infanticidio o esposizione.

I cristiani non sono stati certo i soli a pronunciarsi contro la pratica di eliminazione degli infanti, abbiamo ricordato gli ebrei, e si devono menzionare almeno, fra i pagani, lo storico Polibio (XXXVI, 17,5-10) e il filosofo Musonio Rufo (*Mus.* 15), tuttavia sarà solo con gli imperatori convertiti alla nuova religione che nei *corpora* normativi compariranno interventi tesi a regolamentare e limitare, prima, ad eliminare, poi, infanticidio ed esposizione.

Il primo risale non a caso al 331, momento in cui Costantino è rimasto ormai signore unico dell'impero. La norma stabilisce che il bambino esposto volontariamente possa essere trattenuto presso di sé da colui che lo avrà raccolto – il *collector* – sia in qualità di libero che di *servus*; mentre chi lo aveva abbandonato avrebbe perso il diritto di recuperarlo, con una decadenza di fatto della patria potestà (CTh. 5.9.1)⁶⁷.

Sino ad allora, dall'esposizione non erano mai discese conseguenze né sullo *status* giuridico dell'esposto (cfr. *Dig.* XXII.6.1.2; *Paul.* 44 ed.) né sulla *patria potestas* di chi lo aveva abbandonato (cfr. *Dig.* XL.4.29; *Scaev.* 23 dig.)⁶⁸. La norma potrebbe dunque apparire peggiorativa per l'esposto. Si è tuttavia ipotizzato che essa mirasse, da un lato, a rassicurare il *collector*, così da invogliarlo a raccogliere il bambino; dall'altro, a scoraggiare chi sperava in un abbandono solo temporaneo. Comproverebbe tale lettura il fatto che Costantino, già nel 318, aveva proibito la soppressione dei neonati (CTh. IX.15.1), mentre nel 329, consapevole del sussistere di particolari condizioni di difficoltà economica, ne aveva consentito la vendita, lasciando ai genitori la possibilità di riprenderli successivamente dietro rimborso di un corrispettivo. Costantino avrebbe dunque agito con romano pragmatismo nell'intento di salvare vite in una situazione data, senza limitarsi, come invece hanno congetturato altri, ad un riconoscimento brutale degli usi già in essere⁶⁹.

In ogni caso nel 374 l'imperatore Valentiniano I avrebbe stabilito definitivamente che l'uccisione d'un neonato dovesse considerarsi un omicidio e condannato in modo esplicito l'esposizione dei bambini (cfr. CTh. IX.14.1 CI VIII.51.2)⁷⁰.

Si discute se o quanto il cristianesimo abbia influito su questi nuovi orientamenti⁷¹. Di sicuro la chiesa sarebbe entrata presto nell'obiettivo dello stesso legislatore. L'imperatore Onorio, con un intervento risalente al 412, assegna, infatti, a membri del clero un ruolo in qualche modo notarile nell'accertamento della situazione degli esposti, richiedendo che abbandono e ritrovamento di un bambino siano attestati da un vescovo (CTh. V.9.2)⁷².

Specularmente, anche i concili avrebbero cominciato ad occuparsi della questione. Lo provano i canoni 9 e 10 del Concilio di Vaison, tenutosi nel 442, il canone 51 del cosiddetto secondo concilio di Arles⁷³ e infine, nel 506, il canone 24 del Concilio di Agde⁷⁴.

Ormai, chi raccoglie un bambino abbandonato deve notificarlo ad un rappresentante della chiesa, un *minister*, il quale, a sua volta, dovrà fornirne certificazione, presumibilmente scritta, e annunciarlo dall'altare nella funzione domenicale. Se nessuno si fosse presentato nei successivi dieci giorni, il bambino sarebbe passato sotto la potestà del *collector*, che ne avrebbe determinato lo status a suo gradimento.

Le autorità ecclesiastiche si mantengono dunque nell'alveo del dettato legislativo, dando l'impressione di dividerne la *ratio*: non scoraggiare i *collectores* e disincentivare l'abbandono. Si ha tuttavia l'impressione che nei testi sinodali emerga una più forte reprimenda nei confronti di chi espone, ormai definito senz'altro un *homicida*. La sanzione non viene specificata, ma sembra trasparire una riprovazione morale che segna un capovolgimento di prospettiva rispetto al passato.

Ad ogni modo, difficile non notare come fra tanti interventi contro infanticidio ed esposizione non emerga nessuno riferimento alle condizioni di salute del bambino, né tantomeno compaiano interessi eugenetici di sorta⁷⁵.

Si può certo ipotizzare, come è stato fatto, che il quadro concettuale qui rapidamente richiamato implichi una sostanziale accettazione di questi neonati, conseguente alla coscienza del valore intrinseco attribuito a ciascuna vita⁷⁶; tuttavia, in un contesto culturale così fortemente orientato verso il rifiuto, risulta difficile credere che i genitori cristiani non abbiano nutrito qualche dubbio di fronte ad un bambino gravemente malformato. Torniamo così alla domanda di partenza: come si posero i cristiani nei confronti di questi bambini?

In mancanza di prese di posizione esplicite, per trovare risposte, dobbiamo sfruttare alcuni indicatori indiretti. Significativo appare in tal senso il moltiplicarsi di riflessioni sulle cause delle malformazioni neonatali.

Com'è noto, nell'antico mondo Mediterraneo tutti più o meno dividevano l'idea che dietro la malattia si celasse una colpa personale⁷⁷. Anche i vangeli, come si è visto, ne recano traccia e, pur non fornendo risposte univoche, offrono spunti che gli esegeti avrebbero colto. Ireneo, ad esempio, proprio discutendo i miracoli gesuani di cui si è detto (cfr. Io 9,1-12; Io 6,14 e Mt 9,2-7), sembra aver ritenuto che alcune malformazioni, ma non tutte, potessero derivare da peccati personali (cfr. *Adv Haer*

V, 15,2; V, 17,2). Le Omelie Pseudo-clementine (19,22,5-8), invece, stabiliscono una connessione fra malformazioni congenite e ignoranza delle norme di purità relative ai rapporti sessuali, soprattutto in relazione al ciclo mestruale (cfr. Lv 15,19-24 e 20,18). Crisostomo, per parte sua, torna sull'episodio del cieco nato, per rifiutare sia la connessione cecità-peccato, sia il ricadere sui figli delle colpe dei genitori (*Hom* 56,1). Con lui concorda Girolamo (*ep.* 68,1 e 130,16), il quale aggiunge, in funzione antiorigeniana, una confutazione della teoria secondo la quale le sofferenze dei bambini più piccoli sarebbero state la conseguenza di peccati commessi dalle loro anime nella vita preesistente⁷⁸. Infine, Arnobio di Sicca chiamerà in causa il fato, mentre sempre più si affermerà l'idea di una correlazione fra malformazioni neonatali e mancata osservanza dei tempi consentiti per i rapporti sessuali (non la domenica, durante ciclo, la gravidanza, l'allattamento ecc.)⁷⁹.

In questo ventaglio di prospettive emergono due posizioni assolutamente originali, tese ad includere, con modalità diverse, la disabilità in un piano provvidenziale. Le incontriamo negli *Atti apocrifi di Pietro* e in Agostino.

I primi, nella versione del manoscritto copto di Berlino, trasmettono un episodio riguardante la figlia dell'apostolo. La ragazza all'età di dieci anni aveva rischiato di subire violenza da parte di un giovane innamoratosi di lei, ma si era salvata grazie al sopravvenire d'una paralisi improvvisa. Successivamente, Pietro, per dimostrare l'efficacia del suo potere taumaturgico ad una folla incredula, avrebbe risanato la fanciulla, ma solo il tempo necessario ad offrire la prova richiesta, considerando più vantaggioso per sua figlia mantenersi nello stato in cui Dio l'aveva posta⁸⁰.

Il carattere popolareggiante di questo racconto è ben lontano dalla complessa riflessione di Agostino. Questi in *De civitate dei* XVI,8,1-2, passando in rassegna popoli dalle caratteristiche fisiche inconsuete, si ricollega al tema della disabilità ed argomenta che anche corpi apparentemente imperfetti rivelano la benevolenza ed infallibilità del loro creatore. Tutti i *monstra*, ivi compresi i bambini (*de monstrosis apud nos hominum partibus*), rientrerebbero dunque, a suo avviso, nel disegno divino quali parti preziose della creazione⁸¹. Il discorso si spinge anzi sino a porre in atto una sorta di *retorsio* contro coloro che si lasciavano scandalizzare dalla defomità, bollati come individui incapaci di vedere il tutto ed ignari della congruità dell'insieme (*civ.* XVI,8,2).

La soluzione fornita da Agostino, per quanto avanzatissima, rimane solitaria e lo stesso Ipponate oscillerà, talvolta, verso posizioni più tradizionali. Così accade quando ipotizza che alla resurrezione ogni anomalia sarà eliminata ed il corpo verrà restaurato nella perfezione voluta da Dio (*civ* XXII,19; *enchir* 23,87), e ancor più quando scorge nelle sofferenze dei bambini una conseguenza del peccato originale (*c. Iul.* 6,21,67). Questo variegato riflettere sul medesimo punto suggerisce la presenza di un forte interesse fra i cristiani, quale che fosse il loro livello sociale o culturale. Un interesse che potrebbe essere stato sollecitato anche dalla preclusione, almeno teorica, delle opzioni disponibili per i contemporanei pagani, in particolare per l'infanticidio.

Il sospetto che l'idea balenasse comunque nella mente di tanti genitori viene ventilato da Gregorio di Tours. Questi narra l'infelice caso di una donna di Bourges che aveva dato alla luce un figlio, le cui ginocchia erano piegate fino allo stomaco, i talloni fissati alle gambe, le mani abbracciavano il petto e gli occhi erano chiusi. La poveretta per questo veniva sbeffeggiata insieme al suo bambino, sicché, forse in un crollo nervoso, confessò fra le lacrime d'aver concepito di domenica, cioè in un giorno proibito. Dopo di che, aggiunge il testo, non osando uccidere il bambino, *ut mos matrum est*, decise di allevarlo come se fosse stato sano (Greg. Tur. *Mart.* II,24)⁸².

Non è chiaro se l'inciso si riferisca alla frase che precede o a quella che segue. Cioè se l'autore intenda affermare che le madri erano solite uccidere i piccoli *monstra* che avevano generato o piuttosto erano solite allevarli. Sta di fatto che la donna ci viene rappresentata nel momento drammatico del dubbio⁸³.

Fatta la scelta, il periodo in cui tenne presso di sé il bambino fu comunque breve, perché, appena cresciuto a sufficienza, lo cedette a dei mendicanti, che lo esposero sulla pubblica piazza ottenendone ottimi guadagni. Il bambino, avrebbe poi continuato a girare con loro sino all'età di dieci anni, quando, giunto a Tours nella festa del santo, si sarebbe aperta per lui la strada di una guarigione miracolosa.

Potremmo richiamare molte storie simili. Con l'esplosione del culto dei santi, le attestazioni di guarigione di bambini ciechi, sordi o con impedimenti deambulatori aumentano esponenzialmente. Incontriamo allora genitori premurosi che li accompagnano nei santuari in cerca di cura, ma vediamo anche tanti piccoli affetti dalle più diverse malformazioni esibiti come fenomeni da baraccone o mendici per piazze e fiere⁸⁴.

Certo si può sicuramente considerare il peso della retorica: un bambino povero e malato commuove più di un ricco adulto. Tuttavia, diverse fonti riportano la frequente presenza di persone con disabilità. Ambrogio di Milano e Gregorio Magno, ad esempio, elencano le categorie di indigenti soccorse dalle loro chiese, fra le quali figurano *caeci, claudi, trunci e debiles* (Ambr. *ep.* 75a, 33; Greg. M. *ep.* V,30). Lo stesso quadro si ripropone nell'area greca, stando alla ricca ed articolata ricostruzione offerta da Evelyne Patlagean per la Bisanzio dei secoli IV-VII⁸⁵.

Già prima, del resto, sapevamo di bambini accolti presso monache e monaci (cfr. p. es. Greg. Nys. *v. Macr.* 26,30; Hier. *ep.* 130, 6,5; Aug. *ep.* 98,6) o anche da istituzioni caritatevoli di fondazione cristiana⁸⁶.

Possiamo dunque supporre che all'eliminazione fisica di un tempo si sia sostituita gradualmente una tacita preferenza per l'esposizione, resa ormai più sicura dalla consuetudine di lasciare i neonati nelle chiese⁸⁷, dunque in luoghi protetti, in cui qualcuno si sarebbe preso cura di loro.

Altri, invece, avrebbero scelto di tenere presso di sé i propri figli, magari legati in casa, come ci viene narrato in un testo monastico egiziano (*Hist. Monach. in Aegypto* 22,3) o occultati al mondo, come fece il re Shahgird con la figlia paralizzata (*Acta di Mar Mari* 12). Qualcuno di questi ragazzi, sarebbe diventato anche imprenditore di se

stesso, come sembrerebbe il caso dei Gemelli siamesi ricordati con simpatia da Leone Diacono (*Hist.* 10,4).

Tanti frammenti di vita che non consentono di ricostruire un quadro esaustivo e perfettamente coerente, ma gettano un po' di luce su un mondo che appare ancora per troppi versi sommerso.

Conclusioni

Nel passaggio dalle culture precristiane al cristianesimo si evidenziano sia linee di continuità che innovazioni.

Indubbiamente fra le prime deve includersi la diffidenza nei confronti di esseri i cui corpi, con le loro difformità, mettono in crisi la stessa percezione identitaria dell'uomo antico. Anche quando l'eliminazione fisica cede il posto a pratiche meno drastiche, il timore religioso che aveva circondato i *prodigia* non viene meno, così come non si arrestano disprezzo e derisione. Non solo ritroviamo gli stessi spettatori avidi di curiosità nel mondo pagano ed in quello cristiano, ma persino un vescovo come Basilio di Cesarea, personalmente impegnato nel soccorso degli ammalati⁸⁸, volendo stigmatizzare il comportamento degli eretici, li paragona a madri di mostri che, sopraffatte dalla vergogna, occultano la loro prole (*Bas. Ep.* 210.5).

Ciononostante, si riscontra almeno una innovazione di grande rilievo: se prima erano stati filosofi e moralisti ad auspicare la soppressione dei neonati malformati, con il cristianesimo sarà proprio l'élite culturale e spirituale a rifiutare l'eliminazione di qualsiasi bambino, quali che fossero le sue condizioni di salute.

In entrambi i casi sappiamo che non tutti avrebbero seguito le petizioni di principio dei loro leaders, né in un senso né nell'altro.

Si ha comunque l'impressione che, spingendosi avanti nel Tardo antico e, poi, verso l'età medievale, il numero di adulti con disabilità si incrementi progressivamente. Le descrizioni fornite nei vari resoconti di miracoli sono imprecise e spesso cedono al gusto del sensazionale, ma risultano certo significative le testimonianze di un Ambrogio o di un Gregorio Magno. E, dopotutto, sono trentenni i gemelli siamesi descritti da Leone Diacono, così come adulte dovevano essere le figlie *deformes et aliquo membro debiles* che, secondo Girolamo, i genitori preferivano destinare al convento, ritenendole poco appetibili per il matrimonio⁸⁹.

I cristiani cercano, in ogni caso, di darsi strutture per provvedere ad una infanzia che non cessa di essere abbandonata e che conta al suo interno individui segnati dalle più varie patologie. L'iniziativa si innesta in una prospettiva complessiva di soccorso ai bisognosi, ma avvia anche, come è stato osservato⁹⁰, un processo di categorizzazione del "diverso" che conoscerà una lunga storia.

Nonostante il tentativo solitario di Agostino, i disabili cominciano così a trasformarsi in una umanità a sé, mai pienamente integrata nel tutto. I loro corpi, con le patologie

e malformazioni di cui si fanno portatori, non incontrano una serena accettazione, ma risultano quasi sempre proiettati verso una speranza di risanamento. Questo è lo scopo prevalente delle narrazioni di miracolo che disseminano gli scritti agiografici. Allora emerge con tutta chiarezza come la disabilità, sia essa prodotta da una colpa, dal fato o da qualche altro incidente di percorso, rimanga una condizione che deve essere annullata, perché solo così l'individuo potrà ritrovare quella forma perfetta che era stata prevista inizialmente da Dio e dalla natura.

Se questo non è possibile nel corso della vita terrena, promettono i teologi, avverrà nel futuro escatologico, quando ogni corpo sarà glorificato⁹¹ e, ci permettiamo di aggiungere, “normalizzato”.

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1. Cf. Albrecht GL, Ravaud J-F, Stiker H-J, L'émergence des disability studies: état des lieux et perspectives. *Sciences sociales et santé* 2001;19(4):43-73.
2. Per una panoramica cf. la bibliografia curata da Christian Laes (ultimo aggiornamento 11/2021): *Disability History and the Ancient World (ca. 3000 BCE - ca. 700 CE)*. A Bibliography <https://www.disabilityhistory-ancientworld.com/new-cover-page> (05/2022).
3. Sulla definizione e la sua storia cf. Scelfo P, Sapuppo C, Storia e campi di applicazione della Classificazione Internazionale del Funzionamento della Disabilità e della Salute. *Pratica Medica & Aspetti Legali* 2012;6(1):21-29 <http://journals.seedmedicalpublishers.com/index.php/PMAL/article/view/298/300> (05/2022).
4. Per C. Husquin, le persone portatrici di un'*atteinte physique* non sarebbero state marginalizzate sistematicamente nel mondo romano. Gli scavi archeologici dimostrerebbero infatti che potevano essere impiegate in attività economiche coerenti con le loro possibilità ovvero sostenute dalla famiglia. Queste le ragioni per cui preferisce parlare di un'*exclusion relative* (Husquin C, *L'intégrité du corps en question: perceptions et représentations de l'atteinte physique dans la Rome antique*. Rennes: Presses Universitaires De Rennes; 2020).
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 11. Sulla scoraggiante imprecisione della terminologia antica cf. Amundsen DW, *Medicine and the Birth of Defective Children: Approaches of the Ancient World*. In: McMillan RC, Engelhardt HT, Spicker SF (eds), *Euthanasia and the Newborn: Conflicts Regarding Saving Lives*. Dordrecht, The Netherlands: Reidel; 1987. pp. 50-69.
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 13. Si veda fra gli altri Allély A, *Handicaps, malformations et infirmités dans l'Antiquité*. Introduction. *Pallas* 2018;106:167-171; Laes C, *Disabilities and the Disabled in the Roman World: A Social and Cultural History*. Cambridge: University Press; 2018. pp. 1-20; Husquin C, *L'intégrité du corps en question: perceptions et représentations de l'atteinte physique dans la Rome antique*. Rennes: Presses Universitaires De Rennes; 2020. pp. 11-29. Davies LJ, Foreword. In: Adams E, *Disability studies and the classical body*. London: Routledge; 2021. pp. xv-xix.
 14. Cf. Laes C, *How Does one Do the History of Disability in Antiquity? One Thousand Years of Case Studies*. *Med. Secoli* 2011;23(3):915-946, in part. p. 916.
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19. Dubbi suscita anche Plat. *Theaet.* 161a. Cf. Scott E, Unpicking a Myth: The Infanticide of Female and Disabled Infants in Antiquity. In: Davies G, Gardner A, Lockyear K (eds), TRAC 2000: Proceedings of the Tenth Annual Theoretical Roman Archaeology Conference, London 2000. Oxford: Oxbow Publishers: 2001. pp. 143-151.
20. Cf. Pitsios TK, Ancient Sparta-Research Program of Keadas Cavern. *Bulletin der schweizerischen Gesellschaft für Anthropologie* 2010;16:13-22, in part. 15.
21. Cf. Grmek MD, Diseases in the Ancient Greek World. Baltimore: Johns Hopkins University Press; 1989. pp. 69-70; Gosbell L, "As long as it's healthy"... cf. nota 17. p. 107.
22. Cf. Maiuri A, Enorme monstrum: deformità e difformità nel mondo greco-romano. In: Passalacqua M, De Nonno M, Morelli AM (eds), Venuste noster. Scritti offerti a Leopoldo Gamberale. Hildesheim-Zürich-New York: Georg Olms Verlag; 2012. pp. 525-547; in part. 529; Evans Grubbs J, Infant Exposure and Infanticide. In: Evans Grubbs J, Parkin T, Bell R (eds), The Oxford Handbook of Childhood and Education in the Classical World. Oxford: Oxford University Press; 2013. p. 88; Goodey CF, Lynn Rose M, Disability History and Greco-Roman Antiquity. In: Rembis M, Kudlick CJ, Nielsen K (eds), The Oxford Handbook of Disability History. New York, NY: Oxford University Press; 2018. pp. 45-46.
23. Cf. Grmek MD, Gourevitch D, Les maladies dans l'art antique. Paris: Fayard; 1998; Dasen V, Naître et grandir différent dans le monde grec. In: Delattre V, Sallem R (eds), Decrypter la différence: La place des personnes handicapées au sein des communautés du passé. Paris: CQFD; 2009. pp. 57-62, in part. 58-61.
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25. Patterson C, "Not Worth the Rearing": The Causes of Infant Exposure in Ancient Greece. *Transactions of the American Philological Association* 1985;115:103-123.
26. Cf. Garland R, The Eye of the Beholder... cf. nota 15. pp. 59-61; Dasen V, Naître et grandir différent dans le monde grec. In: Delattre V, Sallem R (eds), Decrypter la différence: La place des personnes handicapées au sein des communautés du passé. Paris: CQFD; 2009. pp. 57-62. Maiuri A, Enorme monstrum... cf. nota 22. p. 528.
27. Cf. Wilgaux J, Ὑγιής καὶ ὀλόκληρος. Le corps du prêtre en Grèce ancienne. In: Brulé P (ed.), La norme en matière religieuse en Grèce ancienne. Liège: Presses universitaires de Liège; 2009. pp. 231-242. La norma, ovviamente, non riguardava solo il mondo greco, ma rifletteva una mentalità condivisa. Il *Levitico*, ad esempio, enumerava vari tipi di disabilità fra gli impedimenti al sacerdozio (cf Lv 21, 18-20) e la norma sarebbe stata riproposta dal cristianesimo sino in tempi relativamente recenti. Il catechismo tridentino (II, 287) specificava infatti che "non si debbono ancora accettare, o ammettere (*scil.* all'ordine sacerdotale) quelli, che per qualche notabil mancamento del corpo fussero o deformati, o scontrafatti, o gli

- mancasse qualche notabil membro: perché quella bruttezza del corpo & quella debolezza, è necessario che offenda altrui, & che insieme impedisca l'amministrazione del sacramento" (*Catechismo, cioè istruzioni, secondo il decreto del Concilio di Trento a parrochi, pubblicato per comandamento del Santiss. S. N. Papa Pio V. Venezia: Aldo Manutio 1569. p. 340*). Il Codice di Diritto Canonico emanato da Benedetto XV nel 1917 avrebbe solo attenuato i toni, evitando di menzionare l'"offesa" e mantenendo comunque la preclusione per "i viziati di corpo per debolezza o deformità che impedisca il ministero", cf. i cann. 983-986, <http://www.internetsv.info/Text/CIC1917.pdf> (05/2022), Solo con il Nuovo Codice di Diritto Canonico, emanato da Giovanni Paolo II, le restrizioni precedenti sarebbero state sostituite (can. 1029) dalla generica richiesta di "qualità fisiche e psichiche", la cui valutazione sarebbe rimasta, in ogni caso, competenza del vescovo (cf. https://www.vatican.va/archive/cod-iuris-canonici/ita/documents/cic_libroIV_1026-1032_it.html#Articolo_1).
28. Così Dassen V, Naître et grandir différent... cf. nota 22. p. 57.
 29. Per i dubbi sull'attendibilità storica cf. Evans Grubbs J, Infant Exposure and Infanticide... cf. nota 22. p. 90 e Allély A, Les enfants malformés et considérés comme prodigia à Rome et en Italie sous la République. *Revue des Études Anciennes* 2003;105(1):127-156, in part. 128; senz'altro negativa: Corbier M, Lois, normes, pratiques individuelles et collectives: la petite enfance à Rome. *Annales* 1999;54(6):1257-1290, in part. 1258.
 30. Cf. Shaw BD, Raising and killing children: Two Roman myths. *Mnemosyne* 2001;54(1):31-77, in part. 58, n. 69.
 31. Dionigi, Plutarco e Cicerone rifletterebbero l'atteggiamento dei loro tempi più che la situazione dei periodi ai quali si riferiscono secondo Garland R, The Eye of the Beholder... cf. nota 15. p. 39.
 32. Il passo integrale recita: "*multos patres exponere solitos inutiles partus. nascuntur, inquit, quidam statim aliqua corporis parte mulcati, infirmi et in nullam spem idonei, quos parentes sui proiciunt magis quam exponunt. aliqui etiam vernulas aut omine infausto editos aut corpore invalidos abiciunt*". Che qui il verbo *proicere*, letteralmente liberarsi di un peso (cf. Horat. *Sat.* 2.3.99-102), non possa intendersi in riferimento all'esposizione è dimostrato proprio dalla esplicita contrapposizione fra le due azioni. Maiuri A, *Enorme monstrum*... cf. nota 22. p. 534) valorizzando quanto dice l'altro Seneca, nel passo che commentiamo subito di seguito (*De ira* 1, 15, 2: *portentosos fetus extinguimus, liberos quoque, si debiles monstrosique editi sunt, mergimus*), ha ipotizzato che il *proicere* del primo autore rimandi proprio alla pratica di affogare i nati invalidi o mostruosi.
 33. Cf. Kelley N, The Deformed Child... cf. nota 10. pp. 202-203.
 34. Allély A, Les enfants malformés... cf. nota 29. p. 134
 35. Su tale terminologia cf. Bloch R, Les prodiges dans l'Antiquité classique. Paris: Presses universitaires de France; 1963; Rasmussen SW, Public Portents in Republican Rome. Roma: L'Erma di Bretschneider; 2003. in part. 53-116; Maiuri A, *Enorme monstrum*... cf. nota 22. pp. 525-547. Inoltre, con ampia escussione di fonti giuridiche, cf. Alemán Monterreal A, Precisiones terminológicas sobre ostentum, D. 50, 16, 38 (Ulpianus libro 25 ad edictum). In: Resina Sola P (ed.), *Fundamenta Iuris. Terminología, principios e interpretatio*. Almería: Universidad de Almería; 2012. pp. 49-64.
 36. Cf. Bouché-Leclercq A, s.v. Prodigia. In: Daremberg C, Saglio E, *Dictionnaire des antiquités grecques et romaines*. IV, 1. Paris: Hachette; 1907. p. 667.
 37. Cf. Allély A, Les enfants malformés... nota 29. pp. 135 e 128.
 38. *Ibid.*, pp. 132-134. Per una discussione delle singole tipologie e del loro "trattamento" cf. invece pp. 136-147.

39. Cf. Graumann LA, Monstrous Births and Retrospective Diagnosis: The Case of Hermaphrodites in Antiquity. In: Laes C, Goodey CF, Rose ML (eds), *Disabilities in Roman Antiquity...* nota 5. pp. 181-210.
40. Fa eccezione una fanciulla che avrebbe cambiato sesso, deportata in un'isola deserta: Plin. VII,36.
41. Brisson L, *Le sexe incertain, Androgynie et hermaphrodisme dans l'Antiquité gréco-romaine*. Paris: Les Belles Lettres; 1997. pp. 38-39.
42. Cf. Thomas Y, La division des sexes en Droit romain. In: Duby G, Perrot M (eds), *Histoire des femmes en Occident*; t. I: *L'Antiquité*. Paris: Pion; 1991. pp. 104-106; Crifò G, Prodigium e diritto: il caso dell'ermafrodita. *Index* 1999;27: 113-120; Maiuri A, *Enorme monstrum...* cf. nota 22. pp. 538-539.
43. Cf. Péter OM, *Olim in prodigiis nunc in deliciis*. Lo status giuridico dei monstra nel diritto romano. In: Hamza G, Benedek F (eds), *Iura antiqua-Iura moderna*. Festschrift für Ferenc Benedek zum 75. Geburtstag. Pecs: Dialóg Campus Kiadó; 2001. pp. 207-216.
44. Sul timore sacrale suscitato da queste nascite cf. anche Cic. diu., I, 53. Sul tema cf. Dasen V, *Les jumeaux siamois dans l'Antiquité classique*. Mythes, prodiges, phénomènes de foire. *Revue du praticien* 2002;52:9-12. Non crearon invece allarme i parti gemellari qualora il numero dei nati si limitasse a due o al massimo tre (tranne per l'Egitto, ritenendosi che le acque del Nilo rendessero particolarmente prolifici: cf. Plin. *nat.* VII, 33). In generale sui parti gemellari, cf. Dasen V, *Multiple Births in Graeco-Roman Antiquity*. *Oxford Journal of Archaeology* 1997;16:49-63; Ead, *Jumeaux, jumelles dans l'Antiquité grecque et romaine*. Zürich: Akanthus Verlag; 2005.
45. Cf. Allély A, *Les enfants malformés...* cfr. nota 29. p. 149.
46. Cf. Impallomeni G, Il tema di vitalità e forma umana come requisiti essenziali alla personalità. *Iura* 1971;22:99-120.
47. Su questo mutamento di prospettiva cf. Maiuri A, *Enorme monstrum...* nota 22. pp. 533-534; Allély A, *Les enfants malformés et handicapés à Rome sous le Principat*. *Revue des Études Anciennes* 2004;106(1):73-102; Ead, *Les enfants handicapés, infirmes et malformés à Rome et dans l'Empire romain pendant l'Antiquité tardive*. *Pallas* 2018;106:197-211.
48. Cf. Bacalexi D, *Responsabilités féminines: sages-femmes, nourrices et mères chez quelques médecins de l'Antiquité et de la Renaissance*. *Gesnerus* 2005;62:5-32. Sulla possibilità che fosse effettivamente la levatrice a prendere le prime decisioni sul neonato, incaricandosi eventualmente dell'esposizione o della cessione ad altri, cf. Evans Grubbs J, *Infant Exposure and Infanticide...* nota 22. p. 85.
49. Cf. Gourevitch D, Burguière P, Malinas Y, *Les premières heures de la vie de l'enfant d'après Soranos*. *Revue des Sciences Médicales* 1991;86:225-229.
50. Cf. Gosbell L, "As long as it's healthy"... nota 17. pp. 106-107; Patterson C, "Not Worth the Rearing"... cf. nota 25. pp.103-123.
51. Sull'esposizione e le sue motivazioni cf. Eyben E, *Family Planning in Graeco-Roman Antiquity*. *Ancient Society* 1980-1981;11-12:5-82; Harris WV, *Child Exposure in the Roman Empire*. *The Journal of Roman Studies* 1994;84:1-22; Corbier M, *Child Exposure and Abandonment*. In: Dixon S (ed.), *Childhood, Class and Kin in the Roman World*. London: Routledge; 2001. pp. 52-73; Evans Grubbs J, *Infant Exposure and Infanticide...* cf. nota 22. pp. 83-107.
52. L'incapacità di Claudio è richiamata anche da Tacit. *ann.* III,18,7; XI,28,2; XII,3,3 e 67, 1.

53. Sulla vicenda di Claudio nel senso che qui ci interessa cf. Garland R, *The Eye of the Beholder...* nota 31. pp. 40-42; Gourevitch D, *Au temps des lois Julia et Papia Pop-paea, la naissance d'un enfant handicapé est-elle une affaire publique ou privée?* *Ktema* 1998;23:459-473, in part. 468-470; Laes C, *Raising a Disabled Child...* cf. nota 10. pp. 131-132; Husquin C, *L'intégrité du corps...* cf. nota 13. pp. 276-302 (che considera anche Caligola). Si è voluto identificare il complesso di patologie descritte per Claudio con la malattia di Little, ma l'ipotesi è stata confutata da Karenberg A, Moog FP, *Next Emperor Please! No End to Retrospective Diagnostics.* *Journal of the History of Neurosciences* 2004;13:143-149.
54. Tale condotta sarebbe stata però giudicata negativamente dall'opinione pubblica, forse anche perché il ragazzo avrebbe poi avuto un notevole successo nella carriera pubblica. Sull'episodio cf. Laes C, *How does one...* nota 14. pp. 917-921; Id, *Raising a Disabled Child...* nota 10. pp. 134-135.
55. Sull'episodio e sulla possibile identificazione dei problemi del ragazzo con un caso di dislessia cf. Laes C, *Raising a Disabled Child.* Nota 10. p. 111.
56. Cf. Slater WJ, *Dining in a Classical Context.* Ann Arbor: University of Michigan Press; 1991. Sulle persone con ritardi mentali utilizzate come una sorta di giullari, cf. *Sen. ep.* 50,2; in generale sull'interesse degli imperatori per i *monstra* cf. Garland R, *The Eye of the Beholder...* cf. nota 15. pp. 45-58.
57. Néraudau JP, *Être enfant à Rome.* Paris: Les Belles Lettres; 1984. pp. 353-355, in part. 366-367; Laes C, *Desperately Different? Delicia Children in the Roman Household.* In: Balch DL, Osiek C (eds), *Early Christian Families in Context. An Interdisciplinary Dialogue.* Grand Rapids, MI: Eerdmans; 2003. pp. 302-303; Chioffi L, *Congressus in venalicio: spazi urbani e mercato degli schiavi a Capua e a Roma.* *Mélanges de l'École française de Rome. Antiquité* 2010;122(2):503-524; Péter OM, *Olim in prodigiis nunc in deliciis. Lo status giuridico dei monstra nel diritto romano.* In: Hamza G, Benedek F(eds), *Iura antiqua-Iura moderna. Festschrift für Ferenc Benedek zum 75. Geburtstag.* Pecs: Dialóg Campus Kiadó; 2001. pp. 207-216.
58. Graham EJ, *Disparate Lives or Disparate Deaths?..* cf. nota 5. p. 258.
59. Sul Gesù operatore di miracoli si vedano gli studi raccolti in Léon-Dufour X (ed.), *I miracoli di Gesù secondo il Nuovo Testamento.* Brescia: Queriniana; 1980; Blackburn BL, *The Miracles of Jesus.* In: Chilton BD, Evans CA (eds), *Studying the Historical Jesus. Evaluations of the State of Current Research.* Leiden: Brill; 1994. pp. 353-394.
60. Gosbell L, ha contestato l'idea che i rapporti fra Gesù e persone disabili sarebbero meramente incidentali e solo finalizzati ad evidenziare le azioni taumaturgiche del protagonista, convinta che gli autori antichi utilizzassero proprio la disabilità come mezzo per comprendere e organizzare le esperienze umane, cf. Gosbell L, "The Poor, the Crippled, the Blind, and the Lame": *Physical and Sensory Disability in the Gospels of the New Testament.* Tübingen: Mohr Siebeck; 2018. pp- 9-10.
61. Philo, *Spec.* 3.110-119; *virt.* 131-133; *Ios. Antiq.* 4.287; *Ap.* 1.60, 2.202; cf. anche *Orac. Sib.* 2.280-282. Sul tema cf. Harris WV, *Child Exposure...* nota 51. pp. 6-7; Horn CB, Martens JW, "Let the Little Children Come to Me": *Childhood and Children in Early Christianity.* Washington D.C.: The Catholic University of America Press; 2009. pp. 222-225.
62. Si fa notare, infatti, come l'esposizione fosse praticata anche fra gli ebrei, sebbene forse in misura minore rispetto ai popoli circconvicini: cf. Schwartz R, *Did the Jews Practice Infant Exposure and Infanticide in Antiquity?* *Studia Philonica* 2004;16:61-95; Koskeniemi E,

- The Exposure of Infants among Jews and Christians in Antiquity. Sheffield: Sheffield Phoenix Press, 2009. pp.88-140; Monnickendam Y, The Exposed Child: Transplanting Roman Law into Late Antique Jewish and Christian Legal Discourse. *American Journal of Legal History* 2019;59(1):1-30, in part. p. 9. [https://doi.org/10.1093/ajlh/njy030.\(05/2022\)](https://doi.org/10.1093/ajlh/njy030.(05/2022)).
63. Cf. Barn. 19,5; *Did.* 2,2; *Iust. I apol.* 27. 29; *Min.Fel. Oct.* 30,1-2.; 31,5; *Clem. paed.* 2.10. 3,4; *strom.* 2,18; *Tert. apol.* 9.6-8; *Athenag. leg.* 35,6; *Tert. nat.* I, 15,8; *apol.* 9,8. 17; *exhort. cast.* 12,5; *Lact. Inst.* V,9; VI,20; VII, 187.
 64. Cf. Bakke OM, When Children Became People: The Birth of Childhood in Early Christianity. Minneapolis: Fortress; 2005. pp.125-126; Barcellona R, La retorica dell'infanzia abbandonata nel cristianesimo antico. Tra polemica e paretisi. 'Ilu. *Revista de Ciencias de las Religiones* 2013;24:59-76.
 65. Cf. Bakke OM, When Children Became People... nota 64. pp. 125.126.
 66. Su questi testi cf. Shanzer D, Voices and Bodies: The Afterlife of the Unborn. *Numen* 2009;56:326-365.
 67. Cf. Capogrossi Colognesi L, Patria potestà. In: *Enciclopedia del Diritto*. vol. XXXII. Milano: Giuffrè; 1982. pp. 242-249, in part. 244; e più in generale Id, La famiglia romana, la sua storia e la sua storiografia. *Mélanges de l'École française de Rome. Antiquité* 2010;122(1):147-174.
 68. Cf. McGinn TAJ, Roman Children and the Law. In: Evans Grubbs J, Parkin T, Bell R (eds), *The Oxford Handbook of Childhood and Education...* nota 22. pp. 341- 362.
 69. Per la prima ipotesi cf. Lorenzi C, Esposizione e politica costantiniana. *Rivista di Diritto Romano* 2018;18(ns 3): 145-157, in part. p. 151 <http://www.ledonline.it/rivistadirittoromano/> (05/2022): per la seconda cf. Voci P, Storia della patria potestas da Costantino a Giustiniano. *Studia et Documenta Historiae et Iuris* 1985;51:1-72, in part. p. 32). Ancora sulla legislazione relativa ai temi in discussione cf. Harris WV, Child Exposure... nota 51. pp. 1-22; Corbier M, Child Exposure and Abandonment... nota 51. pp. 52-73; Evans Grubbs J, Church, State, and Children: Christian and Imperial Attitudes toward Infant Exposure in Late Antiquity. In: Cain A, Lenski N (eds), *The Power of Religion in Late Antiquity*. Burlington, VT: Ashgate; 2009. pp. 119-131; Ead, Infant Exposure and Infanticide; Monnickendam Y, The Exposed Child... nota 62. pp. 1-30.
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79. Cf. Hier. *in Ezech.* 6.18; Rufin. *Clement.* 9,9; Sophronius Soph, *Taumata* 15,3; Caes. Arel. *serm.* 44,7; Greg. Tur. *Mart.* 2.24; Concilio di Orléans III,31; Concilio di Chalons 18. Cf. Laes C, *Raising a Disabled Child*. p. 128; Boswell J, *The Kindness of Strangers. The Abandonment of Children in Western Europe from Late Antiquity to the Renaissance*. Chicago: the University of Chicago Press; 1988. p. 260; Metzler I, *Disability in Medieval Europe. Thinking about Physical Impairment during the High Middle Ages, c. 1100-1400*. London, New York: Routledge; 2006. p. 89.
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81. Cf. Stainton T, *Reason, Grace and Charity: Augustine and the Impact of Church Doctrine on the Construction of Intellectual Disability*. *Disability and Society* 2008;23(5):485-496.
82. Cf. Laes C, *How Does one Do the History of Disability in Antiquity? One Thousand Years of Case Studies*. *Med. Secoli* 2011;23(3):915-946. In part. pp. 925-928; Id, *Disabled Children in Gregory of Tours*. In: Mustakallio K, Laes C (eds), *The Dark Side of Childhood in Late Antiquity and the Middle Ages*. Oxford; Oxbow Books: 2011: pp. 39-62.
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84. Cf. Holman SR, *Sick Children and Healing Saints...* nota 77.
85. Cf. Patlagean É, *Pauvreté économique et pauvreté sociale à Byzance (4e-7e siècles)*. Paris: Mouton; 1977. pp. 101-112. Per la situazione italiana cf. Freu C, *Les figures du pauvre dans les sources italiennes de l'Antiquité tardive*. Paris: De Boccard; 2007; e più in generale Neri V, *I marginali nell'Occidente tardoantico*. Bari: Edipuglia; 1998.
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87. Cf. *Novel.* 153 (ed il libro di diritto Siro-Fenicio 86) con il commento di Fossati Vanzetti MB, *Vendita ed esposizione degli infanti da Costantino a Giustiniano*. *Studia et Documenta Historiae Iuris* 1983;49:179-224 in part. 223-224.
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At the Edge of the Words Representation of the Social and Economic Fragility of Childhood in Byzantine Hagiographic and Patristic Sources

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ABSTRACT

Representation of the Social and Economic Fragility of Childhood in Byzantine Hagiographic and Patristic Sources

The patristic and hagiographic sources of the IV-VI centuries offer, for the Eastern Empire, information on the condition of children belonging to the most humble strata of the population. The authors' perception of this condition of fragility is not univocal and refers to the cultural and spiritual contexts in which the text was conceived.

Keyword: Childhood - Social vulnerability - Hagiographic sources - Byzantium

Methodological premise

This contribution aims to offer partial results of a survey developed on a sample of sources belonging to contiguous literary genres in order to highlight how childhood's condition, from a social and economic point of view, has been perceived and represented in them. Specifically, the research was conducted on some representative hagiographic, patristic and legislative texts of the IV-VI centuries, mainly relating areas of Egypt, Syria, Constantinople and Cappadocia.

Child protection in legislative sources: some mention

In Late Antiquity and Byzantine times the stages of childhood and adolescence were defined by a technical vocabulary, in use especially in medical sources. Childhood covers a period of time that, generally, lasts up to fourteen years and is divided into four phases related to as many moments of growth: the first phase extends from birth to the first dentition; the second follows, from the first teething to weaning; the third, from three years to the second dentition; and, finally, the fourth, from six or seven years to puberty¹. In some Byzantine sources we find the quaternary division, albeit with dissimilar intervals, divided in progressive and precisely denoted stages that culminate with biological and sexual maturity: *brephos*, from birth to four years; *paidion*, from four to six years; *boupais*, from ten to eighteen years; *meirakion*, from eighteen to twenty years². The commonly used term for a minor, in prepubescent age (generally, up to fourteen), also present in legislative texts, is *anebos*, which is opposed to *epebos*, to indicate instead an individual already sexually mature, where, on the other hand, *enelikos* is the one who has reached twenty-five years, the age at which, according to Roman law, and in Byzantium, one became completely adult³. Legal threshold of puberty, involving a certain moral autonomy, useful for contracting marriage, was fourteen years, for boys, and twelve, for girls⁴; however, it changed according to the circumstances and each family environment. In the Justinian and post-Justinian age, *pater familias* was allowed, by custom, to set, at his discretion, children leave celibacy. Protection of children, infants or anyhow *aneboi*, especially if in disadvantaged conditions, unable to work or without parental protection, represented a care of the legislator already in classical age and presence of orphans, exposed children, sold and enslaved, or small graves and beggars, arises strongly from legal sources between the Constantinian and Justinian ages⁵. *Novellae*, in particular, reveal Justinian's commitment to the weak and offer a lot of information on living conditions of the population and the causes of decline into poverty. Famines, affecting the empire during the fifth and sixth centuries, contributed to increase mass migrations from countryside to metropolis⁶. Workers, many of whom were poorly or totally unqualified, flowed from countryside to cities⁷. To these people were added subjects not suitable for work – the sick, women, children – whose only source of subsistence was almsgiving⁸. Within the

mass of pilgrims, the text distinguishes, even terminologically, those who, although in poverty, are of healthy physical constitution and, therefore, able to carry out activities necessary for their subsistence; and those who cannot provide for themselves because they are weak by age or illness⁹. Among the healthy poor, there are subjects oppressed by strong tax burden¹⁰; small landowners, victims of famine and subject to the harassment of rulers; slaves on the run.

However those to whom, especially, imperial *philanthropia* was addressed, were poor invalids: the sick, the elderly, women and children, joined to poor families, abandoned, sold or sick. The construction of buildings for hosting this suffering humanity is only one aspect of the solicitude shown by Justinian towards the weak. The material help given by the emperor was expressed, in fact, in a series of laws and provisions issued in order to give a regulatory framework to welfare activities and a legal definition of the functions and competences of those who were promoters, the clergy in the first place. Actions were also taken on the formation and destination for charitable purposes of the funds of churches and pious institutions¹¹. Institutions were created managed by the State, the Church or private individuals dedicated to the reception and education of orphans¹² and the bishop was entrusted with the legal responsibility of the assisted¹³. In fact, the legislator took care to protect the social and legal status of children and to cope with the abandonment and alienation of off springs with the promulgation of rules that recalled and reiterated those already existing or intervened with new measures.

Already the first Christian writers (Athenagoras, Justin, Clement of Alexandria) had denounced and condemned childhood abandonment, a cruel practice and potentially causing further crimes, such as incestuous unions, albeit unconscious, between fathers and children exposed and raised by a prosecutor¹⁴.

In the fourth century, emperor Constantine, inspired by new Christian ideals, promulgated norms against abandonment and protecting orphans¹⁵. In 331 Constantine intervened again on the problem of exposure and modified the legislation of Trajan, according to which legal status of the abandoned child (*threptos*¹⁶) was linked to that of the parents and left to those who found and raised him the faculty to adopt him as free or, on the contrary, to raise him as a slave¹⁷. The natural parents lost all rights to the condition of the exposed.

Justinian resumed legislation on abandoned children and brought many revisions. In an edict of 529 he reaffirmed and strengthened the Constantinian norm on the loss of rights of parents on abandoned children by prohibiting them to advance on the find lings a right of property and preventing, to those who welcomed them, to make them slaves¹⁸. The emperor in fact equates exposure, even in a public place, with murder¹⁹. He also tried to stem alienation or donation of children by the parents²⁰: sale at birth was allowed only for reasons of serious poverty and on condition that the buyer returned the freedom to the child against payment of an adequate fee²¹.

In Nov. 14, emperor also orders against the soliciting of small peasants and prohibits the practice of luring. The phenomenon was widespread: poor girls, often still children, left the countryside, where their father had stipulated a contract with the prosecutor and, enticed by promises of shoes and clothes, arrived in Constantinople where they ended up in prostitution²².

The solidarity that Justinian expressed towards those afflicted by poverty and deprivation is expressed in the classical and Christian forms of the virtue of *philanthropia*. In Nov. 81 (397, 13-25), emperor is concerned to accomplish all that may be of use (*opheleia*) to the Empire that has been given to him by God. In view of the high office he held, he is invested with very specific duties towards his subjects and, under divine protection, takes care of human affairs. In *Novellae* appears, albeit nuanced, the theme of *mimesis tou theou* and *philanthropia* that is divine virtue par excellence. To imitate God means, for Justinian, to govern, keeping one's gaze always turned to Him and His laws. Only the emperor who follows God, administers the state properly and with justice and with love of neighbor. Moreover, already the *Laus Constantini* composed by Eusebius of Caesarea in 336 to celebrate the thirtieth year of the reign of Emperor Constantine, offers a theological representation of earthly power that will become a founding theme of Byzantine political ideology. The concept around which Eusebius' theory revolves is that, precisely, of *mimesis*, according to which earthly sovereignty descends from Heaven and the sovereign reigns according to such a transcendent specularly, dispensing in a provident way just solicitude towards his subjects²³.

Social and economic fragility of childhood in patristic and hagiographic sources

Love of neighbor and charity represent, in the late ancient and Byzantine Christian tradition, essential virtues even in an ascetic context that promotes *enkrateia*.

The coexistence and complementarity between models of Christian perfection is clearly illustrated by a passage from the *Historia Monachorum in Aegypto* (fourth century)²⁴. The work tells of a journey made by a deacon and seven young people from Jerusalem among the communities of the monks of Egypt. Visitors meet holy men who live an angelic life following the teaching of Christ. Among these, Apollo stands out, spiritual leader of a community of five hundred monks on the borders of Hermopolis, in the Thebaid. During a famine, the inhabitants of the countryside - men, women and children - had gone to the community of Apollo in the hope of escaping hunger thanks to an intervention from heaven. In fact, the holy man manages to feed them but only for a day. He therefore ordered to take the three baskets of loaves that would be destined for the monks and to expose them so that each one could refuel. Miraculously, the bread never fails and the baskets are not emptied offering food to everyone until the next harvest. The story that clearly declines the value of the offer, finds ideal confirmation in the criticism that Apollo addresses to those ascetics who

wear iron chains and wear long hair, thus flaunting a perfection that could instead be achieved only with fasting and humble charity.

The narration of the journey also reports the ways and habits of the anchorites of Nitria, champions of asceticism and virtue. Some dedicated themselves to contemplation, while others to active charity, expressed through almsgiving and solicitude for others.

The exhortation to charity occupies an important space in the homiletic production of John Chrysostom. God gave the money to the rich so that the latter would use it for the benefit of the poor and for his own salvation²⁵. Riches, if misused, disfigure the soul and inflame the body where the poor, who are not prone to harmful pleasures, are firm in spirit and enjoy good health. In Chrysostom's discourse, the invective against avarice and avaricious, the call to the Christian duty of gift, the emphasis placed on the 'sickness' of the rich are placed in antithesis to the emphasis placed on the needs of the poor and to the apparent paradox of the 'wealth' of the poor. Poor and rich are evoked as civil categories, classics that characterize individuals united by a state of need originated by factors often of context.

The need to provide aid to the poor is a recurring theme in the work of Gregory of Nyssa who identifies in the poor invalid (*ptochos*) an extreme condition of fragility²⁶ such as to force those affected to not be able to provide for themselves. In fact, while the one who has no means but is endowed with good health can go from door to door to ask for alms, the one who is poor and sick cannot move and lives the humiliating condition of seclusion and dependence. It can theoretically be assumed that, within the list of fragilities, the one deriving from age is included, but Gregory does not mention it explicitly where instead he lingered to describe the physical manifestations of poverty and illness and how these arouse general contempt and repulsion²⁷.

Children occupy a space of greater visibility in the writings of Basil of Caesarea. In the Homilies on the *Hexameron*²⁸, Basil compares man to animals and considers the wickedness of certain birds of prey not unlike that of parents who abandon their children either out of necessity or, if wealthy, so as not to disperse the patrimony among too many heirs. It has been noted that, in the Letters, Basil expresses his interest in the harsh condition of orphans, often without means, without paternal guardianship and, therefore, subjected to harassment; or poor children, who follow the fate of misfortune of the fathers²⁹. Basil also mentions the charitable activity carried out by some monasteries thanks to the establishment of schools for the education of orphans³⁰.

The sources of Eastern monasticism of the fifth and sixth centuries document the presence of children in monasteries and villages even if, only rarely, they offer an explicit testimony of institutionalized activities aimed at childhood. A young man could enter a monastic community at the age of ten or eleven³¹. Probably, in the early Byzantine period, even younger children were allowed in monasteries and their presence will then be consolidated in the sixth and seventh centuries³². Often they were entrusted

by important figures or had family relationship to some members of the community. Later, growing up, they then chose to stay and embark on an ascetic path under the guidance of a spiritual father. The monastery also opened its doors to children devoted to God after a difficult conception or birth or following an illness they had miraculously survived. Parents also destined their children to the monastic life in the hope of offering them better opportunities for life³³. Many young people followed their father who had left the family to embrace the ascetic life. The *Apophthegmata Patrum*³⁴ tell of Zachariah and his father Carion, who came to Scetes to escape a famine that broke out in Egypt³⁵. The Scetiot monks, fearful of the temptations that the presence of a young man could arouse in the community, do not welcome Zachariah willingly³⁶. To escape the embarrassment, father and son are therefore forced to abandon Scetes and go to the Thebaid from which, however, they move away so as not to give rise to suspicion again. Back in Scetes, Zachariah takes a drastic decision and disfigures his appearance by immersing himself in a Nitro pond.

The young Zachariah shared his humble origins with other monks who, mostly without education³⁷, had carried out manual work in the world related to the life of the fields or to the activities of the workshop³⁸. Macarius, before becoming a monk, grazed cattle³⁹; Macarius the Egyptian sold sweets; elsewhere he appears as a camel driver; Paphnutius, the disciple of Macarius, was a guardian of calves during his childhood; John of Lycopolis had carried out the art of the carpenter⁴⁰. The simplicity of many young disciples reflects more generally the often precarious condition in which the children of the villages found themselves, mitigated, at times, by the care⁴¹ and benevolent attention of the Fathers. This is the case of Paisia who, orphaned by both parents, transforms her home into a guesthouse for the monks of Scete. This activity, however, drains her finances and the girl is forced to abandon her and prostitute herself to get a living. Moved to pity, John the Dwarf strives for the redemption of Paisia. Macarius the Egyptian then uses his own discernment to remove children from the fate of slavery to which they had voted a paternal debt no longer extinguishable.

With the exception of brief biographical notations and these and other isolated episodes, in the *Apophthegmata patrum* there is no particular attention to the condition of children, even the most disadvantaged, nor does there be much space for the moral promotion of love for children and rare are the testimonies of the works of charity addressed to them. Philanthropy and assistance activities dedicated to the weakest and children are instead more frequently attested in the hagiographic sources relating to Syriac Christianity and, above all, to Constantinopolitan Christianity.

The *Philotheos Historia*, written by Theodoret of Cyrrhus (393-458) around the middle of the fifth century, is composed of a series of short biographies, ordered according to a diachronic progression and tells the story of Syriac ascetics, men and women who practiced extreme forms of mortification⁴². Among these, James, who spent a hermit's life in the mountains before becoming bishop of Nisibi. Theodoret celebrates him for

his harsh ascetic practices, fasting and mortification, but, no less, for his solicitude for the needy, widows and orphans.

The hagiographic texts relating to the region of Constantinople, in particular, document the welfare activity promoted by holy men with the support of the Church and the imperial government. The Life of Hypatius, hegumen of the *Rouphinianai* monastery, located on the Asian side of the Bosphorus, was composed in the years 447-450, after the death of the protagonist, by the disciple Callinicus⁴³. Hypatius (366-446) was originally from Phrygia and belonged to a devout family of good social extraction. His father had given him a literary education. To follow his religious vocation and to escape his father's harshness, Hypatios flees and goes to Thrace. At the time of these facts, the source speaks of him as a child, even though in reality he was already eighteen years old. He is entrusted to a small landowner who puts him to graze sheep. He met Jonah, an ascetic and former soldier, and together with him founded a community. Hypatius asked Jonah, who then became the higuren, to be able to devote himself to the care of the sick. After the monastery is destroyed by the Huns, Hypatius and Jonah move to Constantinople to ask for help for the looted populations. Around 400, the two companions cross the Bosphorus and settle in the *Rouphinianai* monastery. From this moment, Hypatius devoted himself completely to healings – even miraculous ones – and to works of charity. It is said that his love for the poor made him a father to orphans and a husband to widows. The needy who went to the monastery never left empty-handed. The saint gives his care above all to those who were in extreme conditions of necessity and marginalization, so dirty and miserable as to be rejected even by doctors⁴⁴.

Concern for the poor - orphans and the sick - also distinguishes the conduct of Zotikos ptochotrophos. A family of texts handed down three versions (*Vitae Zotici*) of the life, works, and martyrdom of the saint. According to these sources, Zotikos was active in Constantinople under the reign of Constantine and the Arian Constantius II and, by the will of the latter, suffered martyrdom⁴⁵. Zotikos is linked to the foundation of two important charitable institutions of the capital: the leprosary in *Elaiones* and, probably, the *Orphanatropheion*, although it is difficult to establish the exact circumstances in which he carried out his work as founder and promoter⁴⁶.

According to the version published by Aubineau (BHG 2479)⁴⁷, Zotikos was born in Rome, in the time of Constantine, to a family of wealthy, very devout senators. He then received a refined education imparted by the best masters. Already awarded at a young age the office of *maghistrianos*, he followed the emperor to Byzantium to carry out the great project of founding the new Christian capital. Constantine reigned as a good ruler, solicitous towards his subjects and their living conditions. However, he did not show as much mercy to those who would benefit most from imperial solicitude. In fact, taking up a law already in force, he ordered that lepers be driven out of the city or thrown into the sea⁴⁸. With a stratagem, Zotikos tries to prevent the effects of

the unjust norm and, after having redeemed the sick – men, women and children – leads them to a hill called olive trees (*Elaiones*), located in front of the city, and here organizes makeshift shelters. With the death of Constantine, the Arian Constantius II proves hostile to the activity of Zotikos. Accomplices the slander of the palace and the aversion of the emperor, the holy man finds himself in a bad party and suffers martyrdom. Seized by contrition, Constantius tries to atone by building an hospital named after the martyr, financed by the imperial treasury and endowed with great ancillary properties. With the emperors Justin II and Sophia, St. Zotikos Hospital will receive what is necessary for the subsistence of the sick from the *Orphanatropheion* of Constantinople.

As has been pointed out, Zoticus' exploits fit into the context of urban monasticism linked to the figure of the bishop of Constantinople Macedonius (342-348; 350-360) and to the Aryan circles promoters of a form of asceticism that reconciled continence and fasting with the care of the needy and the commitment devolved to philanthropic activities⁴⁹. This model of holiness is well interpreted by Zoticus and proposed exemplarily in the *Vita*.

Exemplary childhood: projection and/or avoidance of the Gospel message (Mk 10:14: 'sinite parvulos venire ad me'.)

The perception of childhood that emerges from the sources examined, depends on the tension between the models embodied by the protagonist and those to which the narrator, or the witness, really wants to inspire. Very often there is a coincidence between the two instances. Depending on the sources, and therefore on the contexts, different perspectives can therefore emerge in the interpretation of the Gospel message and the fundamental values that define it. In *Apophthegmata Patrum*, as we have seen, the condition of children arouses attitudes that are not always univocal and the child is sometimes perceived as a temptation from which to flee; moreover, in this and other contexts, the exercise of charity is not placed at the centre of a perfect life. As has been pointed out, Simeon the Fool, whose asceticism reaches, in the voluntary renunciation of personal decorum and in the simulation of madness, the highest point, does not seem sensitive to 'social injustices'⁵⁰. Poverty and its manifestations represent, in the hagiographic narration, only a background, not very significant, even spiritually. What is questioned is, in some cases, the very necessity of procreation. Hypatius emphasizes the diabolical nature of the family institution: 'always the devil advises us to eat, to drink, to wear beautiful clothes, to rejoice in life, to marry and to make children ... Inevitably, when you are married, you desire wealth and, because of wealth, you are led to commit injustices, perjure and are distracted by the things of the world, you do not even go to church...' ⁵¹.

Charity, love of neighbor and, in particular, attention to childhood and childhood weakness, therefore, do not always represent the most celebrated virtues. Nevertheless, as

we have seen, hagiographies and homiletic texts identify the poor invalid as the weak subject par excellence and celebrate, consequently, the establishment of structures intended to welcome the poor, the sick and orphans. But even in these contexts, even when there is awareness of it, a specific sensitivity towards the fragility of childhood is not frequent⁵². Part of the Christian tradition instead associated the infantile state with the idea of incompleteness and of ‘natural’ and congenital guilt⁵³. St. Paul indicates in the adult condition a spiritual goal in which human being reaches full awareness and knowledge: ‘When I was a child, I spoke as a child, I thought as a child, I reasoned as a child. Since I became a man, I stopped things as a child. (I Cor, 11). Hypatius states ‘It is of adults to have the senses exercised to know how to distinguish good from evil’⁵⁴.

Infantile characters (lack of experience) are often aimed, in the sources examined, to express a morally negative connotation (lack of discernment). Eloquent in this sense is the episode narrated in *Apophthegmata Patrum* of the little disciple who, tempted by the throat, disobeys and secretly eats a fish cooked by the *cellar*. When the *cellar* discovered the little theft, he hits the young monk violently and kills him. But the reaction of the adult to the transgression of the child is stigmatized not as such, but for the fatal consequence, attributable, moreover, to the intervention of the supernatural. In this sense, the theme of the young – old, a precocious child who does not present the salient features of childhood because he has reached a higher maturity, that’s recurs frequently at the hagiographic sources⁵⁵.

However, the perception of the childhood is not always burdened by these doubts. In fact, Pachomius considered it useful and possible that children initiated into monastic life, thanks to the early practice of obedience, would reach that degree of wisdom indispensable for the acquisition of spiritual perfection⁵⁶. The purity of the children is also celebrated in the figure of the hegumen Heliodoros, quoted by Theodoret of Cirrus, who had embraced the monastic life at the age of three, shining in innocence, inexperience and simplicity. In this latter case, it is an exceptional personality.

But, often, exemplary childhood is, first of all, that of the saint⁵⁷. Years of childhood and adolescence are narrated in hagiographies through a series of *topoi* well known to scholars of the genre. Successive and ascending passages link a miraculous precocity - a negation of the naturally infantile trait -, to adulthood, marked by escape from the world and withdrawal to a monastery or loneliness; by an ascetic, and extremely severe practice; by the death of the world, and sometimes, voluntary madness⁵⁸; or, alternatively, by the commitment spent on works of charity or in the foundation of monasteries⁵⁹.

With the exception of such exemplary childhoods, the child condition often carries with it a stigmata of vulnerability and spiritual incompleteness. Often children behave in an inappropriate and cruel way⁶⁰, tolerated or forgiven by a holy man in compliance with the Gospel message (‘*sinite pargulos*’) but, above all, because of an ascetic rigorous practice.

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2. Prinzing G. ref 1. p. 17. The source to which the scholar refers is a poem by Photius.
3. Herrin J, Kazhdan A, Cutler A, Childhood. In: Oxford Dictionary of Byzantium prepared at Dumbarton Oaks. New York, Oxford: Oxford Univeristy Press; 1991. pp. 420-421.
4. Dig. 28.1.5.
5. The deepening of this aspect is beyond the scope of the present work, but it is nevertheless appropriate to emphasize that the forms through which childhood fragility was manifested could depend both on social and economic reasons (the lack of a father or a family network; the poverty of the family of origin) and on personal data (an age too immature to allow the subject to carry out a job and to provide in some way for his own subsistence). Patlagean E, L'enfant et son avenir dans la famille byzantine. In: Patlagean E, Structure sociale, famille, chrétienté à Byzance. London: Variorum Reprints; 1981. cap. X; Barcellona R, Corpi senza nome. L'infanzia nella Tarda Antichità. Itinerari di ricerca. In: Capomacchia AMG, Zocca E (eds), Il corpo del bambino tra realtà e metafora nelle culture antiche. SMSR 2017;19 Suppl.:137-146; Puliatti S, Lo statuto legale dell'infanzia nel diritto tardoantico e bizantino. In: L'infanzia nell'alto Medioevo. Atti delle settimane di studio, Spoleto: Centro italiano di studi sull'alto Medioevo; 2021. pp. 351-378.
6. In the territory of Edessa (on the occasion of the famine of 499 -502), after a climatically unfavorable spring, the peasants leave the land to migrate to the north and west.
7. J Nov. 80 of 539 refers to the huge rush of people to the capital: the phenomenon worries the legislator who tries to control it thanks to the creation of a special office. See also: J. Nov. 99, anno 539.
8. Patlagean E, Pauvreté économique et pauvreté sociale à Byzance, IV - VII siècles. Paris, La Haye: Mouton; 1977. p. 179.
9. Patlagean E, ref. 8. p. 30 ss
10. In order to alleviate the state of poverty of the *penetes*, the emperor favored their occupation in the building sites that had to carry out large projects such as the construction of dams, palaces, baths, churches, hospitals. But, in part, it was precisely these ambitious works that contributed to tightening the tax system, despite the tax amnesties and other measures conceived, in particular, to protect small landowners stripped of their assets by usurers (J. Nov. 32. 1. 240. 12-14, anno 535; J. Nov. 147. pr., I. 718.16 - 719.17).
11. It was provided, for example, that the Church of the Resurrection, in Jerusalem, could sell its goods to finance assistance works (J. Nov. 51, anno 536).
12. A comprehensive study of the genesis and evolution of childcare institutions in the Byzantine Empire is offered by Miller TS, The Orphans of Byzantium. Child Welfare in the Christian Empire. Washington D. C.: The Catholic University of America Press; 2003. In the Judeo-Christian tradition, acts of charity towards orphans, individual and collective, are considered the greatest examples of virtue (Deut. 10:183, Ps. 68 - 5). The

welfare program in Byzantium was promoted by the imperial government, the Church, the monastic movement and private individuals. Worthy of note in this sense is the foundation by Saint Zotikos of the Orphanotropheion of Constantinople, then managed by the episcopal chair and the central government. Until the threshold of the fourteenth century, the institute represented the pre-eminent center of the actions implemented for the protection of children in the Eastern Empire. Under Justinian there were also orphanages intended for the weaning and care of newborns, thanks, probably, to the recruitment of nurses remunerated for this purpose, and placed under the authority of the bishop, in the provinces, and the supervision of the Patriarch, in the capital. See Miller and J. Nov. 7; J. Nov. 43, a. 536; J. Nov. 120, a. 544.

13. J. Nov. 120.6.
14. Parents exposed their children for lack of means or when they had deformities at birth. Often, in the absence of the father figure, it was the mother who abandoned them.
15. Constantine, in 315, disposed a financial aid, coming from the revenues of the state and the *res privata*, addressed to parents who could not support the economic weight of the breeding of offspring. The law aims to prevent the killing of offspring, probably meaning by this expression, abandonment and exposure. See Miller TS, ref. 12. pp. 148-151; Code Theod. II. 27. 1, anno 315. As Miller points out, it is not known whether the Constantinian program, initially conceived only for Italy and the provinces of Africa, was also extended to the eastern part of the Empire. It was certainly too onerous and difficult to achieve to be long lasting and to be riconfirmed by the following emperors.
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17. Codex Theod. 5. 9. 1., anno 331.
18. Codex Just. 8. 51. 3, a. 529.
19. J. Nov. 153, a. 541.
20. Codex Just. 4. 43.1, a. 294.
21. Codex Just. 4. 43.2, a. 329.
22. J. Nov., 14, 'De lenonibus', a. 535. Cfr. Malal., *Chronogr.* pp. 440-441; Proc., *Hist. Aug.*, XVII, 5.
23. The theme of mimesis in Byzantine political ideology has given rise to a very extensive critical bibliography. For a general approach, please refer here to the first studies on the subject: Baynes NH, The byzantine state. In: *Byzantine Studies and other Essays*. London: Atholone Press; 1955. Charlesworth MP, The Virtues of A Roman Emperor: Propaganda and the Creation of belief. *Proceedings of the British Academy*. 1937;23:104-133; Ensslin W, Gottkaiser und kaiser von Gottes Gnaden, *Sitzungsberichte der bayerische Akademie der Wissenschaften*. München; 1943; Demougeot E, La theorie du pouvoir impérial au debut du Vème siècle. *Mélanges de la Societé toulousaine d' Études Classiques*. 1956;1:192-206; Treitinger O, Die östromische Kaiser - und Reichsidee nach ihrer Gestaltung in höfischen Zeremoniell. Darmstadt: Universität Darmstadt;1956; Jenkins R, The hellenistic origins of Byzantine civilization. Report on the Dumbarton Oaks Symposium of 1962. *Dumbarton Oaks Papers* 1963:17:403-405; Hunger H, Prooimion. Elemente der byzantinischen Kaiseridee in den Arengen der Urkunden. Wien: H. Böhlau; 1964; Dvornik F, *Early Christian and Byzantine Political Philosophy: Origins and Background*. 2. vols. Washington D. C.: Published by Dumbarton Oaks Center for Byzantine Studies; 1966; Mc Cormack S, *Art and ceremony in late antiquity*. Berkeley: University of California Press; 1981.
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26. *Gregorii Nysseni De pauperibus amandis I.* In: Van Heck A (ed.), *Patrologia graeca cursus completus.* col. 454 ss.; *Gregorii Nysseni De pauperibus amandis orationes duo.* Leiden: Brill; 1964.
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28. *Basillii Caesarensis Homelie IX in Haexameron, VIII.* In: *Patrologia graeca cursus completus. XXIX.* col. 178 ss. See also: Trisoglio F (ed.), *Basilio di Cesarea. Omelie sull'Esamerone VIII 6.* Firenze-Milano: Giunti/Bompiani; 2017. pp. 318 ss.
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30. Miller TS, Ref.12. pp. 114-120, 127-128.
31. Rhalles GA, Potles M, *Súntagma tôn theiôn kai ierôn kanónon.* Athenai: 1966. c. 40. 2-398; Greenfield R, *Children in Byzantine Monasteries. Innocent Hearts or Vessels in the Harbour of the Devil?* In: Papaconstantinou A, Talbot AM (eds), *Becoming Byzantine. Children and Childhood in Byzantium.* Washington D.C.: Dumbarton Oaks; 2009. p. 258. The presence as well the age of the new disciples or children received in the monasteries is not always easy to determine given the scarce and not univocal documentation offered by the sources.
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33. Greenfield R, Ref. 31. p. 266.
34. *Apophthegmata Patrum, Serie alphabetica.* In: *Patrologia graeca cursus completus. LXV.* coll. 72-440; Mortari L (ed. introduction and translation), *Vita e detti dei Padri del deserto.* Roma: Città Nuova; 1996; Regnault L, *Les Sentences des Pères du désert. Collection alphabétique.* Sablé-sur-Sarthe: Solesmes; 1981.
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36. In the edifying tales, the theme of homosexual temptation recurs very often and, consequently, the exhortation not to approach children nor to welcome them into a monastic community. Informed by his own experience, Carion affirms: 'A man who lives with a child if he is not solid, falls; in any case, it does not make progress.' In the same way John the Dwarf expresses himself: 'He who gets up and chats with a boy has already fornicated with him'. See Greenfield R, Ref. 31. p. 257, 260. Isaac of the Cells and Macarius identify precisely in this temptation the cause of the abandonment of Scete by many monks.
37. Some, however, were of high social extraction and had received a literary education. Hilarion, as a young man, was sent by his parents to Alexandria to complete his studies. These students were given a severe task, as can be seen from the metaphor of John Chrysostom (*Homelie ad populum Antiochenum, VI.* In: *Patrologia graeca cursus completus. XLIX,* coll. 81 ss.) which establishes a comparison between the useful terror exercised on children by the preceptor, such as to move them to tears, and the authority exercised firmly by those officials who, like the preceptors, they have the task, with the harshness, of exercising a just power in defense of the weakest and of imposing rules on human life.
38. The poorest people carried out low-skilled activities, in which the use of physical strength and some primary skills employed in the production, often occasional, of unrefined goods,

- of common consumption (simple artifacts, drinks or little processed foods) was required. See: Patlagean E. ref. 8. p. 168.
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 41. In the *Apophthegmata Patrum*, as in other hagiographic sources, children and young people are recipients of the miraculous cures dispensed by holy men. The figure of the young, epileptic or possessed person who has an evangelical resonance often recurs (Matthew 17:14-18; Mark 9:14-27, Luke 9:37-43). The saint who heals crippled, blind, who performs exorcisms, who resurrects the dead, follows the christomimetic model to which many examples of this literary genre are marked. See: Holman SR, Sick children and Healing Saints: Medical Treatment of the Child in Cristian Antiquity. In: Horn CB, Phenix RR (eds), Ref. 26. pp 143 ss.
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 45. All versions probably date back to the eleventh century. On Zoticus see: Miller T, *The Legend of Saint Zotikos According to Constantine Akropolites*. *Analecta Bollandiana* 1994:112:339-345; Aubineau M (ed.), *Zoticos de Constantinople: nourricier des pauvres et serviteur des lépreux*. *Analecta Bollandiana* 1975:73:67-108. It is not certain that the story of martyrdom is reliable, since no other sources, except the three hagiographies, mention it.
 46. In fact, no *Vita* explicitly attributes to Zoticos the foundation of the Orphanotropheion as much as the leper colony of Elaiones. Aubineau's version (XII, 42), however, refers to an administrative link between the leprosary and the Orphanotropheion expressed by the provision of Justin II for which the administration of the orphanage had to pay funds to the leper colony necessary for the maintenance costs of the sick. The first testimony that binds Zoticos to the Orphanotropheion is a law of 472 issued by Emperor Leo I in which the saint is alluded to as the founder of the institution. See Miller T, Ref. 12. pp. 52 ss.
 47. Aubineau M, Ref. 45.
 48. Like other elements contained in the *Vitae*, even the one that refers to the imperial measures against lepers is not reflected in the sources and is, therefore, to be considered fictitious.
 49. On Zoticos connection to the two philanthropic institutions, as well as on the devotional forms practiced by Arian circles in Constantinople and on the relations between Arianism and the ecclesiastical hierarchies in the period after the Council of Nicaea, see Miller T, Ref. 12. pp. 53 ss.
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 52. Barcellona R, *La retorica dell' infanzia abbandonata nel cristianesimo antico tra polemica e parnesi*. *Ilu- Revista de Ciencias de los Religiones* 2013;24: 59-76.

53. On Augustinian pessimism about the infantile state and the relationship of the human being with original sin, see: Barcellona R, ref 53. p. 71-73; Holman R, Ref. 42. p. 145.
54. Festugière AJ, Ref. 44. XLVIII. 76
55. Macarius the Egyptian, for example, 'was esteemed for such discernment that he was called the puer - senex. For this reason he progressed rapidly: at the age of forty he received the grace to heal from evil spirits and to make predictions' (Palladio. *Historia Lausiaca*. Ref. 39. p. 71). See: Caseau B. *Childhood in Byzantine Saints' Lives*. In: Papaconstantinou A, Talbot AM (eds), *Becoming Byzantine. Children and Childhood in Byzantium*. Washington D.C.: Dumbarton Oaks. Harvard University Press; 2009. pp.152-153.
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Children's World in the Medieval Town of Cencelle (9th-16th Centuries): an Archaeological Analysis

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ABSTRACT

Children's world in Cencelle: an archaeological analysis

The long-time period along which the town of Cencelle developed and its social variety allow some interesting observations on population composition between the Early and Late Middle Ages. A town of Early Medieval foundation with continuity of life until the modern age thus becomes a privileged observatory of the relationship between burial areas and urban centres. In particular, child burials study (from phoetus to 12 years of age) has risen numerous insights into both their distribution in the urban context and the social reasons determining life and death in the city. In this case, child burials comparison found in three different town areas and in different chronological periods enriches the discussion. The mix of archaeological investigation and anthropological analysis delineated the age characteristics at death, possible family relationships and health status of the samples analysed.

Keywords: Infants - Medieval archaeological excavation - Cencelle's town - Burial spaces - Funeral practices

1. Premises

In 1985 volume *L'enfant à l'ombre des cathédrale* introduction, D. Alexandre-Bidon and M. Crosson define the child as 'the great absentee in history', though "il en est pourtant le moteur, l'adulte en gestation, la société en devenir; mais il échappe à l'historien. Il ne laisse d'empreinte sur l'histoire du Moyen Âge que dans sa version achevée: l'adulte"¹. Infants, by their very nature, do not leave written testimony, they do not write about themselves: their daily life, their experiences, their representation and their insertion into society are narrated by adults, deformed by a lens of someone who is not anymore child from a long time. The Latin term etymology of *infans* itself, which identifies the first of the six life cycle stages (infancy, childbirth, youth, adolescence, old age and senility) denotes infant's inability to speak, who are therefore totally subject to the adults will. Verbal impotence is also reflected in the legal field in which the *aetatis infirmitas* (typical of those who have not yet turned 7) does not allow insight and therefore consent to a contract (*Cod. Theod.* 8, 18, 8; *Cod. Iust.* 6, 30, 18): infants are effectively excluded from legal life until they enter puberty (*tempus discretionis*). Although the child progressively acquires word use and mastery, however this is not considered sufficiently adequate for social and political life until the maturity threshold, set at 12 for women and 14 for men, has been reached. So far said, the infants history from birth (or non-birth in the case of foetuses) to 12 years, unknowingly 'written' by their contemporary adults in the funerary identity construction aimed to transmit their memory in front of the belonging community, can and must be 'told' by today's adults digging burial areas: in fact, funeral space choice reserved for them is dictated by both the role infants played in that specific society and practical and organizational reasons, relevant to the sepulchral system of reference, always keeping in mind the customary (funeral) regulatory framework^{2,3,4,5,6,7,8,9}.

'Infant death topography' analysis has had great bibliographic success in recent decades, particularly for the medieval era and in relation to the identification of deceased infants (including foetuses) *sine baptisma* or with a sacrament: in fact, if the conciliar norms^{10,11} imposed exclusion from the consecrated land of unbaptized stillbirths and infants considered as Original Sin inheritors and therefore deserving of divine damnation (they were welcomed in metaphysical Limbo^{12,13} and, in certain contexts, 'reported' also in the physical *limbus infantium* of the cemetery topography) on the other hand, archaeologists are drawing a much more colorful picture of folkloristic and apotropaic solutions implemented by the society in treating these burials to obviate their imposed marginality. According to Sacco, the *status* of baptized infant or not can be inferred "attraverso un'attenta lettura del contesto topografico di deposizione (prossimo all'edificio, estraneo all'edificio, isolato rispetto a nuclei di sepoltura?), sommata all'eventuale età e agli espedienti, se presenti, che possono esser stati posti in campo per migliorare il trapasso del defunto e la sua

non permanenza in uno stato liminale (tecniche *suggrunda?* Coppi e tegole in riferimento allo *sub stillicidio?*)”¹⁴.

Furthermore, a growing body of archaeological evidence^{15,16,17,18,19,20} from throughout medieval Europe suggests a differentiation in funerary treatment for foetuses, perinatal and young individuals within Christian communities.

The broadest reinterpretation of the archaeological indicators of infant burials through an “archaeology of grief”^{21,22,23}, is underlying this paper which deals with 96 infant burials (among them there are 15 foetuses) found in Leopoli-Cencelle and dated between the ninth and sixteenth centuries. In fact, Cencelle represents an exceptional case-study to expand our building and structure knowledge of one of the few Italian Papal foundation towns in Central Italy (with a life continuity at least until the 17th century albeit with different administrative systems, first as an urban center, then as an agricultural estate), as well as to reconstruct its population dynamics: this is due not only to the large sample size available (at present about 1000 individuals, one of the largest European skeletal samples) but also to the widespread presence of material data and a well preserved archaeological context.

The Leopoli *civitas*, founded in 854 by Pope Leo IV (*L.P.*, II, pp. 131-133) in order to defend and ensure inhabitants safety of the Roman town of *Centumcellae*, present-day Civitavecchia, against Islamic raids, represents from an urbanistic standpoint a rare, even unique case in many ways, if only for its definite founding date. The site is located in the Tolfa Mountains, atop a hill 168 m.a.s.l on the northern edge of the Province of Rome, a few kilometres from the Tyrrhenian coast. For the past twentyfive years or so, the site has been the object of archaeological research^{24,25}, promoted and directed by the Department of Medieval Archaeology at Sapienza University of Rome (first under the scientific direction of Letizia Ermini Pani and later under Francesca Romana Stasolla and the writer). Since its inception, project has also involved the D’Annunzio University of Chieti (in person of Maria Carla Somma).

Excavations brought to light part of the settlement, still surrounded by its 740 m of massive defensive walls with seven towers and three gates: (Fig. 1) these structural elements were intended to be deterrent and threatening, but also monumental and imposing. The available documents allowed us to reconstruct the historical vicissitudes of this town, characterized by political instability as early as the town’s first attempt to gain independence from the Roman Church (late 11th c.). As a defensive and strategic bulwark of Papal power in the northern Latium territories defence, part of the Roman Church *Patrimonium*, the area was claimed between the 13th and 15th centuries by a number of contenders. Among them were Viterbo, to which the town of Cencelle submitted in 1220²⁶ in order to repay its debt to the city of Corneto (present-day Tarquinia), the Apostolic Camera and Corneto itself, as can be deduced from the oath that the Mayor of Cencelle took before the representatives of the commune of Corneto first in 1307²⁷ and then again in 1362²⁸.

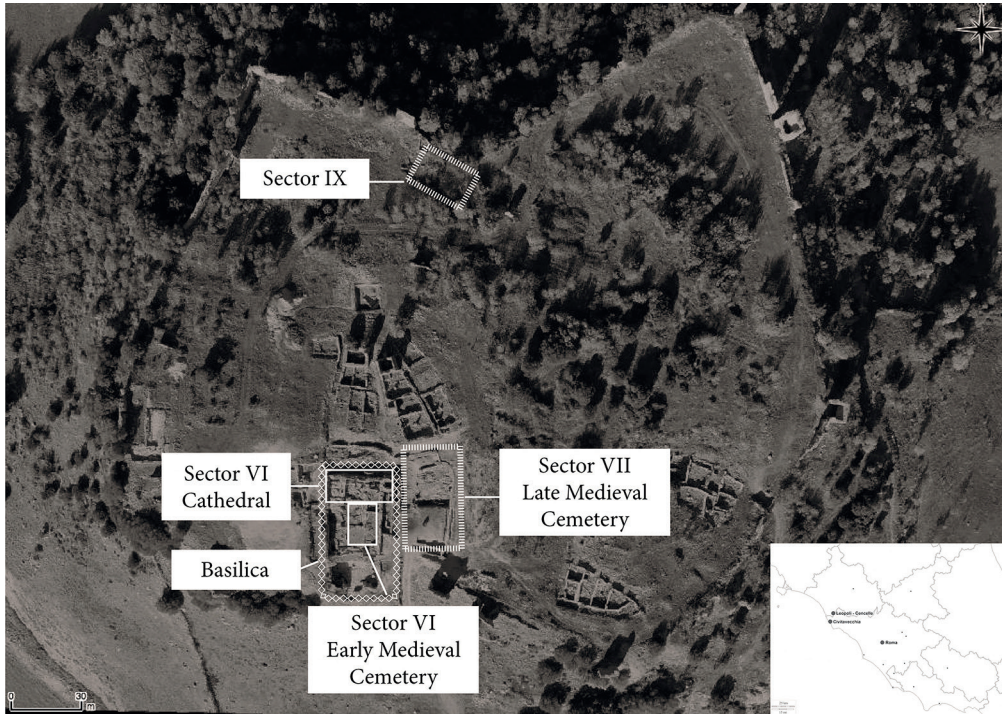


Fig. 1. Cencelle town plan showing burial sites (Sectors VI, VII and IX).

The urban decline of Cencelle (due also to the violent earthquake of 1349) began following the discovery of alunite in the Tolfa Mountains around the middle 15th century; an event that transformed the landscape, which was subdivided into estates to accommodate mineral production and marketing needs. G.B. Cingolani, in his 1696 *Catasto delle Tenute di Allumiere*²⁹, makes specific mention of a *Tenuta di Cincelli*: in this document, Cencelle is portrayed in a particularly meaningful figure accompanied by a legend that reads, *Cincelli oggi diruto*.

These moments of urban life and restructuring (the founding moment in 854, the municipal *facies* from late 11th to first half of the 15th century and the conversion into a farm) are widely reflected in the three funerary areas that follow distinct construction phases, also attesting to the osmosis between the dead space and the living space that characterizes the medieval era.

The first funerary area (Sector VI) relates to the ancient St. Peter's cathedral (mid-9th-11th century). Since its founding moment, Leopoli had this episcopal church, which was placed on the hilltop and flanked by an adjacent necropolis, located, with East-West orientation, between the cathedral and the town walls: the Early Medieval graveyard³⁰, dating back to 9th-11th centuries, consisted of approx. 100 burials, about 9 tombs (including 5 depositions in lithic coffins and sarcophagi) belonging to sub-adults were found. Part of the original basilica was found under the floor of the

later Romanesque basilica that, at the beginning of the 12th century, incorporated and therefore hid the oldest structure: the later church, located along the North-South axis, still dominates the medieval site of Cencelle. A core of about 21 infant graves (including 4 foetuses and 2 females with foetuses) is placed inside the cathedral, in particular in the central nave and near the baptistery placed in the left nave. At the North-East corner of the subsequent Romanesque basilica, there is a bell tower that pre-existed the lower medieval church: below the structure a small sarcophagus in cinerite tuff was found with the remains of a childhood inhumation with grave goods, clearly a privileged burial.

The other two funerary areas belong to the municipal *facies* of the city (early 12th-first half of the 15th century), with some burials that can be even dated in the 16th century. The second and largest funerary area (Sector VII) is associated to the large Late Medieval cemetery (12th-16th centuries), which has up to now returned over 1000 burials and is located on the right side of the Romanesque basilica of St. Peter: the church dominates the landscape from the hilltop, symbolically facing the new civic power seat, the *palatium comunis*^{31,32} rising across the main street. The church (North-South orientation) has three naves and a three-apsed, raised chancel that impressively juts out from the city walls. Beneath the church is a crypt, presumably an oratory-crypt. The main graveyard^{33,34}, at the right of the basilica, experienced many renovation works during the centuries, and in a later use-phase the cemetery area was reduced by the construction of two enclosures encircling the North and East sides of the area. As described by Del Ferro^{35,36}, the northern walls connect several structures defining a rectangular area looking towards the main road of the city with two buttresses at both sides of a huge grey trachyte threshold. This structure, contemporary to the enclosing walls, was archaeologically interpreted as a new striking entrance to the graveyard facing the church. In this necropolis, only partially excavated, 41 infantile burials (but no foetuses) were found, mainly deposited in earthen graves, while 15 (including 4 foetuses) were identified outside the Romanesque basilica, along the eastern perimeter wall (where there is a burial in a sarcophagus) or parallel to the facade.

The third funerary area (Sector IX) has been found in a peripheral area of the town, located in the north-western district of the urban center, near the northern gate, along a road which must have led to this access. A small nucleus of 10 exclusively infantile burials³⁷ was unearthed in an open-air environment close to the northern wall and all dating back according to stratigraphy to the mid-14th century: these are 3 foetuses and 7 individuals of perinatal and infantile age, whose deaths, in many cases, can be related to the last phase of gestation and childbirth. One of these burials, an infant of about 5 years, had the head covered by a large fragment of a tile.

Scientifically established anthropological morphological methods were used by prof. Cristina Martínez-Labarga and dr. Marica Baldoni (Department of Biology, University of Rome Tor Vergata) to assess biological profile of 877 individuals (548

adults, 62.49% and 329 non-adults, 37.51%) recovered in Cencelle from 2000 to 2017 as well as to reconstruct lifestyle and health status^{38,39}.

In this paper we present the results of an ongoing work on a sample of infant burials equal to 96 individuals (30 from the Early Medieval facies and 66 from the Late Medieval one) for which an age of death from the foetus stage to 12 years was considered (Foetus – 15 individuals, <1 year or Perintanal – 13 individuals, 1–6 years or Infant I – 44 individuals, 7–12 years or Infant II – 24 individuals): in fact, it was decided to privilege in this phase the study of burials in primary deposition which have already been fully analyzed from an anthropological point of view and for which both the minimum number of individuals and the age of death have been established. Despite being partial data, they allow us to make some observations on funeral practices in Cencelle, Early Medieval foundation town with life continuity up to the Late Middle Ages that becomes a privileged observatory for the relationship between funeral areas and urban centers^{40,41}. In fact, the excavation of these infantile burials has raised numerous reflection points both on their distribution in the urban fabric and on the underlying socio-cultural reasons that have determined their topographical ‘marginalization’ whether ‘planned’ or ‘spontaneous’ (and therefore ‘clandestine’)⁴².

2. Anthropological analysis methodology on infants

The present research focuses on 96 burials of non-adult individuals recovered in several areas of the Cencelle archaeological site. Individuals’ age at death estimates were performed in previous researches^{43,44,45}.

Age at death was estimated using well-known scientific methods as described in previous research⁴⁶. Briefly, estimates were obtained by observing dentition degree of formation and eruption⁴⁷, long bone diaphysis and clavicle length measurement^{48,49,50}, as well as the fusion degree observation of the main skeletal ossification centers^{51,52}. Despite being extremely important in anthropological research, sex determination from the morphological analysis of non-adult bone remains may be challenging^{53,54} as outlined in a research paper presented in this volume⁵⁵.

A preliminary taphonomic investigation on some of the burials recovered in the archaeological site of Cencelle led to the hypothesis that in many cases the individuals were wrapped in a shroud⁵⁶. This interpretation, in particular, was based on the observation of the position of the different skeletal elements and on the compression of some of them (e.g. clavicles, humeri, scapulae etc.) as described in detail by Duday⁵⁷. As regards the non-adult burials from Cencelle, however, it was difficult to perform a detailed archaeo-thanatological analysis^{58,59}, as the analysis of non-adults remains is studied by challenges^{60,61}.

From a bioarchaeological point of view, as outlined by researches in the literature, non-adult skeletal remains investigation is of utmost importance to enhance a better

understanding of past human groups even though dealing with non-adults remains is challenging^{62,63,64,65}. The main difficulties are often related to the poor preservation status affecting the bone remains due to both young individuals' bones specific limited mineralization and to burial soil characteristics^{66,67}. The reduced non-adult individuals sample size in archaeological context, moreover, could also be a consequence of burial sites differentiation and funerary treatments^{68,69,70}. However, despite the difficulties, the authors also stress the need to contextualize bone remains in the archaeological framework^{71,72}. As reported in the literature, recent years did not only have seen an increasing scientific publications dealing with non-adult life's aspects as pathology, diet, and weaning often applying innovative and/or multi-technique approaches, but also have seen a substantial shift towards a life-course approach^{73,74,75,76}.

Young individuals' presence (both perinatals and infants) in St. Peter's Church and in the city graveyard led hypothesizing they were baptized as this was mandatory to be buried in the consecrated areas, even though with some mitigations in the Late Medieval period^{77,78}. The question, however, remains controversial, for instance recent research by Crow et al.⁷⁹ reports written and archaeological evidence of practices in Medieval Italy allowing the newborns to be baptized and thus to be buried in the consecrated earth avoiding them damnation, as also described in literary operas⁸⁰. Specifically in Cencelle medieval site, infant burials were also recovered in a separate area close to the city walls⁸¹, so it is difficult at the moment to provide a comprehensive interpretation of the reasons behind this apparent division in multiple areas of the city.

The non-adult graves analyzed in the present research are mostly represented by single primary burials. It is worth mentioning that, as described in detail below, in some cases secondary burials were found in association to the non-adult primary burials, however the discussion on these aspects is far from the scope of the present research. Presence of a perinatal and/or a young infant individual buried alone, without the mother, implies the baby was born at the time of his/her internment. However it is worth notice that cesarean sections were also practiced on expecting mothers dead during pregnancy or labor, since antiquity^{82,83,84}. The *Lex Regia* then known as *Lex Cesarea* established the extraction of the foetuses from the dead mother womb^{85,86,87,88}. As reported in the literature in the Medieval period the practice, performed after the death of the expecting mother, was recommended by the Church aiming at save the newborn's life and to be able to baptize him or her^{89,90,91}. However, it seems that the section started to become a medical practice only later^{92,93}.

In one case of the analyzed burials the non-adult individual was recovered close to a female skeleton (SU 7302; SU 7304). It would be possible to hypothesize existence of a kinship between the two individuals, however as recently pointed out in the literature interpretations should be cautious as the situations are far from being straight-

forward⁹⁴. It is known that in past human populations women used to give birth at home⁹⁵ and mortality related to pregnancy and childbirth is generally assumed to have been extremely high, even though archaeological evidence of pregnant females and/or deaths clearly attributable to labor and childbirth complications are scanty in the literature^{96,97,98,99,100,101,102,103,104,105}. The recent research by Riccomi and colleagues¹⁰⁶ underlines that the archaeo-anthropological and taphonomic analyses may help to discern the possible causes of death. On the basis of the position of the perinate, in fact, it would be possible to discern among death during pregnancy and/or the start of labor, death due to difficult and problematic and eventually post-mortem fetal expulsion, underlining, clearly, also the interpretative limitations¹⁰⁷.

The presence of burials of two individuals (one female and one perinatal individual) is certainly peculiar, however the recent research by Cilli et al.¹⁰⁸ clearly points out that sometimes things are not as they seem. In fact, the ancient DNA (aDNA) analysis performed on five double burials recovered in the archaeological site of Forlì Campus proved different mtDNA haplotypes in the investigated samples¹⁰⁹. In humans, except from some rare and partly controversial cases^{110,111,112}, mitochondrial DNA (mtDNA) is maternally inherited^{113,114,115} thus the evidence by Cilli and colleagues¹¹⁶ suggests the absence of maternal kinship between the female individuals and the perinatal ones buried together but also among all the analyzed individuals even though as reported by the authors other kinship relationships although implausible could not be excluded at all¹¹⁷. This research¹¹⁸ underlines the need of multidisciplinary approaches in bioarchaeology to enhance a better archaeological context understanding that may potentially be less straightforward than previously thought. Another interesting case reported in the literature¹¹⁹ is the triple burial recovered at the Barma Grande cave dating to the upper Paleolithic (20-25 kya)¹²⁰. The taphonomic analysis suggests that the three individuals (one adult and two juveniles) were probably buried at the same time, however the skeletal remains show different preservation status as the juvenile bone remains were extensively damaged during the WWII¹²¹. The aDNA analysis allowed to confirm the individual's sex for the adult individual, a male, and it also allowed to assess the sex for the two juvenile individuals, two females¹²². The morphological analysis suggested a possible kinship among the individuals due to the presence of a sulcus on the right side of the frontal squama¹²³. The aDNA analysis confirmed the existence of a kinship among the individuals, in detail the two young female had the same mtDNA sequence, which is indicative of matrilineal kinship, whereas the mtDNA sequence of the adult male was different although phylogenetically correlated to that of the juvenile individuals¹²⁴. These data led to the hypothesis that the individuals recovered into this peculiar Paleolithic burial could be a father and his two daughters¹²⁵. In the case of Cencelle further analyses will be needed to ascertain the existence of a kinship between the adult and perinatal individual buried together.

3. S. Pietro church burials

The church of St. Peter in Cencelle articulates the course of its life in three major chronological phases, which archaeological investigation and the study of sources have collocated in a long-time frame ranging from the 9th to the 17th century. Defining a fixed scheme to be associated with the Cencelline church system is quite a complex operation, especially due to the continuous reworking of the soil and the various overlapping phases that over time have led to the obliteration and reuse of structures and architectural elements. However, the stratigraphic excavation has revealed an Early Medieval phase of the building, a second Late Medieval phase and a third in modern times, when the area was converted into a farming structure. One of the dominant features of the sacred apparatus of Cencelle is the constant presence of burials; their analysis can in fact help to understand and investigate the religious and social articulation of the city. To speak, therefore, of a social reading of the population, an analysis of the distribution of burials and the maintenance of the cemetery ground, the discussion of the presence of child burials is particularly important. This type of study provides an important insight into funeral practices and a view into the social life of a part of the population that is usually given little attention. In total, there are 45 infants in St. Peter's church, the majority of whom are between 1 and 6 years old at the time of death (57%), followed by a large number of foetuses (26%) and a very small number of perinatals (13%) and children between 7 and 12 years old (Tab. 1). This first age index, even if limited to one area, is already very explicative of the higher mortality rate observed during the earliest years of life, especially with reference to the high number of foetuses present, as we shall see, in the Early Medieval period. This data also coincides with the anthropological studies conducted on most of the individuals discovered in the excavations carried out up to 2017 in the whole town. From them emerges a picture of the population in which mortality during early childhood (<1 year) was 24.40% and the probability of dying for infants up to 1 year of age was 10.26%, rising in the next age class (1-6 years) to 15.76%. The probability of dying decreases subsequently from age 7 to 18 years, increasing again in adulthood, becoming extremely high in the senile stages (51-60 years, 78%; 61-70, 100%)¹²⁶. Inside the Early Medieval cult hall was a burial area, located between the cathedral and the town walls; the burials were found below the floor of the new Romanesque Basilica, which succeeded the 9th-century structure. The presence of a cemetery area thus appears

Non-adults age classes of St. Peter's Church	N.
Foetus	12
Perinatal (< 1 year)	6
Infant I (1-6 years)	25
Infant II (7-12 years)	2

Tab. 1. Table showing non-adults age classes of St. Peter's Church

programmed and planned to be situated in the central area of the town and conceived as an integral part of urban life^{127,128}. This area entails an intensive use of space, with a first level of burials deposited at a very low level and a deep excavation that reclaims the rocky surface and shapes it to create recesses to accommodate depositions in the earth. The depositions, for the most part with a West-East orientation, are strongly crowded and arranged to utilise as much space as possible within the church¹²⁹. In fact, most of the infant burials found belong to this phase, which, depending on their stratigraphic position, distribution and burial type, delineate differences and chronological characteristics. The manner of deposition, usually involving bodies wrapped in shrouds, provides us, based on the types found, with an initial examination of the status and depositional pattern governing the area examined.

A first subdivision occurs between the types of burials: depositions in the earthen graves alternate with burials placed in lithic coffins and sarcophagi (Fig. 2). The first represent constructed coffins, made from reused elements of walls or previous floors, placed by cutting and often bonded with mortar and earth. The latter, on the other

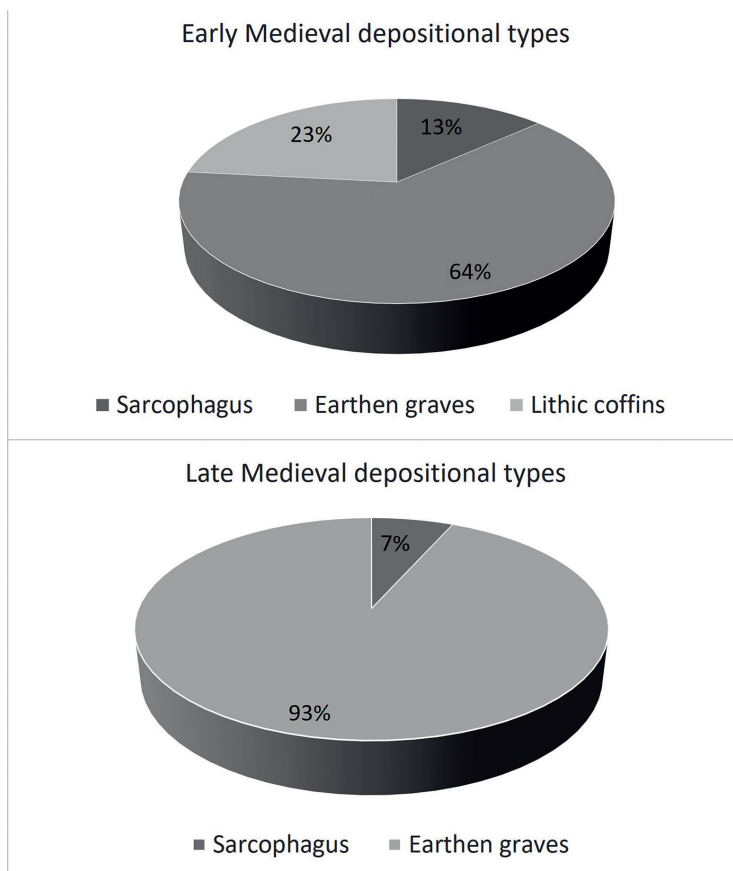


Fig. 2. Pie chart of depositional types in St. Peter's Church, divided between the Early and Late Middle Ages.

hand, are actual enclosures in trachyte or tuffaceous stone, created by modelling and working a single starting block¹³⁰. The Early Medieval phase of the church is marked for the most part by burials in earthen graves, which represent the type most frequently found in Cencelle, also for the Late Medieval period. This type of burial is distributed throughout the area, both in the interior of the Early Medieval church and in the adjacent external necropolis. These include infant burials that retain the canonical West-East orientation, which is also recorded at Cencelle for later periods. There are also a few exceptions with a North-South or vice versa orientation, most often justified by a need to organize the space in such a way that the burials follow and conform to the trend of the structures to which they are attached or placed near them, marking and defining the burial space. In this regard, close to the baptismal font there is a burial with a North-South orientation and one with the skull placed to the East, to adapt to the conformation of the baptistery itself. On the other hand, near the north wall of the Romanesque Basilica, we find two burials with a South-North orientation, which fit into the spaces left by the wall and in the corners created between the various architectural parts (Fig. 4a). It is therefore possible to associate a first phase with the burials in simple earthen pits, dug into the rocky bank and concentrated mainly in correspondence with the north facade of the building and within the wall delimiting the left aisle of the Early Medieval cathedral. The presence of lithic coffins and sarcophagi can, however, be associated with a second phase that invested the entire sacred area, after substantial backfilling. The lithic coffins and sarcophagi are mostly localised in the areas outside the Early Medieval church, near the adjacent necropolis. Evaluating the spatial organisation of the entire apparatus, there is a conspicuous nucleus of 21 infant tombs, located within the interior of the Early Medieval church, particularly near the northern facade and between the annexes of the baptistery, as can be seen in Fig. 3, and another nucleus of 9 infant burials located within the adjacent necropolis, among which 5 depositions in lithic coffins and sarcophagi stand out (Fig. 3). Among the burials inside the Early Medieval church, on the other hand, only three lithic coffins emerge, which are characterised by the presence within them of several child burials, often associated with both adult individuals and redepositions, suggesting, for some cases that will have to be further investigated and studied, the presence of a family unit. An example is given by US 7294, which represents a redeposited accumulation of infants' bones, from which a minimum number of 2 individuals, one perinatal and one aged between 1 and 6 years, were derived. However, based on its size (190 cm in length), it can be assumed that the lithic coffin was made for the deposition of the adult individual found there (US 7288) and that the two infants were also placed with it in the form of redepositions. This practice could be associated either with reasons of obtaining space for practical needs or with possible family ties. The simplicity of the tombs is matched by the almost total absence of grave goods and material signs suggestive of funerary rituals; in the last-mentioned case, however, it

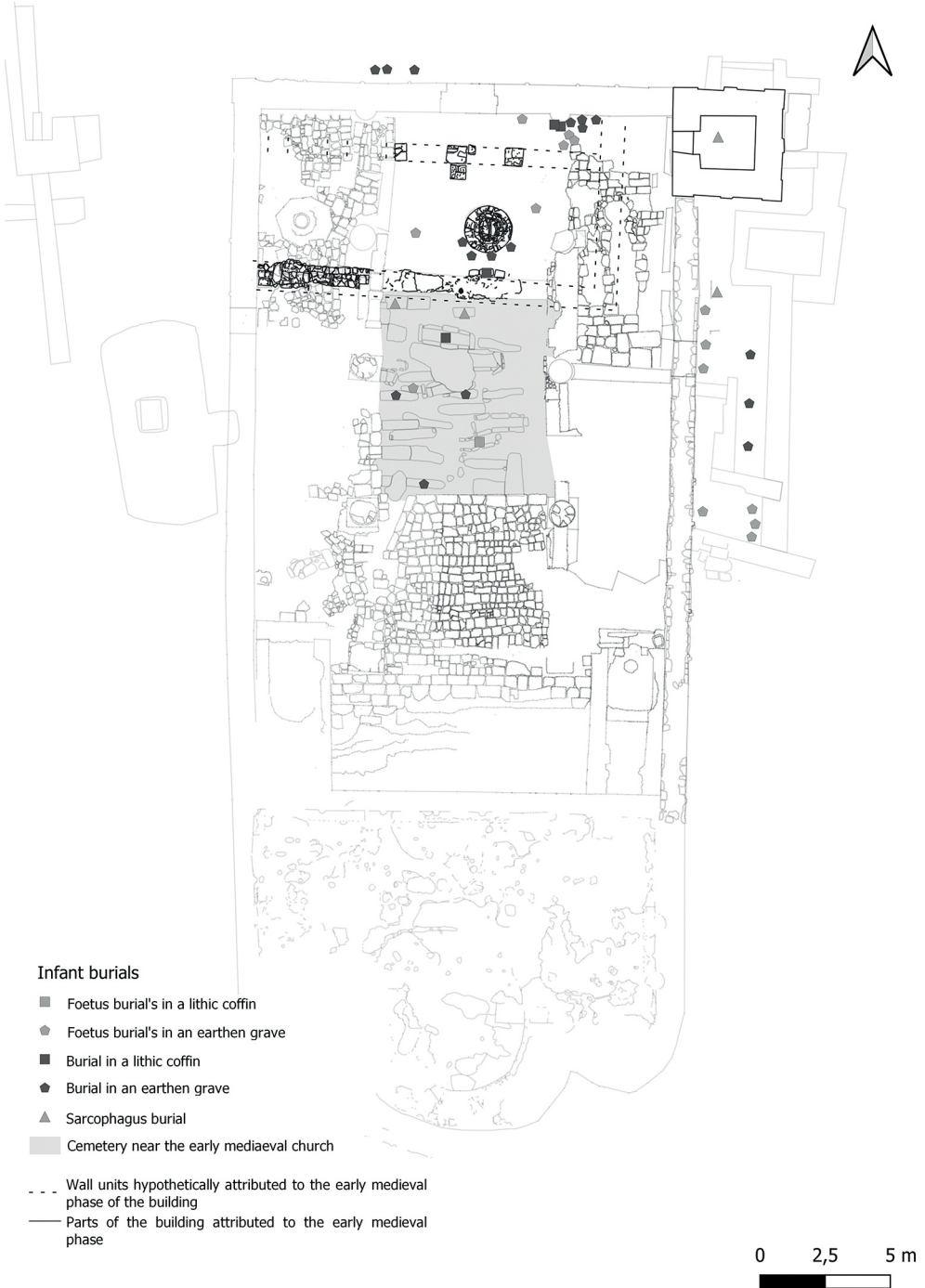


Fig. 3. Plan of St. Peter's Church (Sector VI) with the distribution of infant burials divided into depositional types, also highlighting the presence of foetuses (elaborated by F. Vacatello).

should be noted that there were small fragments of red plaster near the redeposition of infants. Another remarkable example, in this regard, are the burials inside a lithic coffin placed near one of the half-columns that mark the nave of the later Romanesque Basilica. This is a multiple burial, as a minimum of four infants were found inside the lithic coffin covered by a stone slab, of which two are primary burials and two are redepositions. The earliest burial, US 7268, is a redeposition of bone elements of two children aged between 1-6 years and 7-12 years. Second in stratigraphic order is US 7269, with a West-East orientation, which is a primary deposition of an individual aged between 1 and 6 years, placed in a dorsal decubitus position. Contemporary to the second burial is the third, US 7270, also a primary deposition of a 1-6 year-old individual, placed in a dorsal decubitus position with the skull to the West. Above them, three blue beads, which could be considered as small grave goods, were found in the filling and covering layer of the burials within the lithic coffin.

Furthermore, when assessing the spatial and social organisation of the Early Medieval church building and the adjacent necropolis, it is important to note that the distribution of infant burials in the Early Medieval cemetery does not follow any precise criteria and, even in association with the rest of the burials, does not have any planned and distinctive rules, but rather meets the needs of space organisation. The distribution within the Early Medieval necropolis is in fact quite varied and differs, albeit only slightly, from that within the Early Medieval church, in which two areas of sepulchral concentration in particular are delineated. They are placed around the baptismal font and in the north-eastern area of the cathedral, between the bell tower and the north wall of the facade of the later Romanesque Basilica, following the alignment of the structure. In the latter case, the alignment and West-East orientation could perhaps be testimony to the existence of a previous boundary represented perhaps by the intercolumnus or nave of the Early Medieval church. Also quite remarkable is the concentration of five burials in the vicinity of the Early Medieval baptismal font, of which we can attest to the presence of two perinatals, two individuals aged between 1 and 6 years, and even a unique burial of a woman with a foetus (USS 7302 and 7304), for which further investigations will clarify a possible family relationship. Another burial of a woman with a foetus (US 7152) is located in the north-eastern corner of the nave; the bones of a foetus, placed in a foetal position, were found inside the pelvis, suggesting that the woman died while pregnant. Nearby, on the north-eastern side, there is a recurrence of three more foetuses, placed close to each other and in burials directly dug into the rocky bank. One of these (US 7275) is placed, together with two other infant depositions, within the same cut of the bank, thus forming a multiple burial designed to accommodate three infants. Another difference between the interior of the Early Medieval church and the adjoining necropolis is the presence of sarcophagi in the latter. In the nave, under the floor of the Romanesque Basilica, two sarcophagi could be found. The first, given its large size, was therefore originally conceived for

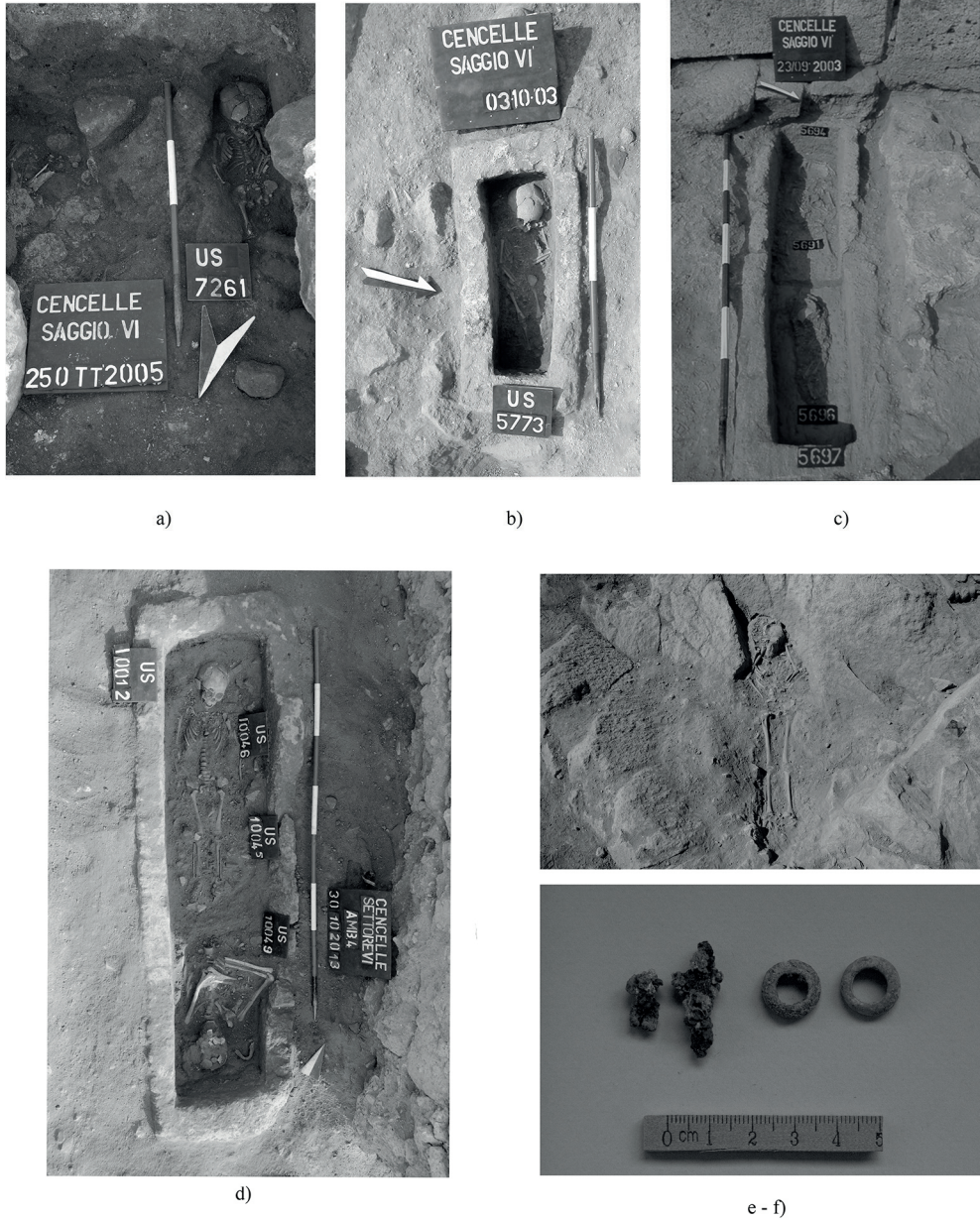


Fig. 4. Table with images of child burials from Sector VI and Sector VII: a) Individual aged 1-6 years with S-N orientation, placed in the space in the N-E corner of the Early Medieval church; b) Perinatal burial of the Early Medieval necropolis, in a small sarcophagus, the size of which suggests that it was made especially for an infant; c) Multiple burial of two infants (a perinatal and a 1-6 year old) in a large sarcophagus originally designed for an adult, located within the Early Medieval necropolis; d) Burial with an individual aged 1-6 years and an adult in a large sarcophagus, situated in the external areas of the Early Medieval church; e) on top, burial in a lithic coffin, placed in Late Medieval necropolis; f) bottom, grave goods from the child burial US 5241 inside the sarcophagus in the bell tower of the Early Medieval church, consisting of two bone rings and iron fragments possibly pertaining to a cross or nail.

an adult individual and later reused to accommodate two burials of infants aged between 1 and 6 years old each and the other less than a year old (Fig. 4c). The second, on the other hand, was small in size and contained a multiple deposition consisting of a redeposition of bone elements of an infant and a primary deposition of an individual less than one year old (US 5773). It is possible to suppose, therefore, that the sarcophagus was conceived from the outset to accommodate the primary infant burial, which also presented a slight elevation of the skull, perhaps because of a so-called earth pillow (Fig. 4b).

On the other hand, the sarcophagus found inside the bell tower, located North-East of the Early Medieval church, and later reused in the Romanesque complex, deserves a separate discussion. The excavation inside it has made it possible to distinguish various deposits related to its use and abandonment. Following the removal of the layers associated with the late phases and their collapse, two distinct trampling levels were documented; below these, a small sarcophagus made of cineritic tuff and a number of adult burials in earthen graves were uncovered. The sarcophagus contained the remains of an inhumate aged between 1 and 6 years (US 5241) and was accompanied by grave goods consisting of two bone rings and iron fragments possibly pertaining to a cross or a nail, suggesting a privileged burial, conceived from the outset to accommodate the infant (Fig. 4f).

The life phases of the Romanesque Basilica, on the other hand, are distinguished by the lack of burials inside the ecclesiastical building, since the necropolis annexed to it developed outside, occupying a large part extending to the East. However, it should be pointed out that outside the building, both along the northern facade and near the Eastern side, burials have been found, albeit in smaller numbers and with a less important layer of interment than the burials mentioned above. There are a total of 15 Late Medieval infant burials pertaining to the exterior of the church, 14 of which are in earthen graves and 1 inside a sarcophagus, which contained an infant aged between 1-6 years together with a sub-adult over 12 years old. The area is characterised by the presence of burials aligned along the eastern outer wall of the basilica, with a North-South orientation, following its course, including 4 fetuses. Similarly, along the facade of the Romanesque Basilica there are three infant burials, two of which have an East-West orientation following the wall and one with a South-North orientation that is completely misaligned. The peculiarity of the area also emerges in the presence of both fetuses and very young individuals no older than six years. This datum, as we shall see, differs from that of the context of the neighbouring Late Medieval necropolis, in which the majority of infant burials record an age of death ranging from 7 to 12 years, thus suggesting the presence of another selected burial site used during the Late Middle Ages for the burial of very young infants. This suggestion is also confirmed by another small area of the town (Sector IX), investigated during 2009, in which a small nucleus of exclusively infant burials was found within a space with trachyte and tufa

walls attached to the northern wall perimeter of the city. The burials, which can also be dated to the Late Middle Ages, are divided into 3 fetuses, 2 perinatals less than a year old and 5 infants between 1 and 6 years old, are buried in the bare earth and most often do not respect the canonical orientation. Some of them are oriented North-South or vice versa, not respecting any wall or structural alignment, but arranged in a very random and disordered manner. Particularly noteworthy among these is a burial in a bisoma earthen grave, in which an infant (US 9133) aged between 1-6 years (to be precise, he appears to be 5 years old) and, along the lower right limb of it, another infant (US 9142) perinatal (9 months old) were laid to rest. The older infant is laid in an East-West orientation and due to its taphonomic characteristics the presence of a shroud is assumed. The teeth show strong traces of tooth enamel deterioration, while the right canine and maxillary central incisors are chipped and worn. These traces may suggest a prolonged working activity, which can be traced back to the processing of fibres or the treatment of a hard and elastic material such as leather. For these two depositions of infants, moreover, one can think of the presence of a single deposition sack, which could perhaps justify the deposition of a slightly older child in a burial area mostly intended for very small infants¹³¹. Also noteworthy is the presence of a large fragment of tile, placed to cover the skull of the child burial US 9115, a custom rarely found at Cencelle, but attested instead in many other contexts, such as an infant grave from S. Maria dell'Impruneta (FI), dated between the mid-11th and 15th centuries¹³². This small nucleus of child burials testifies how in the town, during the Late Middle Ages, there must have been spaces reserved for the burial of children, located even in more isolated areas and far from the context of the city's political and religious power, remaining in line with the statutory provisions and laws regarding baptised and unbaptised children.

4. Late Medieval cemetery burials

Among the infant burials, identified during numerous archaeological excavation campaigns starting from 2003 to present day in the sector, that can be interpreted as a community cemetery of the Late Medieval town, 41 are analyzed in the present study. It is important to note that sector VII has been divided into two macro-areas: sector VII A, excavated since 2003, and sector VII C whose excavation began in 2017. It is therefore evident that the greatest amount of evidence is recorded in VII A while VII C is still under excavation.

On the basis of anthropological studies carried out, it was possible to deduce the age at death; the great majority of the burials fall within the age range 7-12 years followed by a good number of burials of 1-6 years: depositions which are less than one year old are rather rare instead. Their presence, though not numerous, could indicate that they had received baptism sacrament without which they would have had to be buried elsewhere¹³³ (Tab. 2).

Non-adult age classes in the Late Medieval cemetery	N.
Perinatal (< 1 year)	5
Infant I (1-6 years)	14
Infant II (7-12 years)	22

Tab. 2. Table showing non-adults age classes of Late Medieval necropolis

Most of the burials are laid in earthen grave, a type of burial very common in Cencelle and in line with the adult burials found¹³⁴.

These pits are dug in a layer generally with a sandy-loam matrix, whose original limits are rather complex to establish since the pit opening and filling took place in such a way that it was not possible to determine the original limits and have happened in a sudden way that make reading difficult.

In some cases pits are excavated in the rock. The depositional pit was often hewed and worked specifically to accommodate burials, denoting a certain care in the preparation of the pits¹³⁵. Individuals' position, in some particular cases, takes into account rock characteristic: the lower limbs are bent or particularly forced.

Other typology recorded are burials in lithic coffin, particularly used for adults burials and infants burials (the little one) (Fig. 5). These are earthen graves whose walls are covered with small to medium sized tuff or trachyte blocks, arranged with drywall or sometimes bedded with mortar and earth, with the aim to isolate and protect the burial itself from the rest of the area. Very rarely were found covers (unfortunately lost or intentionally removed) generally built with the same coffins material. From the excavations carried out over the years, it emerged that lithic coffins have been reused over and over again, in line with the phenomenon of intensive exploitation of the sacred space, often not taking into account the other burials¹³⁶.

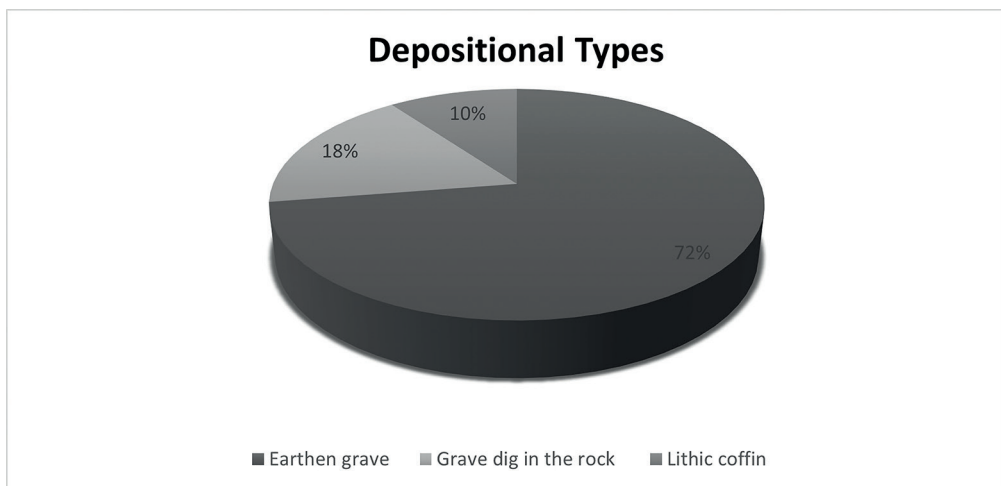


Fig. 5. Plan of Late Medieval necropolis (Sector VII) with the placement of infant burials.

This aspect makes it rather complex to establish a clear correlation between inhumed and this particular type of deposition, thus not allowing any hypothesis of a particular deceased isolation (an infant, from another deposition) as instead appears rather evident in the Early Medieval church.

With regard to the orientation of the burials, the majority of the depositions is arranged following the classic West-East orientation, with the skull facing West. However, there are exceptions; in 5 cases the orientation is South-North and in 4 cases it is East-West with the skull facing East.

This particular orientation could have been conditioned by the course of the imposing wall structure made of large blocks of cineritic tuff and smaller blocks of red tuff that encloses the cemetery area. These burials, together with those of adults with the same orientation could constitute *terminus ante quem* in relation to the reduction of the original necropolar space¹³⁷.

All the burials analyzed were deposited in dorsal decubitus except for 4 cases in which the decubitus was lateral. The decomposition of the bodies seems to have taken place in a full space mediated by the presence of a shroud¹³⁸. The inhumations analyzed were almost always deposited with the lower limbs extended except for some whose lower limbs were slightly flexed, often in correlation with the particular conformation of the geological bench while the upper limbs were either extended along the body or flexed at chest level.

A noteworthy case is related to the discovery of a burial of an infant with a West-East orientation, in a bisoma earthen grave. The individual, in fact, shared the deposition pit with a burial of an adult individual. It is almost complex, given the total absence of grave goods, to establish if there was a family link between the individuals.

The important fact that emerges from this overview is the apparent absence of a special space for children. They, in fact, overlap with the other depositions.

This consequently results in clear limits to the frequentation of all tombs, which are often completely inaccessible to visitors. Through a detailed comparison of the child burials with the adult burials identified, it is possible to state that there are no particular differences with respect to sex or individual age in either the type of deposition or the manner and orientation (fig. 6). In addition, the disposition of the burials does not seem correlated to social status, since burials with grave goods were found together with burials with trousseaus.

We are therefore facing a late medieval age community cemetery, whose burials were buried without interruption and without any particular sex or age distinction. The absence of special spaces for children today could be the confirmation of how this space was used in a massive and intensive way. The numerous cuts made to accommodate other burials and the constant presence of bone reductions (redepositions) scattered throughout the area define this as a real community cemetery.

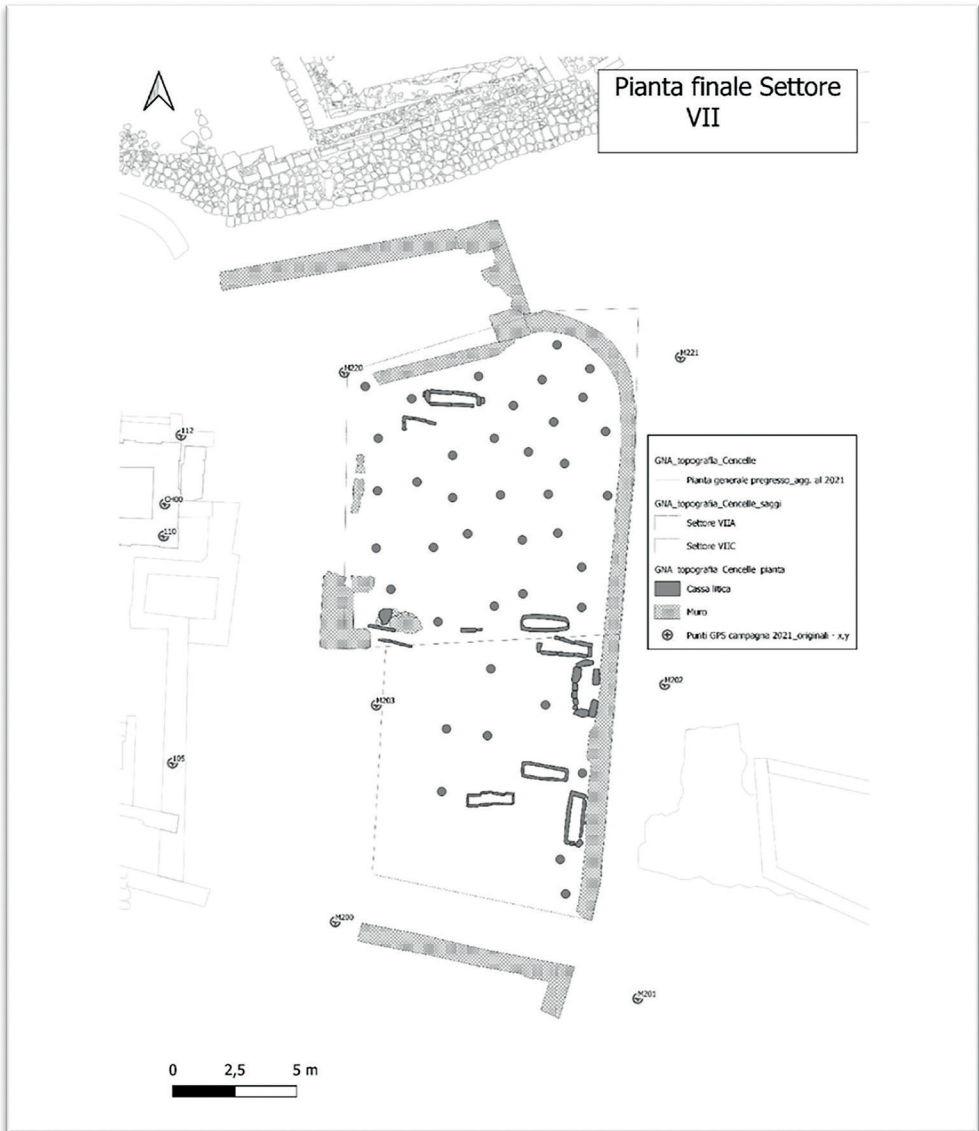


Fig. 6. Pie chart of the different depositional types identified in Late Medieval necropolis.

5. Discussion

In this paper, we have tried to reinterpret the aforementioned 96 infantile burials materiality also in the light of their contemporary regulatory framework^{139,140}, bearing in mind that not all actions or individual gestures, especially those funeral rites celebrated in private form, leave precisely material traces¹⁴¹. Nevertheless, we have identified visible “expressions of care and grief”¹⁴² in perinatal burials familial concern for including young infants (under 2 years) inside the Early Medieval cathedral

(in particular in the central nave and near the baptistery): as reported in the literature (Crow M, Zori C, Zori D,) sometimes this funerary practice contravened ecclesiastical regulations as in the cases of the burial of pregnant women in hallowed ground (always that of the cathedral), despite the presence of unbaptized infants still within their wombs, or in the cases of stillbirths or very young infants buried near the Early Medieval baptistery or following the outside walls of Low Medieval church.

From the sample analysis presented, some common traits and some divergences in the funeral practices of the two Cencelle life *facies* (Early and Late Medieval) can be highlighted.

First of all, is noted a uniformity in the sepulchral typology that favors burials laid in earth or dug in the rock: it is almost exclusive (90%) for the Late Middle Ages (with the exception of some burials in lithic coffins in the cemetery and one in sarcophagus placed outside the east wall of the basilica) while it is only prevalent for the Early Medieval period. In fact, compared to 64% of earthen graves the remaining 36% are depositions in lithic coffin (5 specimen) or in sarcophagies (3 specimen) which sometimes receive bisome infantile depositions (in 2 cases) or redepositions (not analyzed in this work). There are also three multiple depositions, a Low Medieval earthen grave bisome (a 3 year old infant and a foetus in Sector IX), another Low Medieval bisome inside the cemetery (a female adult and a 1-6 year old infant) and a trisome in the Early Medieval cathedral dug in rock (2 infants and a foetus). Another continuity between the Early and Late Middle Ages concerns treatment of bodies deposited in dorsal decubitus except for a few cases in which the decubitus was lateral, that indicates care and consideration were given to their eternal fate; also, they were mostly wrapped in shrouds. Graves simplicity is associated to the almost complete absence of grave goods and material signs leading back to known funerary rituals, apart from 3 Early Medieval burials in the cathedral which have returned two bone rings and iron fragments possibly pertaining to a cross or a nail (the 'privileged' burial under the later bell tower) or three blue beads or small fragments of red plaster.

A marked diversification can be seen, in current research status, in the topographical choice of child burial sites, given that we partially know the extent and articulation of the Early Medieval necropolis while the Late Medieval one excavation is still underway. If for the two *facies* the infant's burials (mainly from 7 to 12 years old) took place in the respective necropolar areas (Sectors VI and VII) where were absence of a 'special space', less than six-year-old depositions are rather rare in both necropolises instead. This fact allows to postulate a will in setting out a 'plan' by the community choosing burial spaces, together with social and ritual reasons. This 'planned marginalization' is flanked, especially in the Early Middle Ages when the legislation was less stringent, by a 'spontaneous' and 'clandestine' marginalization. Infact, there are several clues that show how religion and concern on soul salvation played a central role in foetuses and infants burial, even when those contradicted the Catholic Church's eschatology of unbaptized

children (Crow M, Zori C, Zori D.). We therefore have a discrepancy between regulatory texts and operational practices that an Archaeology of Marginality¹⁴³ can help outline. In the Early Middle Ages, infant graves (under 6 years old) are placed inside the cathedral, in particular in the central nave and around the baptistry. The differentiated use of burial areas is connected to privileges offered to specific individual's classes, especially in relation to worship places. This relationship is expressed by the will to reserve spaces in the church exclusively, or in large part, to subadults who had not received communion or confirmation^{144,145} previous research already reported that as noted by Gilchrist, "burial of the very young in this locale may have been considered to extend the sacramental efficacy of baptism"¹⁴⁶ or, as Hausmair notes, "to bestow the holy rite's transformative powers on unbaptized children"¹⁴⁷. In particular as already observed by Crow et al., associations between baptismal fonts and infant burials have been observed elsewhere, including Northern¹⁴⁸, Central¹⁴⁹ and Southern Europe including Italy (see below).

We also assist, again inside the cathedral, to a "clandestine burials"¹⁵⁰ in that active cemetery as in the case of the 3 fetuses placed in the central nave or the interment of pregnant women despite unbaptized fetuses were still in utero (e.g. Imola¹⁵¹, VII-VIII century, Villa Magna¹⁵², end XIII-XV, San Nicolao di Pietra Colice¹⁵³, end XIV, and the friary churches at Hartlepool and Hull¹⁵⁴).

A higher social rank within the society may account for the fetuses and pregnant women inclusion in hallowed ground¹⁵⁵, that of the High Medieval cathedral around the baptistry or in the central nave: as reported by the authors the respect of the Ecclesiastic requirements of avoiding young individuals' burials may have been also dependent on social hierarchy. It is also possible that the baptismal font 'topographical attraction' was stronger in papal foundation places, as visible in the coeval churches of the *domuscultae* (also of papal foundation) of Mola di Monte Gelato¹⁵⁶ and S. Cornelia¹⁵⁷ where fetal, infant, and child remains were buried near the decommissioned baptistries (Crow M, Zori C, Zori D.).

Also in Late Medieval necropolis, as already mentioned, there is little evidence of burials no older than 6 years and there are only 5 under the year of life: at the moment the fetuses are completely absent. Stillbirths or very young individuals were buried in peripheral physical locations, i.e. aligned with the outside walls or with the facade of the Romanesque Basilica. Recalling their 'marginal' position within Christian theology, in particular fetuses and young individuals in the first years of life were buried at the 'margins' of sacred spaces¹⁵⁸: as also reported in previous studies (Cootes K, Thomas M, Jordan D, Axworthy J, Carlin R, Blood,) the 'eaves-drip burials' are documented starting from the Early Medieval Period, whereby burials of perinatals and neonates were disposed around the northern walls of a church such as *ad exemplum* S. Cornelia, Villa Magna, SS. Vitale e Agata near Rovio¹⁵⁹ and Miranduolo¹⁶⁰. These burials are commonly interpreted as a posthumous baptisms through the water drops

falling from the roof (*sub stillicidio*)¹⁶¹ but the interpretation comes from nineteenth-century folk-myth¹⁶²: certainly the choice of these particular spaces will also have contributed to being passage places that ensured easy access to the burial as well as its easy identification. The excavation *continuum* of this great necropolis will surely provide us with new data and maybe it will give us another 'selected' and 'planned' burial site of very young infants into the Late Medieval necropolis.

Another small burial area (Sector IX only partially excavated) deliberately reserved to perinatal and childhood aged individuals (3 foetuses, 2 perinatals less than a year old and 4 infants between 1 and 6 years old) is located in a 'liminal' space, topographically marginal to the town, attached to the northern wall perimeter: the individuals are buried (around mid-14th century) in the bare earth with no grave goods and most often without respect to the canonical orientation.

Reason for these isolated infant depositions *extra cimiterium* is currently unclear. It could have been a 'planned' choice perhaps linked to the presence of a neighboring church, as would suggest the presence of fragments of painted plaster, currently attested in Cencelle only in the religious sphere. In the case of a planning, fully medieval legislation linked the burial right (*ius sepeliendi*) to the belonging parish^{163,164}, associating family groups in life and in death. In any case, it is not uncommon for a community choosing to isolate infant burials from those belonging to adults for different reasons, mainly connected with hygiene¹⁶⁵ or violent death¹⁶⁶ (as for aborted foetuses) also linked to calamitous or epidemic events¹⁶⁷. In other cases separation is connected only to practical, social or ritual reasons, as in Piazza Duomo cemetery in Pisa¹⁶⁸.

In the case of Cencelle, this topographical 'marginalization' ('planned' or 'clandestine') perhaps relating to unbaptized infants or to infants who had not received the 'emergency baptism'¹⁶⁹ or, again, to social marginalization forms in life, such for orphans placed under non-family protection. Two evidences would lead in this direction: first, the infant (5 years old) buried in a bisome earthen grave has traces on teeth that may suggest a prolonged working activity. The second evidence is a large tile fragment, placed to cover the skull of another child burial: it could be a deceased individual *sine baptisma*¹⁷⁰ and the folk burial tradition *substillicidio* (*o suggrunda*)^{171,172,173,174} it may have been used, outside of the Christian canon law, to improve passing away of the deceased and their non-permanence in a liminal state.

All of these fetal and infant burials remains "serve as vivid reminders that laypeople – possibly with the tacit approval of local clergy – reinterpreted the Church's eschatology of unbaptized babies and occasionally took actions countervailing the exclusionary boundaries of Christian mortuary spaces"¹⁷⁵.

In conclusion, social practices in relation to infant mortality and its rituals have always had a strong variation in the funeral scene. This will for differentiation is made explicit in Cencelle in several choices related to the use of dedicated spaces to infants. All areas, for different reasons, seem to occupy peculiar spaces, showing a clear will,

not just related to planning, but also aiming at separating and therefore distinguishing those individuals from the rest of the community, following social and ritual motivations, but, above all, affective motivations of compassion, care and love of parents towards their children ripped away by *mors immatura*, however incapable to tear the immortal parental bond.

Bibliography and notes

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He or she? The Use of an Integrated Approach for Sex Determination in the Bioarcheological Research

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ABSTRACT

Sex determination in non-adult human remains

This research aims to determine the sex of non-adult skeletal remains from two archaeological sites dating to the Roman Imperial and Medieval periods by using morphological, morphometrics and molecular approaches. The determination of

sex from non-adult remains is a debated issue in the literature even though it has important implications in the palaeodemographic reconstruction of past populations.

Concordance between the different approaches was obtained in the 63% of cases (N=19). The obtained results although preliminary are encouraging even though much research is needed for enlarging the sample size and for applying the cutting-edge High Throughput Sequencing (HTS) technologies.

Keywords: Palaeodemography - Non-adults - Morphometrics - Molecular sex assessment

Introduction

One of the major concerns of bioarchaeology is the disentangling of the characteristics of population groups whose sources are reticent^{1,2,3}. In that context, despite a recent revival of scientific interest, childhood is frequently unexplored in past human population studies. Although we are aware children played an active role in drawing up the past population dynamics, they remain understudied in the archaeological record partly because their poor mineralization and their small size, make them more prone to taphonomic damages⁴.

Bioarcheologists, by contrast with their archaeological counterparts, have readier to concede to children a more prominent place within historical communities⁵ frequently seeking to establish age at death from the skeleton^{6,7}. This estimate determines the years an individual lived on the basis of the skeletal and tooth development, and it thus represents an index of skeletal maturity, backed up by pediatric radiology and endocrinology^{8,9}. Age at death estimation can be performed by using different methods and it involves several factors - gender, nutrition, metabolic, genetic, social, and medical. Bioarchaeological studies should shed more light on history's children, including health and life-style¹⁰ contributing to reducing the differences between skeletal morphology age at death and cultural identities of infancy, childhood, and adulthood¹¹.

An already existing literature has touched on the many factors influencing the accuracy of evaluation of non-adult skeletons leveraging living community, highlighting methodological concerns related to reference and inter- and intra-individual variation^{12,13,14,15}.

Overall, multiple non-adult age-estimation methods are generally considered reliable as they consider relatively short intervals between stages of developmental growth instead of degeneration patterns of adult skeletal remains¹⁶. However, as they reflect developmental stages, multiple confounders as hormonal changes can act on developing both teeth and bones^{17,18}.

Gender represents a confounding factor for the reliable estimation of the skeletal age of a child, so the accurate identification of the biological sex for a sample should be mandatory; unfortunately, however, only a few reliable techniques exist for estimating the sex of children in skeletal individuals. The morphological sex assessment becomes reliable – with a not negligible accuracy bias¹⁹ – beyond the puberty; even though sev-

eral authors pointed out that some differences between males and females can also be accounted for in the pre-pubertal phase, right from the first years of life^{20,21,22}.

Specifically, Schutkowski²³ takes into consideration some differences that, right after birth, can be found in the mandible and ilium. At birth the newborns' mandible consists of two different bone portions that merge medially during the first year of life, from the external and inferior surfaces proceeding towards the internal and superior ones²⁴. After birth, the mandible is the skull bone that undergoes the greatest number of shape and size variations, as it must grow in harmony with the development of the deciduous and then permanent dentition and with the skull growth²⁵. Although sexual dimorphism at the skeletal level becomes more evident during puberty, since craniofacial development occurs almost completely before this period, it is possible to find differences in the growth of the bones of the skull, and therefore also at the level of the jaw, of males and females already in childhood²⁶. Also, each coxal bone is originally made up of three different bony elements, ilium, ischium, and pubis which unify during the individual's development. Although the morphology of these three elements changes little in the first years after birth, each of them shows rapid growth in the first 3 months of life, which slows down slightly until the age of 2-3 years, and further decreases until puberty when, concomitantly with adolescent growth, secondary changes related to sexual development appear²⁷. At birth the ilium possesses most of the characteristics of adult bone, with the anterior and posterior superior iliac spines already well developed²⁸.

Rogers²⁹ instead proposes the observation of four different features of the distal epiphysis of the humerus, which appearing at a young age are also found in the adult skeleton. Finally, Stull and collaborators^{30,31} developed a method based on 18 different measurements of the diaphyses of the main long bones (humerus, ulna, radius, femur, tibia, and fibula), presenting ranges thanks to which it is possible to distinguish between male and female even in pre-pubertal age.

Currently, the analysis of the genetic characteristics of ancient individuals is increasing, and the identification of the molecular markers in the sex chromosomes (chromosome X and chromosome Y) is useful when the preservation status of the DNA molecules is detectable^{32,33,34,35}. The *AMEL* locus of the amelogenin gene encodes the main protein of the extracellular matrix involved in the amelogenesis and development of dental enamel, it consists of 7 exonic units³⁶ and the coding portion extends from exon 2 to 6^{37,38}. The gene exists in two distinct forms characterized by an 89% of homology³⁹: *AMELX*, located on the X chromosome in the region p22.1-p22.3 (chrX: 11,311,533- 11,318,881 (GRCh37 / hg19)) and *AMELY* located on the Y chromosome in position p11.2 (chrY: 6,733,959-6,742,068 (GRCh37 / hg19)). It is possible, indeed, to characterize by amplification the homologous regions according to the presence of a deletion of 6 bp in intron 3 of *AMELX*, which is absent in *AMELY*^{40,41,42,43,44,45}.

Primer sets that generating small amplicons have found wide application in analyses on degraded DNA, and for this reason the amplification of portions of the amelogenin gene has proved particularly effective even in the case of ancient DNA (aDNA). Since Sullivan's (1993) work⁴⁶, several primer sets that can be used for the determination of length polymorphism in the *AMEL* locus, have been developed. Haas-Rochholz and Weiler⁴⁷ developed primer sets flanking a 3 bp deletion in *AMELX* exon 5 capable of generating 80 and 83 bp amplicons for *AMELX* and *AMELY* respectively. More recently, Codina et al.⁴⁸ designed a primer pair that targets the same deletion, but leads to the production of shorter amplicons, 55 and 58 bp respectively, thus being particularly suitable for aDNA.

The Sex determining Region Y (*SRY*, chrY: 2,654,896-2,655,792 (GRCh37 / hg19)), located on the short arm of the Y chromosome in position p11.31, near the pseudo-autosomal region (PAR), is a further genomic marker which plays a key role in the molecular determination of sex. *SRY* is an intron-free locus whose coding sequence (845 bp long)⁴⁹ encodes for the Testis Determination Factor (TDF), a transcription factor binding the HMG-box type (High Mobility Group) domain⁵⁰. The *SRY* gene has been shown to be directly involved in the development of the male reproductive organs since the expression of TDF induces the male differentiation of the somatic cells of the primordial gonads⁵¹. Unlike *AMEL*, *SRY* is a sexual genetic marker whose products are an integral part of the sexual development of the individual. The close association between *SRY* and the maturation of sexually dimorphic features make this marker the most accurate for predicting male sex and it is often used as an element of validation of the results obtained with the amelogenin amplification products.

Identifying the reliable *sex ratio* for deceased children certainly represents a considerable asset for evaluating the funeral practices and lifestyles of past societies. Indeed, the representativeness of a skeletal population cannot exclude the role of the children when seeking to understand living conditions, also taking into consideration cultural variables influencing the resting place of the deceased, impacting on the differential burial for social status or even geographic origin of the individuals⁵².

Palaeodemographic evaluation could still benefit from the reliable sex determination of the child fraction of the samples to reconstruct past human populations' structure and dynamics, to estimate essential parameters such as life expectancy, fertility, and mortality patterns⁵³ by sex or at the population level.

This research aims to attempt at sexing non-adult individuals from Central Italy populations by applying morphological, morphometric^{54,55,56,57} and molecular approaches^{58,59,60,61}.

Materials and methods

The whole sample consists of 64 individuals, 52 from the archaeological site of Leopoli-Cencelle⁶² and 12 individuals from Quarto Cappello del Prete⁶³. Both

the samples refer to burial areas where there was a remarkable presence of child burials, making the sex-determination of the buried individuals critical for further evaluations.

Age at death estimation

As non-adult individuals ranging from perinatal to adolescents were analyzed, general age at death estimation methods were used. In particular, tooth formation and eruption⁶⁴, the measurement of the ilium⁶⁵, diaphyseal length of the long bones of the limbs⁶⁶, of the clavicle⁶⁷, and the development and fusion of the main ossification centers⁶⁸ were applied. In the case of perinatal individuals, the measurements were compared with those proposed by Fazekas and Kòsa⁶⁹.

Sex assessment: morphological approach

Three different approaches were merged for achieving a reliable sex determination. Specifically, the assessment was performed following the protocols proposed by Schutkowski⁷⁰, Rogers⁷¹, and Stull et al.^{72,73}. The method by Schutkowski⁷⁴ analyzes morphological features of the mandible and the ilium; the protocol by Rogers⁷⁵ observes four different characters at the level of the distal epiphysis of the humerus; finally, the protocol of Stull and collaborators^{76,77}, is based on 18 different measurements of the diaphysis of the main long bones (humerus, ulna, radius, femur, tibia, and fibula).

Following the indications of Schutkowski's study⁷⁸, three different traits were observed on the mandible:

- chin protrusion: not very prominent, with a tapered shape and a smooth surface in females; more prominent, broad and angular in males;
- shape of the anterior dental arch: parabolic in females; anteriorly wider, U-shaped in males;
- eversion of the gonial region: the *gonion* is aligned with the external surface of the horizontal branch of the mandible in females; in frontal view, the *gonion* is slightly everted with respect to the rest of the mandibular body in males.

For each trait a value from -1 to +1, was assigned. The negative value corresponds to a purely feminine morphology while the positive corresponds to a masculine one; the traits showing an intermediate morphology were recorded as zero (0).

On the basis of the study proposed by Schutkowski⁷⁹, the following characteristics were observed on the ilium:

- the angle of the greater sciatic notch: the bone is observed ventrally and positioned so that the anterior part of the greater sciatic notch is vertically

aligned, the angle is greater than 90° in females, approximately equal to 90° in males;

- “arch criterion”: the bone is observed ventrally, the arch represents an extension of the vertical side of the greater sciatic notch; this crosses the auricular surface in females while it runs along the medial margin in males;
- depth of the greater sciatic notch: the bone is placed with the dorsal surface towards the operator. The posterior inferior iliac spine and the edge of the acetabular region point downwards and are aligned with each other. The notch is shallow in females and deeper in males;
- the curvature of the iliac crest: looking at the bone from above, the iliac crest appears flattened in females, in the shape of a clear “S” in males.

In this case the morphology of each trait was also scored by assigning a value from -1 (feminine) to +1 (masculine), marking with 0 the intermediate morphology.

The fusion of the distal epiphysis of the humerus with the diaphysis begins at about 11.5 years in females and about a year later in males and is completed around the age of 15⁸⁰.

For this reason, the indications reported by Rogers⁸¹ were applied exclusively to adolescents and non-infantile individuals. Observing the posterior surface of the humerus the following traits were observed:

- trochlear constriction: the trochlea is flattened, in the shape of a “bow tie”, with the distal margin drawing a distinct angle in the females; less flattened, with the medial margin taking on a gradual curvature in males;
- trochlear symmetry: the trochlea is symmetrical in females and asymmetrical in males;
- shape and depth of the olecranon fossa: deep and oval in females, less deep and triangular in males;
- the angle of the medial epicondyle: placing the eyes at the height of the work surface, the medial epicondyle is higher than the rest of the distal epiphysis in females, parallel to the plane in males.

Also in this case, a value from -1 (feminine) to +1 (masculine) has been assigned to the observed features; the undefined characters and intermediate morphology were also in this case recorded by the value 0.

Diaphyseal length was measured according to the protocol by Stull et al.^{82,83}. Each measurement was repeated five times and the mean value was used for sex assessment. For some individuals, mainly aged between 13 and 18 years, the methodologies described above were integrated with others routinely used for determining sex in adult individuals.

The morphological approach is based on the observation of a series of features at the level of the skull, jaw, and pelvis.

The male skull is generally more robust with marked muscular insertions, compared to those present on the female skull, which is frailer. The male skull is characterized by pronounced and protruding glabella and superciliary arches, by a large and voluminous mastoid process, a generally broad and very developed nuchal plane and occipital protuberance, and by a receding forehead, all characteristics that appear less marked in the female skulls. By contrast, the frontal and parietal tuberosities, almost absent in males, are more evident in the female skull, giving it a more rounded shape at the back⁸⁴.

The mandible is more robust and squared in males, with the *gonion* (mandibular angle) presenting often retroverse roughness, and a prominent chin⁸⁵. The female mandible, on the other hand, is slender, with a rounded chin, and a smooth or only slightly wrinkled *gonion*⁸⁶.

The pelvis, composed of two *os coxae* and the sacrum, is analyzed both at the level of the individual bones and as a whole. The male coxal bone is usually tall and narrow, with marked muscular insertions, and the greater sciatic notch is narrow and V-shaped. In female individuals, on the other hand, the coxal bone is low and wide, with underdeveloped muscle insertions, and the greater sciatic notch is wide and U-shaped. Overall, the upper and lower circumferences of the pelvis (*pelvis major* and *minor*) are narrow in males and very large in females, in order to facilitate pregnancy and childbirth⁸⁷.

The metric approach of Stull and collaborators^{88,89} was used along with methods by other authors for older individuals as Martin and Saller⁹⁰, Dwight⁹¹, Pearson^{92,93}, Olivier⁹⁴, Black⁹⁵, Di Bernardo and Taylor⁹⁶, Stewart⁹⁷, Berrizbeitia⁹⁸ and Borrini^{99,100}.

The measurements, differentiated according to the bone elements to which they refer, should be recorded on different days and at different times of the day, with the use of osteometric board, calipers, and metric tape.

Sex assessment: molecular approach

Ancient DNA (aDNA) was extracted from 9 samples recovered in the archaeological site of Leopoli-Cencelle, and ten samples from Quarto Cappello del Prete¹⁰¹ aiming at analyze molecular markers useful for sex determination.

For all the selected specimens, a micro-sampling of the petrous bone was performed. This portion of the temporal bone is particularly suitable for aDNA studies showing high yield of endogenous DNA due to its location and to the high density of its bone matrix^{102,103,104}.

In order to reduce the levels of contaminants by cross-linking of exogenous DNA molecules, the remains were UV-irradiated before proceeding to pulverization and DNA extraction. For each specimen 1 mL of Yang-Urea DNA extraction buffer (0.5 M EDTA pH 8.0, 1M Urea), and 20 μ L of proteinase K (100 μ g/ml) were added to 0.5 g of bone powder¹⁰⁵. The obtained solution was then incubated at 37° C overnight.

At the end of the incubation phase, necessary for a partial dissolution of the cell membranes and for the denaturation of the histone proteins, the samples were spinned at 4,000 rpm for 5 minutes. The supernatant was then transferred into Amicon® Ultra-4 Centrifugal filter (30 kDa) and further centrifuged at 4,000 rpm for a minimum of 15 minutes, until obtaining an unfiltered volume of 100 μ L. The latter was then transferred into Eppendorf tubes with the addition of 500 μ L of PB buffer (QIAGEN) and purified by MinElute kit (QIAGEN) and eluted in 55 μ L of EB buffer (QIAGEN) after an incubation of 10 minutes at 37°C.

Samples were subjected to amplification of different genomic traits used for the determination of sex¹⁰⁶. For each sample, a reaction mix (total volume of 25 μ L) consisting of a PCR BIO Mix (Reaction buffer 1x, 25 mM MgCl₂, and dNTPs 25 mM), a primer pair, ddH₂O, TaqPol, and DNA was prepared. The first primers used for the amplification of this region were designed by Sullivan et al.¹⁰⁷ and generated 106 bp amplicons for *AMELX* marker or 112 bp amplicons for *AMELY* marker. Subsequently, the samples along with a negative and a positive control (two in case of polymorphisms associated with the amelogenin gene) were amplified (Bio-Rad T100TM Thermal Cycler). Moreover, SRY amplicons were also produced and analyzed¹⁰⁸.

The proper amplification of the fragments was verified through an electrophoretic run carried out on 12% polyacrylamide gel (for *AMEL*, *AMEL1*, *AMEL2*, and *SRY* markers, Table 1).

MARKERS	Primer sequences	Length PCR fragments	References
<i>AMEL</i>	F 5'-CCCTGGGCTCTGTAAAGAA-3' R 5'-ATCAGAGCTTAAACTGGGAAGCTG-3'	106 and 112 bp	Sullivan et al. (1993) ¹⁰⁹
<i>AMEL1</i>	F 5'- ACCCTTTGAAGTGGTACCAGAGCAT-3' R 5'- GAACAAAATGTCTACATACYGGTGG-3'	80 e 83 bp	Haas-Rochholz e Weiler (1997) ¹¹⁰
<i>AMEL2</i>	F 5'-CCCTTTGAAGTGGTACCAGAGCA-3' R 5'- GCATGCCTAATATTTTCAGGGAATA-3'	55 e 58 bp	Codina et al. (2009) ¹¹¹
<i>SRY</i>	F 5'-GAGTGAAGCGACCCATGAAC-3' R 5'-TTTCGCATCTGGGATTCTC-3'	85 bp	Su e Lau 1993 ¹¹²

Table 1. Primer sequences and length of the amplicons

Results and discussion

The sample consists of 64 non-adult individuals: 52 from the archaeological site of Leopoli-Cencelle (9th-15th centuries CE) and 12 from Quarto Cappello del Prete (1st-

3rd centuries CE). For some individuals from Leopoli-Cencelle none of the methods could be applied due to remains' preservation status, so they were excluded from the analysis. All the other individuals were analyzed by morphological and morphometric approaches, and a subgroup of 19 individuals was subjected to molecular analyses.

Age at death assessment

Due to the lack and/or to the high fragmentation of some skeletal elements it was not possible to apply all the described methodologies for all the analyzed individuals.

The obtained age at death estimates for the individuals from Leopoli-Cencelle are reported below:

- Perinatal (<1 year) = 12 individuals
- Infant I (1-6 years) = 16 individuals
- Infant II (7-12 years) = 12 individuals
- Adolescents (13-18 years) = 12 individuals

For all the individuals it was possible to evaluate the fusion degree of the main skeletal ossification centers; for 29 individuals, however, it was not possible to observe the degree of dental eruption as the teeth were absent.

For 8 individuals aged between 13 and 18 years it was not possible to estimate the age by measuring the long bones as, although the epiphyses are not completely welded to the diaphysis, the average length was greater than those of the reference standard¹¹³. Age at death estimates for the 12 individuals from Quarto Cappello del Prete are reported below:

- Perinatal (<1 year) = 6 individuals
- Infant I (1-6 years) = 6 individuals

The obtained results show that the highest number of individuals (considering both the populations) are in the Infant I age group (1-6 years). This age group coincides with the weaning phase that causes a drastic change in the eating habits of infants¹¹⁴. This period is particularly challenging as the start of weaning may also lead to malabsorption problems and, at times, to gastrointestinal diseases to which children are particularly susceptible also because the immunity acquired by the mother during breastfeeding is interrupted^{115,116}. The number of perinatal individuals is also high, as infants in this period, in addition to the stress related to birth itself, are extremely prone to virulent infectious diseases such as measles, pertussis, smallpox, and gastrointestinal infections which can often be fatal¹¹⁷.

Sex assessment by morphological and osteometric approach

Sex determination by morphological approach was performed following the indications of Schutkowski¹¹⁸, Rogers¹¹⁹ and Stull et al.^{120,121}.

However, due to the brittleness of the non-adult skeletal elements, the absence and/or fragmentation of the informative areas prevented, in some cases, proper observation. In particular, the mandible is the least preserved element, especially in younger individuals. Notwithstanding, it was decided to include it in the protocol so as to be able to have more information when present. In the case of missing of some skeletal remains sex was determined by the osteometric analysis of the long bone length^{122,123,124,125,126,127,128,129,130,131,132,133}.

The approach proposed by Schutkoski¹³⁴ was applied to the entire sample for which the skeletal elements were preserved (51 individuals). However, for 6 individuals, aged between 13 and 18 years, the complete fusion of the *os coxae* hindered the analysis, so in these cases sex was assessed by the methods proposed by Acsádi and Nemeskéri¹³⁵ and by Ferembach et al.¹³⁶.

For 8 individuals sex could not be assessed by using the abovementioned method nor the methods for adult sex determination due to the fragmentation and/or absence of the informative skeletal elements but also due to the presence of an intermediate morphology for some of the observed traits which led to ambiguous results.

For the individuals for whom it was possible to analyze both the skeletal elements, sex assessment was concordant except from the individual SU 11604 (female on the basis of morphology of the mandible, and male for that of the ilium). However, this individual also showed discrepancies in age at death estimation protocols. We can therefore hypothesize that these differences found both in the estimate of the age at death and in the determination of sex may be linked to problems in the individual's skeletal development.

As regards the protocol proposed by Rogers¹³⁷ this is aimed at determining the sex in adolescents and was therefore applied to individuals from Leopoli-Cencelle belonging to the age groups infant II (7-12 years) and adolescents (13-18 years). Unfortunately, the humerus was recovered only in 17 individuals.

The measurement protocol of Stull et al.^{138,139} concerning the diaphysis lengths of the long bones, was applied to a large number of samples. However, this method also presented some limitations: for perinatal individuals, it was not always possible to compare the results obtained from the measurements with those present in the standard proposed by Stull and collaborators^{140,141}, since they were lower than those considered (these were therefore recorded as ND, not determinable). Only for three individuals, aged between 13 and 18 years, sex was determined by osteometric analysis performed according to the standards for adult individuals^{142,143,144,145,146,147,148,149,150,151,152}. Overall, the application of the morphological and morphometric approached led to the determination of sex of 55 individuals out of 64.

The obtained results are reported in Table 2.

LEOPOLI-CENCELLE						
PERINATAL (<1 year)						
Individual	Mandible ¹⁵³	Ilium ¹⁵⁴	Long bones measurements ¹⁵⁵	Distal epiphysis of the humerus ¹⁵⁶	Adults morfological protocol ^{157,158,159}	Adults measurement ^{160,161,162,163,164,165,166,167,168,169,170}
5696	ND	M	ND	-	-	-
5702	-	-	-	-	-	-
5703	A	ND	ND	-	-	-
5728	A	F	ND	-	-	-
5773	ND	M	ND	-	-	-
5960	M	M	M	-	-	-
9031	A	ND	ND	-	-	-
9035	A	F	ND	-	-	-
10116	A	M	ND	-	-	-
11615	A	ND	ND	-	-	-
11633	A	M	ND	-	-	-
11831	A	F	ND	-	-	-
INFANT I (1-6 years)						
5691	ND	ND	F	-	-	-
5738	M	M	M	-	-	-
5932	A	F	F	-	-	-
5946	A	M	M	-	-	-
5959	ND	M	ND	-	-	-
9115	M	M	M	-	-	-
9133Sb	M	M	M	-	-	-
10046	M	M	M	-	-	-
10086	ND	A	M	-	-	-
10093	ND	F	F	-	-	-
10100	M	M	M	-	-	-
10111	ND	M	M	-	-	-
11568	A	A	F	-	-	-
11737	A	F	ND	-	-	-
11870	-	-	-	-	-	-
14040	ND	M	M	-	-	-
INFANT II (7-12 years)						
11134	A	A	F	A	-	-
11166	F	F	F	F	-	-
11566	-	-	-	-	-	-
11591	ND	ND	F	F	-	-
11604	F	M	M	M	-	-
11698	M	M	ND	M	-	-
11861	A	M	ND	M	-	-
11908	A	M	F	M	-	-
11944	A	ND	F	F	-	-
14021	M	M	ND	M	-	-
14043	ND	A	M	M	-	-
14136	A	A	M	A	-	-

ADOLESCENTS (13-18 years)						
11586	A	ND	M	M	-	-
11620	-	-	-	A	M	F
11647	M	M	M	M	-	-
11734	A	A	F	A	-	-
11815	-	-	-	A	F	F
11821	A	ND	ND	M	F	-
11837	A	A	F	A	-	-
11846	A	M	M	M	-	-
14032	M	M	M	M	-	-
14055	-	-	-	M	M	M
14089	-	-	ND	M	M	ND
14121	-	-	ND	M	M	-
QUARTO CAPPELLO DEL PRETE						
PERINATAL (<1 year)						
T8A	A	M	A	-	-	-
T14	A	M	A	-	-	-
T16	A	F	A	-	-	-
T20A	M	M	A	-	-	-
T47A	A	M	A	-	-	-
T47B	A	F	A	-	-	-
INFANT I (1-6 years)						
T5	A	M	A	-	-	-
T6	A	F	A	-	-	-
T8	A	M	A	-	-	-
T36	M	M	A	-	-	-
T56	A	F	A	-	-	-
T59	A	M	A	-	-	-

Table 2. Results of the sex assessment by morphological and osteometric approach. For each method the sex determination was reported. M indicates males, F females, ND not determinable, A absent. The symbol “-” was used for indicating the method was not applicable

As shown in Table 2 in the cases in which multiple methods could be applied (58 individuals) the sex assessment was consistent with a few exceptions (SU 11604, SU 11908, SU 11620, SU 11821).

As regards the adolescents, for six individuals sex was determined following the methodologies by Acsádi and Nemeskéri¹⁷¹ and Ferembach et al.¹⁷². In one case (SU 11821) there was a discrepancy between the results obtained by the analysis of the *os coxae*^{173,174,175} and that obtained by the method by Rogers et al.¹⁷⁶. In one other case (SU 11620) a discrepancy was noted between the methods (morphological and morphometric) for adults but this is not surprising as the individual could be weak due to his young age.

Sex assessment by molecular approach

In order to confirm the results obtained from the morphological and osteometric analyses, for 19 individuals, sex was also determined by aDNA analysis analyzing sepa-

rately the amplified products for each of the four markers (*AMEL*, *AMEL1*, *AMEL2*, *SRY*). The obtained results are reported in Table 3.

Individual	AMEL 106/112 bp	AMEL1 55/58 bp	AMEL2 80/83 bp	SRY 85 bp	Sex
LEOPOLI-CENCELLE					
US 5691	M	/	/	M	M
US 5696	F?	/	F	/	F
US 5773	M	/	/	M	M
US 9035	F	/	/	M?	F
US 9115	M	/	/	M	M
US 10100	/	M	/	M	M
US 11591	M?	/	/	M	M
US 14032	M	M	/	/	M
US 14043	/	/	M	/	M
QUARTO CAPELLO DEL PRETE					
T5	M	M?	/	M	M
T6	F	M	M	/	M
T8	F	M?	F	/	F?
T8A	F	M?	M?	M	M
T14	M	M	M	M	M
T16	M	/	M	/	M
T20A	M	F?	F	M	M
T36	/	M	/	/	M
T47A	/	F	F	/	F
T56	F	?	F	M	M

Table 3. Results of the aDNA analysis for sex determination of the analyzed individuals

The heterogeneity of aDNA preservation did not allow the amplification of all the genetic markers (Table 3). This may be attributable to the degradation of the genomic pairing regions of the probes or to the fragmentation of the aDNA molecules. However, it is worth noticing that for almost all of the analyzed individuals (N= 13) at least two markers are consistent.

Despite the larger size of the *AMEL* amplicon, this allowed the typing of 13/19 individuals, while the *AMEL1* and *AMEL2* markers returned positive results only in 10/19 assays. This evidence appears in partial disagreement with the analytical hypotheses that envisaged the generation of short amplicons to overcome diagenetic problems.

In the evaluation of the discordant results (N=6) sex was preferentially resolved according to the concordance of multiple markers. However, the *SRY* determination was substantially critical for what concerns the masculine sex; as it is chromosome-specific and free from potential diagenetic biases that could modify the regions flanking the markers, resulting in a putative secondary allelic drop out¹⁷⁷.

As previously stated, the heterogeneity highlighted during the analysis is attributable to the characteristics of the ancient DNA, whose fragmentation and small quantity can

result in failures of the oligonucleotide annealing in the amplification reactions, making it sometimes impossible to amplify the markers. Nevertheless, these characteristics could generate false positives hints where the template molecule is represented by contaminating modern molecules, which cannot be determined through a target approach such as that based on selective amplification.

Table 4 shows the results of the combined morphological, morphometric and molecular approaches applied in the present research.

Individual	Sex determination by morphological and osteometric approach	Sex determination by aDNA analysis	Individual	Sex determination by morphological and osteometric approach	Sex determination by aDNA analysis
LEOPOLI-CENCELLE			QUARTO CAPELLO DEL PRETE		
US 5691	F	M	T5	M	M
US 5696	M	F	T6	F	M
US 5773	M	M	T8	M	F
US 9035	F	F	T8A	M	M
US 9115	M	M	T14	M	M
US 10100	M	M	T16	F	M
US 11591	F	M	T20A	M	M
US 14032	M	M	T36	M	M
US 14043	M	M	T47A	M	F
			T56	F	F

Table 4. Sex assessment for the morphological, osteometric and molecular approaches

A 63% match (12 out of 19 individuals) was observed in the estimates, 10 males and 2 females. Only one (SU 11591) out of the 7 individuals for whom it is possible to highlight an analytical discrepancy in the diagnosis of sex, belongs to the age group infant II (7-12years), while all the others fall into the perinatal (<1 year) and infantile I (1- 6 years) age groups. It should also be noted that in some discordant cases only one morphological/osteometric approach allowed to determine sex.

This evidence seems to suggest that although many of the sexually distinctive traits are present from birth, some characteristics become more marked during growth^{178,179,180}. Accordingly, it could be hypothesized that this discrepancy may be attributable to erroneous individual assessments deriving from the incomplete development of the dimorphic features.

Conclusions

Sex was determined by applying several morphological and osteometric approaches described in the literature, which resulted in an overall concordance assignment but for four individuals. Otherwise, it was possible to confirm the obtained results by molecular sex determination only for the 63% of the 19 analyzed individuals.

Although preliminary and limited to a small analyzed sample, the obtained results show the prospective use of an adjunct simple and cost-effective practice to improve our knowledge about sexing of non-adult ancient individuals^{181,182}. So far, the data are encouraging, especially when the resources for more sensitive approaches as those implemented in the cutting-edge genomic and proteomic evaluations are not feasible^{183,184,185,186}. Further research is needed for enlarging the analyzed sample size to gain a more complete evaluation of paleodemography in skeletally immature individuals especially for the Roman Imperial communities^{187,188}.

Bibliography and notes

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Gabriel Andral e L'Italia Influenze reciproche tra il padre della moderna ematologia e il “Bel Paese”

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ABSTRACT

Gabriel Andral and Italy. Mutual Influences Between the Father of Modern Hematology and the “Bel Paese”

Gabriel Andral (1797-1876) was one of the most emblematic exponent of the French medical revolution of the 19th century and the undisputed father of modern hematology. He spent most of his adolescence in Italy because his father, Guillaume Andral, was a military doctor who became the personal physician of Murat in Naples. Although he lived in Italy just for a few years before going back to France and graduating in Paris, he indeed kept in touch with our Country and strongly affected Italian medicine. As a matter of fact, many of his works were translated into Italian and he soon became well known in the peninsula, playing an important role in the next Italian medical progress.

Keywords: Gabriel Andral - Hematology - Italy

Introduzione

Nell'estate del 1808, il medico francese Guillaume Andral (1769-1853) giungeva nella capitale partenopea, al seguito di Gioacchino Murat (1767-1815), proclamato re del Regno di Napoli il 1° agosto di quello stesso anno¹. Guillaume Andral, piuttosto noto in Francia, era membro dell'Académie nationale de médecine e medico militare negli eserciti della Rivoluzione². A Napoli divenne medico della Guardia reale e Ispettore generale degli stabilimenti medici, civili e militari³.

Nel 1810, fu raggiunto da sua moglie, Angèlique, e dai figli, Gabriel e Caroline⁴. È a questo punto, che il nostro vero protagonista, Gabriel Andral, giunge a Napoli, appena tredicenne. Qui avrebbe trascorso i successivi tre anni, ovvero buona parte della sua adolescenza.

In Italia coesistevano, allora, tre realtà politiche tutte subordinate alla Francia: i dipartimenti francesi (Repubblica Subalpina, Repubblica Ligure, Regno di Etruria e Ducato di Parma e Piacenza,

Stato Pontificio), il Regno d'Italia (Repubblica Cisalpina risultata dalla fusione delle precedenti repubbliche, Cispadana e Transpadana, corrispondenti rispettivamente a Emilia-Romagna e Lombardia) e quello di Napoli. Dal 1806 Napoleone aveva affidato il trono di Napoli al fratello Giuseppe Bonaparte che, successivamente, nel 1808, era stato sostituito dal generale Gioacchino Murat, membro anch'egli della famiglia imperiale avendo sposato una delle sorelle di Napoleone, Carolina. Murat avrebbe regnato su Napoli per circa sette anni (1808-1815)⁵.

Con l'arrivo di Giuseppe Bonaparte e, successivamente, di Murat ebbe inizio a Napoli un decennio

di importanti riforme, che riguardarono non solo le strutture politiche e gli apparati amministrativi dello Stato, ma anche le istituzioni culturali e scientifiche⁶. In questo vasto e articolato programma

di rinnovamento, la medicina e la sanità subirono una radicale evoluzione, sulla base del modello importato dalla Francia. Prima di ogni riforma della vita civile, politica ed economica veniva la salvaguardia della salute dei cittadini⁷.

Come noto, a cavallo tra XVIII e XIX secolo, la Francia aveva assunto un ruolo di leadership nel panorama della medicina occidentale⁸. Le riforme ospedaliere, l'insegnamento al letto del malato, l'indagine anatomico-patologica e l'introduzione della statistica medica, da parte di Pierre-Charles Alexandre Louis (1787-1872), stavano dando vita alla più potente rivoluzione mai vista in ambito sanitario⁹.

Di riflesso, anche a Napoli, l'ambiente medico-sanitario iniziò a beneficiare di quel clima riformatore. Il governo borbonico, nel 1799, aveva decretato la chiusura del Collegio medico-cerusico. Questa scelta si giustificava solo con la determinazione dei Borbone di epurare quanto più possibile quel luogo, considerato, come si legge in una storia dell'Ospedale degli Incurabili circa un secolo dopo, *“un focolaio di politicanti e*

di rivoluzionari”¹⁰. Gli effetti negativi di tale chiusura furono ben presto evidenti, sia nella qualità dell’assistenza ospedaliera, sia nella professione medica. Si registrò, ad esempio, un sensibile calo dei laureati in medicina e chirurgia, passati dai trentaquattro del 1788 ai nove del 1807¹¹. Sotto il governo di Murat ci fu una rapida inversione di rotta. Il decreto per il ristabilimento di un Collegio di allievi medici, chirurghi e farmacisti nell’Ospedale degl’Incurabili fu emanato nel 1810¹².

I provvedimenti presi per il Collegio indicavano chiaramente quale fosse l’indirizzo che i francesi intendevano dare agli studi medici: il nuovo “regime” esigeva disciplina ferrea da parte degli studenti, insegnamento rigoroso da parte dei professori, rispetto dei doveri da parte degli impiegati. I francesi avevano intenzione di adottare per l’istruzione criteri di selezione, oggi diremmo meritocratici, partendo da uno dei settori, quello della medicina e della chirurgia, maggiormente in crisi¹³.

La prassi clinica dei maggiori ospedali partenopei cominciò, finalmente, a prevedere il ricorso sistematico all’indagine post mortem¹⁴. Inoltre, l’impostazione teorico-pratica degli studi, l’istituzione di quattro cliniche universitarie nell’Ospedale degl’Incurabili, di un teatro anatomico e di un gabinetto patologico, garantivano, anche a Napoli, quel passaggio della medicina “*da scienza retorica, appresa dogmaticamente dai testi o da dotte dissertazioni orali*”, a “*scienza elaborata ed insegnata al letto dell’ammalato*”¹⁵. Furono, inoltre, fondate o riformate numerose istituzioni scientifiche e culturali, come il Reale istituto d’incoraggiamento alle scienze naturali (1806) e l’Accademia delle scienze (1808)¹⁶. “*La grande Scuola medica salernitana, dopo aver passato il testimone alle prime grandi Università, continuò a funzionare fino al 1811, quando Gioacchino Murat decise di spostare a Napoli la Scuola di medicina*”¹⁷.

Alcuni medici napoletani, da Domenico Cotugno a Filippo Baldini, a proprio agio in quel clima di profondo rinnovamento, iniziarono a fare ricerca e a produrre pubblicazioni la cui eco giunse anche fuori dai confini del Regno napoletano¹⁸.

È, dunque, probabile che il frequente contatto con i protagonisti di questo vivace ambiente medico-scientifico, nel corso degli anni napoletani, assieme, senza dubbio, all’esempio del padre, abbiano consolidato la scelta del giovane Andral di intraprendere gli studi medici. Ci sembra anche legittimo ipotizzare che il contatto del giovane Andral con lo spirito del popolo napoletano, in anni così delicati per la sua formazione, abbia avuto una qualche influenza su alcuni tratti che lo caratterizzeranno: prontezza d’animo, vivacità d’ingegno, elevata cultura, sensibilità interdisciplinare e spiccata attitudine per la ricerca scientifica.

Furono proprio queste sue qualità a consentirgli, negli anni, di trasformarsi nel padre della moderna ematologia. Grazie agli studi di laboratorio e all’analisi delle componenti ematiche, Andral ha istituito l’ematologia clinica come disciplina separata dalla medicina interna¹⁹.

Cenni biografici

Gabriel Andral era nato il 6 novembre 1797 a Parigi. Nel 1810 si era trasferito, come detto, in Italia.

Tornato in Francia, nel 1813, frequentò per due anni il Lycée Louis-le-Grand di Parigi e, nel 1815, alla vigilia della Restaurazione, si iscrisse alla facoltà di medicina²⁰. Compì il suo tirocinio presso l'Hôpital de la Charité sotto la guida del professor Théodorick-Nilammon Lerminier (1770-1836), un vecchio allievo di Jean-Nicolas Corvisart des Marets (1755 - 1821)²¹, e si distinse, fin da subito, per la sua assiduità e la sua serietà nel lavoro. Nel 1821 si laureò con una tesi dal titolo: *Recherches sur l'expectoration dans les différentes maladies de poitrine*²².

In seguito, nel 1823, Andral fu eletto membro dell'Académie nationale de médecine. Nel 1828, ottenne l'incarico di professore d'igiene e fondò con due suoi colleghi, Jean-Baptiste Bouillaud (1796-1881) e Claude Auguste Reynaud (1804-1878), una rivista medica, *Le Journal Hebdomadaire*, che fu pubblicata per due anni, riportando una serie di osservazioni condotte su vari pazienti, a partire dai sintomi e dai segni fino alla diagnosi e alle analisi post mortem²³. Tali osservazioni saranno raccolte, insieme a numerosi altri studi, nella sua *Clinique médicale ou choix d'observations recueillies à la clinique de M. Lerminier*, pubblicata, nella sua prima edizione, tra 1823 e il 1827 in collaborazione con lo stesso Lerminier.

Il successo professionale che Andral ottenne a partire da questo momento si deve, prima di tutto, alla qualità dell'opera e alla sua abilità medica, ma, senza dubbio, anche alla forza delle reti di amicizia della sua famiglia e al sostegno ricevuto dal suocero²⁴. Infatti, nel 1827, Gabriel Andral aveva sposato Angélique Royer-Collard, figlia di Pierre-Paul Royer-Collard, uno dei politici più influenti dell'epoca. Da lei, ebbe un figlio: Paul²⁵.

Nel 1830, Gabriel Andral succedette a François Broussais (1772-1838), come professore di Patologia Clinica, mantenendo questo incarico per ben ventisette anni²⁶. Broussais, "propugnatore di un uso ad 'oltranza del salasso, praticato per di più secondo il metodo 'moderno' delle sanguisughe"²⁷, si era convinto che il salasso potesse essere risolutivo in un gran numero di malattie²⁸. Viceversa, tale intervento "terapeutico" si rivelò disastroso nei malati di cancro, nei pazienti emorragici e in quelli affetti da malaria, sifilide e colera²⁹. Andral si schierò apertamente contro Broussais³⁰, divenendo uno dei più accaniti propugnatori del cosiddetto "metodo numerico" introdotto da Louis, quell'antecedente della statistica medica che, attraverso l'osservazione e l'analisi di un grande numero di casi clinici, riuscirà, nel 1835 a dimostrare la completa inefficacia del salasso.

Nel 1843, Andral pubblicò il suo ultimo grande lavoro scientifico, *l'Essai d'Hématologie pathologique*³¹. Infatti, dopo la sua pubblicazione, Andral continuò a dedicarsi esclusivamente alla professione medica, finché, nel 1866, mise fine alla propria carriera. Le ragioni di tale decisione sono tutt'altro che chiare. Probabilmente la sua scelta

dipese da due eventi personali particolarmente dolorosi: la malattia della moglie e la morte del figlio per tubercolosi³². Nel 1870, Andral lasciò Parigi, insieme alla moglie, trasferendosi a Châteaueux, nel Loir-et-Cher, dove i Royer-Collard possedevano una proprietà. Angèlique venne a mancare nel 1872. Andral morì di polmonite quattro anni dopo, il 13 febbraio 1876, all'età di settantanove anni³³.

Opera scientifica

L'attività e gli interessi scientifici di Gabriel Andral si possono scandire al ritmo delle sue quattro opere principali che si occupano di clinica medica, anatomia patologica, semeiotica medica e, infine, di ematologia³⁴.

La sua *Clinique medicale* fu pubblicata presso l'editore parigino Gabon, in cinque edizioni successive: la prima, a cui Andral si dedicò quando era ancora uno studente di medicina, nel 1823, la seconda nel 1824 e, successivamente, nel 1826, nel 1827 e nel 1833³⁵. Andral riporta una serie di casi clinici raccolti nell'ospedale della Charité, quando era allievo di Lerminier. Ogni sezione dell'opera si conclude con un breve riassunto dei casi presi in esame, divisi per patologia, e la descrizione del metodo di osservazione adottato³⁶. Nella prefazione dell'autore alla seconda edizione, si può leggere:

Quest'opera, pertanto, non deve considerarsi altro che una raccolta di fatti pubblicati all'oggetto di spargere qualche luce intorno al diagnostico, ed alla terapia di un certo numero di malattie, e di somministrare in pari tempo alla scienza alcuni elementi per risolvere le questioni, che vanno agitandosi. È questa un'esposizione perfettamente analitica dei casi di medicina Pratica i più degni di riflessione, che io ebbi l'opportunità di osservare alla Clinica del dottore Lerminier³⁷.

La scelta del titolo, tipico della scuola parigina di quel tempo, non era casuale. Fino a quel momento i libri di testo o i trattati di patologia erano stati intitolati perlopiù "Medicina universale", "Medicina pratica" o "Elementi di medicina":

La clinica, a differenza della patologia che ha teorizzato la malattia e l'ha resa un'entità astratta, ha studiato gli organismi malati, nella loro individualità e in relazione con l'ambiente³⁸.

Se, dunque, la patologia sviluppava il lato scientifico della medicina, la clinica era un'iniziazione all'arte medica: la prima trattava delle malattie, la seconda studiava i malati³⁹.

Nel 1829, videro la luce, sempre presso Gabon, i due volumi del *Précis d'anatomie pathologique*, dedicati a Lerminier, come testimonianza della profonda ammirazione che Andral nutriva nei confronti del proprio maestro⁴⁰. L'opera voleva essere un'introduzione metodologica, utile per i "medici pratici", alla disciplina inaugurata da Morgagni:

Non è dunque un Trattato di Anatomia Patologica che mi son posto di offrire al pubblico; è bensì la semplice esposizione del metodo col quale io ho studiata l'Anatomia Patologica all'oggetto di determinare i suoi rapporti colla Medicina pratica⁴¹.

Andral vi definiva l'oggetto della disciplina, la storia e i suoi rapporti con le altre branche del sapere medico. Vi era poi una riflessione sul modo in cui l'anatomia patologica potesse orientare la terapeutica che, da sola, si basava ancora su nozioni troppo spesso insufficienti e incerte⁴².

Intanto, era andato crescendo l'interesse di Andral per la semeiotica, tanto che egli aveva contribuito attivamente alla diffusione dello stetoscopio e del metodo dell'auscultazione mediata, ideati da Laennec fin dal 1816-1819⁴³. Le sue *recherches* sull'auscultazione mediata apparvero a partire dal 1824 sul *Journal Hebdomadaire* e poi furono successivamente raccolte nel *Dictionnaire de médecine et de chirurgie pratiques* pubblicato in quindici volumi a Parigi dal 1829 al 1836⁴⁴. Andral interpretava la scoperta di Laennec alla luce delle sue osservazioni personali, riconoscendone l'importanza, ma non omettendo di segnalarne i limiti:

anche l'auscultazione non offre sempre i mezzi sicuri per distinguere se un individuo ha solo catarro cronico o tubercoli⁴⁵.

Nel 1836 Andral annotò la quarta edizione del *Traité de l'auscultation médiate et des maladies des poumons et du coeur* confermando e completando molte affermazioni di Laennec, e contestandone nuovamente altre⁴⁶. Fu qui, per esempio, che Andral individuò l'area di ottusità cardiaca, fissò il numero normale di respiri al minuto e distinse i tempi di inspirazione ed espirazione⁴⁷.

Infine, nel 1843, uscì il suo *Essai d'Hématologie pathologique*, considerato una pietra miliare della moderna ematologia. L'opera non si limita a rendere note le nuove scoperte del suo autore, ma sovverte completamente le modalità e gli strumenti con cui il clinico si era fino ad allora approcciato allo studio del sangue. L'analisi del sangue diventa quantitativa: Andral, per primo, avverte la necessità di definire i valori standard delle componenti del sangue e di classificare le malattie in cui si assiste a modificazioni dell'ematocrito, attraverso analisi chimica e osservazione microscopica, senza mai perdere di vista la clinica fatta al letto del malato⁴⁸. Egli sosteneva con forza che, affinché lo studio del sangue nelle malattie potesse condurre a dei risultati veramente utili, si doveva acquisire prima un'esatta cognizione dello stato fisiologico del sangue, attraverso indagini microscopiche e chimiche⁴⁹:

Così laddove l'anatomia non ci mostra più alterazioni, la chimica ce le fa conoscere e non dubito che essa non sia per divenire sempre più una delle basi della patogenesi, non solo per analizzare, come essa fa oggi, i liquidi modificati dalla malattia, ma ancora per studiare i cambiamenti di proporzione e di natura dei principali elementi che compongono le parti solide⁵⁰.

Lo sforzo nel definire come si modificano i principali valori ematici nel corso di determinati stati patologici, come la tubercolosi e la cardiopatia ipertrofica, è ciò che più caratterizza l'attività scientifica di Gabriel Andral rispetto al passato. In caso di tubercolosi, ad esempio, oltre all'anemia, già nota in ambito ematologico prima della scrittura dell'*Essai d'Hematologie pathologique*, egli rilevò l'innalzamento della fibrina e la comparsa di febbre particolarmente elevata. L'aspetto del coagulo era caratteristico, piccolo e denso, e diminuiva di volume man mano che la malattia progrediva, coprendosi di un guscio esterno che diveniva più spesso e ben formato quanto più si era in fase avanzata di malattia. Ciò rifletteva l'aumento della fibrina in concomitanza con la diminuzione delle cellule del sangue⁵¹.

Andral e l'Italia

Come anticipato nella nostra introduzione, l'influsso che il Bel Paese esercitò sul giovane Andral è per lo più congetturale. Abbiamo ipotizzato che il vivace ambiente napoletano in cui trascorse parte della sua adolescenza ne avesse forgiato il carattere deciso e tenace. Tuttavia, l'individuazione di una chiara influenza da parte della medicina italiana sul nostro protagonista è tutt'altro che scontata, sebbene non manchino, nelle sue opere, accenni a celebri personalità dello scenario medico-sanitario italiano, come Marcello Malpighi (1628–1694) e Maurizio Bufalini (1787–1875).

Ciò che invece ci sembra ampiamente dimostrabile è che Gabriel Andral influenzò molto positivamente la scienza italiana, che, anche grazie al suo contributo, subì una radicale evoluzione verso la modernità. A testimonianza di quanto appena affermato si pensi che le sue opere principali si diffusero nella penisola con una rapidità davvero notevole. In effetti, le traduzioni della *Clinique Médicale*, del *Précis d'Anatomie Pathologique* e dell'*Essai d'Hematologie Pathologique* comparvero solo pochi anni dopo la pubblicazione dell'originale francese, come riportato in tabella (Tab. 1, qui). Si tratta di un dato significativo, se solo si fa riferimento all'opera del ben più celebre Laennec, il *Traité de l'Auscultation Médiante*, che, pubblicata in Francia nel 1819, fu tradotta in italiano solo a partire dagli anni Trenta⁵².

Opera (titolo francese)	Anno di pubblicazione in Francia	Opera (titolo italiano e traduttore)	Anno di pubblicazione in Italia
Clinique medicale ou choix d'observations recueillies à la clinique de M. Lermnier	1823-1833 (I edizione: 1823-1827)	Clinica medica, ossia raccolta d'osservazioni fatte allo spedale della Carità I traduzione italiana su II edizione francese (1829) I volume: Ernesto Rusca II volume: Ernesto Rusca III volume: Ernesto Rusca IV volume: Ernesto Rusca V volume: Ernesto Rusca	Milano, 1831 Milano, 1831-1834 Milano, 1831-1834 Milano, 1832 Milano, 1834

Opera (titolo francese)	Anno di pubblicazione in Francia	Opera (titolo italiano e traduttore)	Anno di pubblicazione in Italia
Precis d'anatomie Pathologique	1829	Compendio di Anatomia Patologica Ernesto Rusca Salvatore De Renzi Ermenegildo Canigiani	Tomo 1: Milano, 1833 Tomo 2: Milano, 1833 Tomo 1: Napoli, 1834 Tomo 2: Napoli, 1835 Tomo I e II (su ultima edizione francese): Livorno, 1839
La quatrieme edition du Traité de l'Auscultation Mediate	1837	Trattato dell'Ascoltazione Mediate Pietro Perrone	Napoli, 1843
Essai d'Hematologie Pathologique	1843	Saggio d'Ematologia Patologica Alessandro Casetti	Firenze, 1843

Ernesto Rusca

Il primo italiano che si interessò a Gabriel Andral fu Ernesto Rusca, che nel 1831 pubblicò a Milano la traduzione della Clinique Médicale (ed. orig.: 1823-1827).

Ernesto Rusca nacque nel 1801 a Pavia⁵³. Dopo essersi laureato divenne, ben presto, membro della facoltà di Medicina dell'Università di Pavia, una delle più illustri scuole mediche del tempo, dove era “Ripetitore di Patologia e Medicina”⁵⁴. All'epoca in cui visse Rusca, la Lombardia era parte del Regno Lombardo-Veneto, un regno formalmente indipendente, ma sottoposto alla corona asburgica e governato da un'amministrazione subordinata direttamente al governo centrale di Vienna⁵⁵.

Nel panorama italiano dei primi decenni dopo la restaurazione post-napoleonica, Milano e la Lombardia rappresentavano senz'altro la realtà più avanzata sia dal punto di vista economico che da quello amministrativo. La rigorosa amministrazione asburgica garantiva un livello di efficienza sicuramente inusuale negli altri stati italiani. Anche da un punto di vista sanitario e di assistenza ospedaliera Milano era considerata il modello di riferimento e certamente il punto più alto dell'embrionale sanità italiana⁵⁶.

Nonostante la giovane età al momento della morte, che lo colse a soli 33 anni, nel 1834, Rusca aveva già ricoperto importanti incarichi e scritto alcuni libri. Egli, infatti, esordì con la traduzione della prima opera di Andral nel 1831, lavorò come medico assistente all'Ospedale Maggiore e, nel 1832, fu nominato dal governo membro di una commissione per studiare un modo efficace per contrastare le epidemie di colera e assistere le persone affette⁵⁷. A seguito di questa esperienza scrisse la sua “Istruzione intorno al regime di vita onde preservarsi dall'epidemia di cholera” pubblicata dall'editore Molina nel 1832. Con lo stesso editore e nello stesso anno pubblicò anche la traduzione del Précis d'Anatomie Pathologique⁵⁸.

Nella prefazione alla traduzione della Clinique Médicale il traduttore, ispirandosi chiaramente a quanto già affermato più volte da Andral, asserì la centralità assoluta che l'anatomia patologica rivestiva nella pratica clinica⁵⁹. Egli rilevò come numerosi medici, nel corso della storia, avessero formulato teorie fondate unicamente su idee speculative e puramente ipotetiche, che l'esperienza giudicò false. Ciò era dovuto al fatto che essi trascurarono l'osservazione clinica e l'anatomia patologica, che, affermò Rusca, è la *“principal fonte di ogni progresso nell'arte salutare”*⁶⁰. Successivamente, però, i moderni compresero, che nessuna teoria medica poteva dirsi vera, né condurre a risultati efficaci nella pratica, se non traesse origine dall'osservazione dell'uomo ammalato e del cadavere, e dall'esame analitico dei fatti⁶¹. A questo nuovo metodo di indagine si dedicarono *“non pochi chiari ingegni”*, che riuscirono a dimostrare la falsità delle numerose convinzioni tramandate dall'antichità. Convinti del fatto che la natura intima delle malattie fosse destinata a rimanere sempre un mistero per le menti umane e che volendo penetrare in questi *“reconditi arcani”* non si potesse fare a meno che formulare delle ipotesi, essi limitarono le loro ricerche alle proprietà e differenze essenziali delle malattie, a quelle cioè, che la mente può apprendere attraverso i sensi confrontando tra di loro i fatti mediante un severo raziocinio. Solo questo metodo analitico introdotto negli studi medici poteva condurre a dei risultati concreti⁶².

Rusca ribadì, inoltre, come questi prodigiosi avanzamenti nella scienza salutare fossero dovuti, in massima parte, a *“sommì uomini”*, quali Morgagni, il quale per primo pose in Italia i fondamenti dell'Anatomia patologica, e altri medici, sia italiani che stranieri, tra cui, appunto, l'autore dell'opera che si accingeva a tradurre⁶³. Egli, tuttavia, ammoniva il lettore ricordando che, malgrado le notevoli scoperte che erano state fatte, rimanevano ancora da istituire ulteriori indagini per giungere alla perfezione nell'arte del curare le malattie⁶⁴.

Nel concludere la sua prefazione, infine, riferendosi ad Andral scrisse:

*Persuasò di queste verità il celebre Andral dedicòssi con sommo amore alla pratica dell'osservazione, e qual frutto delle sue lunghe meditazioni pubblicò un trattato di clinica medica, il quale comprende un'eccellente raccolta di osservazioni istituite al letto dell'ammalato, confrontate colle sezioni dei cadaveri, e corredate di ben ragionate riflessioni. Nella persuasione di far cosa grata ai medici italiani, ed utile specialmente all'esercizio pratico della medicina, ne pubblichiamo la presente traduzione [...] Possa questa nostra fatica incontrare il plauso dei medici, giovare all'inferma umanità, ed ispirare nei cultori della scienza l'amore all'osservazione*⁶⁵.

Il traduttore, quindi, avendo compreso l'importanza dell'opera di Andral si impegnò a pubblicarne una traduzione affinché tutti i medici italiani avessero la possibilità di conoscerla. In tal modo si augurava che la medicina italiana potesse finalmente progredire sull'esempio della rivoluzione medica che aveva caratterizzato la Francia fin dall'inizio del secolo.

A testimonianza del suo reale apprezzamento per l'opera e per la sua metodologia, Rusca non si limitò a tradurla, ma aggiunse riflessioni proprie e riportò veri e propri casi clinici, dando particolare importanza soprattutto all'analisi delle febbri. Anche nelle sue note, raccolte alla fine di ogni volume, sottolineò quanto sia necessario per i progressi della scienza, l'osservazione dei singoli casi di malattia, lo studio delle forme morbose e l'esame dei cadaveri, che permetteva di confermare, o rettificare l'idea che il medico aveva concepito al letto dell'infermo⁶⁶.

Spesso, inoltre, le aggiunte del traduttore non sono altro che una conferma delle osservazioni di Andral, che si erano rivelate corrette anche nella sua esperienza di clinico:

La pratica conferma realmente quanto va esponendo il nostro Autore che nelle idropisie si ottengono delle guarigioni col mezzo dei purganti attivi che in vano si erano tentate con tutta la turba dei diuretici⁶⁷.

In una delle sue osservazioni Rusca riportò il caso clinico di una donna affetta da pericardite, approfondendo le osservazioni di Andral e sostenendo come molte volte la pericardite si manifesti in pazienti con artrite che venivano, stanti i gravi dolori articolari, sorpresi da dolore acutissimo alla regione precordiale, con affanno di respiro, pulsazione vibrata, accelerazione del battito cardiaco, dolore alla spalla e al braccio sinistro, aumento di febbre. Il traduttore voleva cioè sottolineare come il medico debba tenere ben presente lo stretto rapporto che esiste fra le malattie di cuore e l'artrite, e come l'insorgenza delle infiammazioni del pericardio fossero facilitate dall'artrite stessa⁶⁸.

Tuttavia, si evidenzia come Rusca, se pure si dichiarava quasi sempre d'accordo con Andral, dimostrando di essere decisamente più avanti rispetto alla gran parte dei suoi colleghi, resti ancora persuaso dell'utilità del salasso che, invece, Andral aborrisce:

Io rispondo di buon animo ad Andral che sperarsene poteva la guarigione se si fosse insistito nel salasso. L'assieme dei sintomi che presentava l'ammalato non potevano gettar un dubbio sulla aggiustatezza della diagnosi. Si trattava di una flogosi pleuropolmonare, quindi fino che le funzioni del viscere del respiro mostravano uno stato di irritazione, dovevasi continuare colle sottrazioni sanguigne⁶⁹.

Rusca, come detto, dimostrò l'ammirazione e la stima che nutriva nei confronti di Gabriel Andral pubblicando, nel 1833 presso l'editore Molina di Milano, anche la traduzione del *Precis d'Anatomie Pathologique* (ed. orig. 1829).

Egli aveva già manifestato il suo interesse per quest'opera lavorando sulla *Clinique Médicale*, dove invitava il lettore a consultare il compendio, che, a suo dire, "rinchiude molte pratiche verità"⁷⁰.

La pubblicazione del *Compendio di Anatomia Patologica* ebbe un forte impatto sulla medicina italiana. Una prova di questo è che, secondo l'Istituto Centrale per il Catalogo Unico, ICCU, nelle biblioteche italiane se ne trovano circa una dozzina di copie.

Ciò che va riconosciuto ad Andral è il tentativo di evitare ogni interpretazione unilaterale del dato anatomo-patologico⁷¹. Da eclettico qual'era, Andral voleva dimostrare, inoltre, che anche l'anatomia patologica, nonostante le sue straordinarie potenzialità, non era che uno dei numerosi punti di vista dai quali può essere osservata la scienza dell'uomo malato⁷².

Un'ulteriore dimostrazione della reciproca influenza tra Andral e l'Italia è evidenziabile nel *Compendio di anatomia patologica*, dove egli riconobbe un grande merito a Malpighi che, se pure era vissuto più di due secoli prima, fu il primo a dimostrare la disposizione complicata di quella parte della pelle frapposta tra derma ed epidermide, che Malpighi indicò con il nome di “*corpo mucoso e reticolare*”⁷³. Centrale nell'attività scientifica di Andral fu l'utilizzazione del microscopio, che egli padroneggiava con grande perizia tecnica, grazie al quale dimostrò per primo che i polmoni sono un agglomerato di alveoli membranosi apertisi nelle ultime ramificazioni tracheobronchiali e circondati da una rete capillare⁷⁴.

Salvatore de Renzi

Tra gli italiani che si interessarono ad Andral si conta anche Salvatore de Renzi (1800–1872), medico e celebre storico della medicina⁷⁵. Egli, al pari di Rusca, si occupò di una nuova traduzione del *Compendio di anatomia patologica*, pubblicata nel 1834 (I tomo) e nel 1835 (II tomo) a Napoli, presso l'editore Filiate-Sebezio. De Renzi tra il 1840 e il 1850 fu socio onorario dell'Accademia nazionale di medicina di Parigi, di cui Andral era già membro⁷⁶. Non è quindi impossibile immaginare che i due si conoscessero e che, magari, si fossero anche incontrati.

Nella sua *Storia della medicina in Italia* (1848) De Renzi nominò Andral, scrivendo:

L'Italia inoltre può vantare un'altra opera classica, che va a paro, e per molte cose va innanzi [...] di quante se ne pubblicarono fino al principio di questo secolo, non solo per l'abbondanza e per isceltezza di erudizione, ma anche per osservazioni, e per dottrine. È questa l'opera di Giuseppe Testa sulle malattie del cuore, che costituirà un bel monumento di onore per lui e per l'Italia. Egli ha premesso al suo trattato una storia esatta e compiuta di tutte le dottrine professate da tempi antichissimi fino al cadere del decimottavo secolo intorno alle malattie del cuore. La diagnosi della pericardite è da Testa eseguita da maestro, ed i vari sintomi, che ne rivelano l'esistenza, e le lesioni anatomiche, che ne derivano, sono da lui con una rara perspicacia esaminate. Dalla cardite egli fece derivare tutte le lesioni organiche del cuore, nel che è seguito da' trattatisti francesi. Dimostrò che la irri-tazione della sostanza del cuore, che passa allo stato congestivo, e quindi all'infiltramento interstiziale, produce l'ipertrofia del cuore. E questa dottrina insegnata da Testa per la prima volta è stata dopo sostenuta da Andral⁷⁷.

Ciò è un ulteriore indice del fatto che Andral, non solo avesse influenzato profondamente l'evoluzione della medicina in Italia, ma che fosse stato a sua volta influenzato dalle teorie di alcuni medici italiani.

Nelle *Lezioni di patologia generale dettate da Salvatore De Renzi* (1856), che lo stesso De Renzi raccolse per i suoi allievi, come una sorta di dispense per lo studio, egli citò più volte Andral, riconoscendogli alcune importanti scoperte. Attribui ad Andral il merito di aver fissato i valori fisiologici e morbosi di fibrina e di acqua nel sangue e di aver definito le principali cause della pletora, consacrandolo come pioniere dell'ematologia⁷⁸:

Andral ci dice che il vero carattere della pletora è la variazione degli elementi del sangue, e che esiste quando i globuli sorpassano il loro massimo e sono inoltre fortemente colorati dall'ematosina, mentre non vi è eccedenza di fibrina nè di albumina e la quantità dell'acqua è anche scemata⁷⁹.

Lo stesso De Renzi nella sua opera dimostra come i valori di fibrina considerati fisiologici non fossero identici per ogni medico⁸⁰; ma in realtà prima dell'intervento di Andral, nonostante la scoperta del fibrinogeno (precursore della fibrina), descritto per la prima volta da William Hewson (1739 - 1774)⁸¹, nessuno aveva mai stabilito quali fossero i valori fisiologici o morbosi della fibrina. L'unica nozione comunemente accettata era che i suoi valori variassero “da due a tre sopra mille parti” nello stato morboso dando delle manifestazioni fisiche ben riconoscibili quali quella della “cotenna”, cioè un coagulo denso.

Riportò, inoltre, gli esperimenti condotti da Andral sulla membrana natatoria della rana per l'analisi delle alterazioni del flusso ematico. Si evidenzia, infine, che anche De Renzi, così come Rusca, si interessò in modo particolare alla classificazione delle febbri operata da Andral⁸².

Pietro Perrone

Andral fu uno dei principali artefici della diffusione dell'auscultazione mediata nel mondo medico, impedendo che questa cadesse nell'oblio in cui la morte prematura di Laennec rischiava di farla affondare⁸³. Non a caso, egli commentò “*La quatrieme edition du Traité de l'Auscultation Mediate*” (1837) di Laennec. Questa edizione commentata del Trattato fu tradotta in Italia da Pietro Perrone nel 1843 e pubblicata dalla tipografia di Gennaro Palma, a Napoli. Pietro Perrone (inizio '800 – 1861⁸⁴) era un medico ordinario dell'Ospedale degli Incurabili di Napoli e chirurgo della Guardia d'Interna sicurezza; era inoltre membro onorario dell'Accademia medico-chirurgica di Napoli e socio dell'Accademia Pontaniana⁸⁵, istituzione che si occupava della diffusione di ricerche in ambito scientifico, politico e artistico⁸⁶.

Dato il successo riscosso dalla pubblicazione dell'opera, si può ragionevolmente ipotizzare che essa abbia contribuito ad accelerare ulteriormente la diffusione dell'auscultazione mediata anche in Italia. Anche in questo caso ciò è testimoniato dal fatto che

l'Istituto Centrale per il Catalogo Unico, ICCU, ne riporta una decina di copie. Infatti, la notizia dell'invenzione dello stetoscopio giunse nel nostro Paese molto presto, ancor prima della pubblicazione della prima edizione del *Traité de l'Auscultation médiate* (1819). Ma la curiosità iniziale e l'entusiasmo suscitato dal nuovo strumento medico in molte università italiane svanirono rapidamente, probabilmente per la mancanza di guide esperte e per la pazienza necessaria alla formazione iniziale in auscultazione mediata. In questo senso la traduzione italiana curata da Perrone ha, certamente, contribuito a chiarire dubbi e perplessità sulle modalità di utilizzo del nuovo strumento, motivando una nuova generazione di giovani medici a porre definitivamente lo stetoscopio come ausilio indispensabile per la diagnosi delle patologie toraciche nel nostro Paese⁸⁷. A ulteriore riprova della stima e della considerazione che Perrone nutriva nei confronti di Andral, spicca la descrizione che in uno dei suoi testi, *“La scienza medico-clinica, o vedute fondamentali di medicina considerata come scienza e arte”*, fece del terzo tomo del *Dictionnaire de Médecine et de Chirurgie pratiques* (1829), scritto dallo stesso Andral e altri colleghi francesi:

*Gli articoli sono quasi tutti buoni e superano di lunga mano tutti quelli simili che si contengono ne' tre precedenti Dizionari. È senza fallo il migliore per ciò che riguarda la patologia speciale sì medica che chirurgica*⁸⁸.

Alessandro Casetti

L'Essai d'Hématologie Pathologique (ed. orig. 1843) fu tradotto dal dottor Alessandro Casetti e pubblicato nel 1843 a Firenze, presso l'editore Aureliano Giuliani. Si noti come, quindi, la traduzione italiana comparve nello stesso anno dell'edizione originale francese. Ciò testimonia da un lato l'attenzione di cui Andral godeva ormai in Italia, dall'altro la centralità assoluta che il Saggio d'ematologia patologica si era guadagnato nel contesto dell'intera produzione scientifica del suo autore. Si tratta, probabilmente, della sua opera più riuscita e questo dato fu subito chiaro anche agli italiani. Nella prefazione, il traduttore chiarì come il suo obiettivo non fosse tanto quello di tessere l'elogio del *“chiarissimo Autore”*, né tantomeno quello di dimostrare la già nota utilità dell'argomento e i vantaggi che derivavano dallo studio del sangue⁸⁹. Il suo intento, piuttosto, era quello di diffondere in tutta Italia e a Firenze, in particolar modo, dove lo studio del sangue aveva già raggiunto livelli elevati, *“i recentissimi lavori del lodato Autore sul sangue nelle malattie”*. Casetti, infatti, si dichiarò stupito del fatto che un'opera di tale rilevanza circolasse ancora solo nelle mani di pochi privati e si augurava, dunque, che, con il suo lavoro, potesse farla arrivare a tutti gli italiani cultori delle discipline mediche⁹⁰.

È evidente, quindi, come la principale preoccupazione di Casetti fosse quella di contribuire a diffondere in Italia non tanto la fama di Andral, che sembrava ormai consolidata, ma quella di far conoscere il più rapidamente possibile i suoi studi e le sue ricer-

che con la speranza di incoraggiare, in tal modo, la medicina italiana a dare un nuovo e inedito valore all'ematologia e a riconoscerne la centralità nell'arte diagnostica. Anche in quest'opera Andral dà prova della grande considerazione che nutriva per gli scienziati italiani, citando Bufalini, professore di clinica medica prima a Bologna e poi a Firenze, strenuo avversario delle teorie vitalistiche⁹¹. Bufalini pose a fondamento della scienza medica il metodo analitico e sperimentale e fu tra i più validi sostenitori del metodo induttivo della clinica⁹². Andral lo definì un "dotto medico italiano" e gli riconobbe il merito di aver distinto le malattie in due grandi classi, in riferimento alla tendenza del sangue a coagularsi o a fluidificarsi nelle varie condizioni patologiche⁹³. Bufalini, infatti, distinse tra le malattie causate dal cosiddetto processo flogistico e quelle dovute al processo dissolutivo. Questa distinzione, affermava Andral, lo ha ispirò e lo portò ad individuare malattie nelle quali il sangue contiene un eccesso di fibrina, da malattie in cui ne contiene una quantità minore, poiché in queste esiste, evidentemente, una causa che ha per effetto necessario quello di rendere il sangue meno coagulabile⁹⁴.

La fama di Andral supera i confini del mondo medico

Il successo che Andral riscosse in Italia non emerge solo dalla celerità e dall'entusiasmo con cui le sue opere furono tradotte e diffuse, ma anche dalla fama che egli si guadagnò tra personaggi estranei alla medicina.

Per comprendere la sua notorietà, basti pensare che il celebre operista Gaetano Donizetti (1797-1848) si affidò a lui per risolvere un certo "male al polmone"⁹⁵. Nell'ottobre del 1838 Donizetti decise di lasciare Napoli, dove era stato direttore artistico del Teatro San Carlo dal 1822 al 1838, per trasferirsi a Parigi, data la mancata nomina a direttore del conservatorio (di cui era direttore effettivo) e la censura che il governo borbonico oppose alla messa in scena del *Poliuto* non concependo che la rappresentazione di una tematica sacra avvenisse in un luogo considerato profano come il teatro⁹⁶.

L'ambiente parigino fu, certo, foriero di successi e di entusiasmi, ma non scevro di difficoltà e frizioni. Gli ultimi trionfi del 1845 segnarono, infatti, il totale tracollo fisico del compositore affetto da sifilide⁹⁷.

In una lettera indirizzata all'amico Toto, datata 11 agosto 1845 si trovano tracce dei metodi diagnostici e terapeutici cui Andral sottoponeva il musicista italiano:

Parigi, 11 agosto 1845

Caro Toto,

Ti ringrazio de' giorni felici che mi auguri. Non son già partito il 10 giugno, ma bensì luglio.

- Stamane ebbi consulto di tre primi medici Andral, Ricord, e... e... e... convennero fra loro, dopo mille domande a me fatte, ch'io parta, che viaggi, che cambi clima... [...] Tu sai, caro Toto, se ho sempre avuto male al polmone, tu sai se ciò dissi; ora, è una malattia funesta. - dodici sanguisughe al sito de' sfoghi. Decotto 4 volte al dì. La mia testa (per il vero) era

pesantissima e non diceva nò che in parole. Ora la movo ed è effetto del clima, perchè lo faceva già pria delle medicine. [...] ma, soltanto stamane, Andral m'a pressé la poitrine; egli batteva su tutte le coste (côte droite), e mi disse: Voi dovete prendere cotesti rimedi, affinché l'inverno futuro non operi sui nervi vostri come lo fece adesso. Perciò vi ordiniamo di viaggiare un poco, e quando vi sarete avvezzato a tutti i rigori del verno; potrete scrivere quanto vorrete. Schivate le forti sensazioni di Drammi popolari. [...]

Addio

*Gaëtan*⁹⁸

Un altro esempio della notorietà di Andral in Italia sta nel fatto che Ignazio Cantù, educatore e autore di opere destinate alle scuole nonché fratello del più noto storico e letterato Cesare, riservò ad Andral un capitolo nel suo “*Panteon pittoresco o biografie degli uomini e delle donne illustri di tutte le nazioni dai più antichi ai viventi*”, pubblicato nel 1844 a Milano:

*ANDRAL GABRIELE, dottore in medicina, nato a Parigi il 6 novembre 1797, ed oggi professore a quella facoltà di medicina e membro di quella accademia reale di medicina, portò i suoi studii su opere di alto valore. Le febbri, le malattie di ventre e dell'addome gli fornirono materia a molti articoli di giornali scientifici e alle opere seguenti: Clinica Medica, o scelta di osservazioni raccolte alla clinica del signor Lerminier, medico dell'ospedale della Carità, e pubblicate sotto i suoi occhi, Parigi 1824-27 in quattro vol. – Sommario d'anatomia patologica ivi 1829, tre vol. – Corso di patologia interna professato alla facoltà di medicina, raccolto e redatto da Amadeo Latour, ivi 1836. Note e aggiunte al Trattato dell'ascoltazione mediata di Laennec, ivi 1837, lavoro in comune col signor Laennec. La vita di quest'uomo è tutta nelle sue opere e nel suo insegnamento. I suoi scritti furono stampati replicatamente in Francia e tradotti di fuori. La reputazione di suo padre, la sua unione colla figlia del celebre Royer-Collard gli agevolavano quegli onori a cui non basta il solo merito, fra gli altri quelli di ufficiale della legion d'onore*⁹⁹.

Il valore che l'Italia attribuiva al medico parigino emerge, infine, con forza anche dalla pagina di necrologia di un piccolo giornale regionale, il Giornale Veneto di scienze mediche, che nel Gennaio del 1876, così lo ricordò:

*Abbiamo il rammarico di annunciare la morte del prof. GABRIELE ANDRAL, membro dell'Istituto e dell'Accademia di medicina, commendatore della legione di onore ecc.; egli avea raggiunto la grave età di 79 anni. Fu uno dei medici più celebri del nostro secolo ed uno dei maestri più insigni e brillanti della scuola francese. Le molte opere, che lascia, sono tutte improntate di uno spirito eminentemente pratico, ma tra queste particolarmente la Clinique Medicale, che lo portò in grande fama, resterà sempre un vero modello di savia e perspicace osservazione*¹⁰⁰.

Conclusioni

Gabriel Andral può essere considerato un visionario il cui solido ideale di medico a servizio del paziente gli consentì di ampliare gli orizzonti della medicina del suo tempo. Le scoperte in campo ematologico non solo hanno permesso lo sviluppo decisivo di questa scienza, ma hanno, conseguentemente, favorito la reinterpretazione di un

gran numero di patologie in base alla chimica del sangue. Nello specifico le principali innovazioni in campo ematologico apportate da Andral sono state il definire le componenti del sangue e il determinare le proporzioni di fibrina, globuli e acqua così da classificare le patologie in cui si hanno modificazioni dell'ematocrito. In particolare, attraverso i suoi studi ematologici Andral dà una definizione di pletora e analizza le caratteristiche del sangue in questa condizione, inoltre è il primo a introdurre i termini "anemia" e "sideremia" descrivendone le peculiarità. Contribuisce anche agli studi sui radicali liberi, sull'albumina e sui corpuscoli nel sangue, e ne descrive alcuni disturbi quali l'avvelenamento da piombo, la sepsi, la policitemia, le discrasie e i disordini non emolitici.

L'evolversi della sua carriera rispecchia la sua personalità: un innovatore che ha fatto tesoro del bagaglio di conoscenze trasmesse dai suoi predecessori, utilizzate e valutate sempre con rigore critico, abilità che gli ha anche consentito di avere un approccio originale alle nuove scoperte scientifiche, al punto che nei suoi stessi scritti si osserva come accolga le novità senza giudizi affrettati, dimostrando una straordinaria lungimiranza.

L'influenza di Andral in Italia è stata certamente significativa. La sua fama non è stata confinata a poche aree della Penisola, avendo i suoi traduttori e divulgatori provenienze geografiche molto diverse: dal Nord Italia con il pavese Ernesto Rusca, al Centro con il fiorentino Alessandro Casetti, fino al Meridione con i campani Salvatore de Renzi e Pietro Perrone. La considerazione del medico francese in Italia è stata tale da garantire una rapida diffusione delle sue opere. Esse, rapidamente tradotte e largamente diffuse, sono state un punto di partenza per la cura di malattie ancora poco note e hanno contribuito all'uscita della medicina italiana dell'Ottocento dalle secche del dogmatismo teorico e di scuola, per traghettarla verso quella nuova concezione e prassi scientifica che proprio in Francia aveva visto il suo sorgere.

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A Renewed Interest in Violet Gibson's Mental Health

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ABSTRACT

A Renewed Interest in Violet Gibson's Mental Health

This short communication highlights the recent historiographical interest in the shooting of the Duce Benito Mussolini in 1926, carried out by the Anglo-Irish woman Violet Gibson. A psychiatric report was compiled by two famous Italian phrenologists, Sante de Sanctis and Augusto Giannelli. The Court took their judgment into account, and the accused was declared incompetent. However, things would soon change with the introduction of the Rocco Code (1930), which was less open-minded in accepting the principles of positivistic psychological determinism.

Keywords: Shooting of Benito Mussolini - Psychiatric report - Sante de Sanctis

The story

In the last two years, perhaps by chance, there have been two new works providing further insight into the personality of Violet Albina Gibson, the Irish woman who shot the Duce Benito Mussolini in 1926, and into the reasons that led her to the insane gesture.

On April 7, a woman fired a revolver in the face of the Head of Government HE Mussolini as he came out of the Capitol, where he had inaugurated the International Congress of Surgeons, fortunately only grazing the bridge of his nose¹.

The first of these works is an Irish docudrama, *Violet Gibson, The Irish Woman Who Shot Mussolini* (2020), and the second is an Italian historical-psychological book of collected essays (2021). The documentary screened last year on TG4, an Irish language FTA public service television network, and the filmmaker Barrie Dowdall commented:

It is estimated that at least three million deaths can be directly attributed to Mussolini's policies and warmongering. But for a millimeter or two and a dodgy bullet, Violet might have changed the course of world history².

Gibson was arrested after the failed assassination attempt, but as her gesture was considered insane and without political motives, she was hospitalized in a Roman asylum and later transferred to St. Andrew's Hospital in Northampton, where she remained until her death in 1956.

The book entitled *7 Aprile 1926. Attentato al duce. Violet Gibson capace di intendere e di volere?*, edited by Giovanni Pietro Lombardo³, aims to do justice to this historical event – which is also relevant for the history of psychology – the historiography of which has never been thoroughly investigated. It is a question of reconstructing the *humus* (and therefore the set of political, social, cultural, spiritual, religious factors, etc.) in which this assassination attempt on the Duce was conceived.

The contributions in the book provide important information on the life of Violet, who came from an aristocratic family, spending her youth between Dublin and London, and making her debut at Queen Victoria's court. Moreover, these essays reconstruct her time in Rome before the shooting, in light of the testimonies of staff at the psychiatric hospital where she was hospitalized, and of letters written by Violet herself (G. Romano)⁴. In this context, important names also emerge from the legal world, not least the jurist Enrico Ferri, who was one of the first to lean towards the theory that Gibson was mentally ill, thereby rejecting the theory that her gesture was politically motivated (Lombardo and Tessitore)⁵. One chapter (R. De Longis) examines how the press reported the attacks on the Duce (there were four attempts on Mussolini's life, all skillfully exploited by the fascist propaganda campaign), from which we can clearly see the effort that was made to make the Duce appear invulnerable, firmly con-

vinced that the upward march of fascism would continue⁶. With regard to the history of psychology, an expert (Lombardo) analyzes the process undertaken to determine whether Violet was in full possession of her faculties, concluding with his opinion of the evaluation of Violet Gibson's mental illness.

The highlight of this collection of essays is an appendix, in which the psychiatric report on Gibson is fully transcribed. It was conducted by two luminaries of the Italian psychiatric nosography, Sante de Sanctis and Augusto Giannelli, the first of whom was appointed as an expert by the Gibson family. De Sanctis had also organized the 5th International Congress of Psychology in Rome in 1905, and was one of the founders of Italian experimental psychology and child neuropsychiatry, with particular focus on child and adolescent psychiatry. Following the success of the aforementioned congress, the Minister of Education Leonardo Bianchi announced a competition for three professorships in psychology, the first ever to be established in Italian universities. De Sanctis accepted the appointment as Professor of Experimental Psychology in the Faculty of Medicine at the University of Rome, where in 1907 he founded the first Italian Laboratory of Experimental Psychology⁷. Giannelli, a court expert, was the Director of the provincial asylum Santa Maria della Pietà in Sant' Onofrio, Rome. This story could easily be classified as crime fiction, as the plot is laced with *elements* of mystery. It is no coincidence that the editor of the collected essays clearly states that he wanted to adopt a historical-circumstantial approach, and all mystery novels are about solving a puzzle by collecting clues, researching the causes, and formulating hypotheses on the motive and culprit. The elements of a detective novel are as follows.

The place

There are many places in Violet's story, all of which are very suggestive. The locations help to shed light on the political-institutional climate of the time, and to create a timeline of the shooter's life events. The story starts in her native land and ends Rome, with an episode in Munich in the middle, where the protagonist, frequenting the city's Steinerian theosophical and anthroposophical circles, met Duke Giovanni Antonio Colonna di Cesarò in 1912. But it is, above all, the Italian capital that stands out, with its lights and shadows, lending itself to various conjectures: it is a question of following the various places that Violet stayed in (not all of which were clarified in the expert report) – she mostly chose places with a Catholic environment (nunneries), perhaps for protection reasons – and this behavior denotes a complex and convoluted coming and going; a clear symptom of the shooter's restless nature.

The main characters

Naturally, we start with the protagonist. In this regard, a *caesura* can be established between a *before* and an *after* the shooting; with regard to the "before", it is natural

to ask oneself about the reasons why Gibson – ever since she had been in London – showed such great interest in Italian affairs, in the killing of Don Giovanni Minzoni (an anti-fascist Catholic priest killed in 1923), and in the murder of Giacomo Matteotti, the trial for which, held in the court of Chieti, Violet followed with extreme assiduity. Step by step, the story follows the psychotic behavior that Gibson had already exhibited in England, so even before moving to Rome, with hospitalizations for suicide attempts and serious nervous breakdowns, and, in particular, her admission to the “Villa Giuseppina” clinic for alienated women in Rome, before the shooting took place, where Violet was declared to be suffering from “mystical delirium” by the psychiatrist Antonio Mendicini, a friend of Sante de Sanctis. There are two threads to the “after” story: the first is the technical-scientific aspect, with a careful examination of the report written by the two illustrious psychiatrists; the second is the reconstruction of Gibson’s life as a recluse, first in the Mantellate prison and later in the asylum in Sant’Onofrio, right through to her repatriation to the UK, where she remained at St Andrew’s hospital until her death 30 years later.

The co-star is Duke Giovanni Antonio Colonna di Cesarò, who Violet met in Munich’s anthroposophical circles. On the one hand, this character represents the link between anthroposophy and anti-fascism (Cesarò also wrote about theosophy, a doctrine introduced to him by his mother, who organized meetings between intellectuals, theosophists, and occultists in her Roman living room), while on the other, he played a leading role in the political life of the 1920s: he was one of the founders of Social Democracy, and he participated in the Aventine secession. If it is true that – among other things – Violet went to live in the same street that the duke lived in with his mother (although there is no trace of this Roman residence in the expert report), then he perhaps played more than a secondary role in the planning of the shooting. These underground relationships were the subject of another suggestive historical mystery, *The Invisible Chain*, a book by Claudio Mauri on the so-called esoteric fascism⁸.

The narrative technique

A mystery novel always plays on suspense, on twists, in order to involve the reader/viewer. In this case, a *deductive* approach is used, based both on the reports of Commissioner Epifanio Pennetta, who conducted the investigations, and on the criminological report aimed at ascertaining the accused’s mental incapacity:

When she committed the fact of which she is accused, was Miss Gibson Violetta in normal conditions, so as to suggest that she had acted with the conscience or free will of her own actions? (7 Aprile 1926, p. 198)

De Sanctis and Giannelli emphasize the accused’s dissimulating, distrustful, and suspicious attitude, to the point of recognizing her tendency to isolation, and her invention

of different and artificial explanations for her actions. The emergence of the contradictions regarding the Duke di Cesarò is particularly intriguing: on the one hand, Violet Gibson declared that she “loved [him] very much”, while on the other, she did not hesitate to involve him in her criminal plan. And this aspect is linked to the element that is perhaps the highlight of the whole affair: the admission of an *unconfessable secret*, which in all probability had its roots in her relationship with the duke, and, in any case, appears to be an aspect of the delusional system the accused was a victim of.

Giannelli and De Sanctis' psychiatric expertise plays on the contrast between two *suggestions*: an external one, deriving from the social environment, “that is, from the readings, from the discourses, from the events”, the historical-political context, and, above all, from the relationship with the Duke di Cesarò; and an internal one, typical of Violet's delusional disorder. And if the latter gains the upper hand, the other will have less influence. Indeed, the paranoid personality was “unified and therefore tetragonal against the influences coming from external reality and from the ordinary procedures of conviction and persuasion” (*ibidem*, pp. 248 e 246). Finally, if it is true that every suggestive process ends up being “auto-suggestive” (as modern psychology maintains), this transition is more valid for a paranoid subject than for a non-paranoid one. This analysis as a whole gives rise to a question: in light of current knowledge of mental processes, can the expert conclusion that she suffered from *paranoia*, based on Kraepelin's clinical psychiatry, still be considered valid today? Or, given today's more nuanced understanding of the boundary between normality and abnormality, could we hypothesize that the internal and external causes merged into an inextricable whole in Violet's twisted mind?

The psychiatric examination of the accused Violetta Gibson

In an archival note, G.P. Lombardo states that Violet Albina Gibson's psychiatric report, compiled by Sante de Sanctis and Augusto Giannelli between 8 July and 3 August 1926, belongs to a very large collection of documents, some of which are in the Archive of the History of Psychology at the “La Sapienza” University (ASP), including twenty judicial expert reports (9 typewritten and 11 handwritten). Therefore, the expert report on Gibson, consisting of 59 pages, is presumably the original typed version of the document delivered to the Investigation Counsel at the court of Rome. The psychiatrists specify that they only had 22 days to study the procedural documents, carry out the clinical examinations of the accused, and prepare the report, with a short extension until 3 August to deliver it.

The report begins with the defendant's medical history, which shows that her noble Irish family had a history of disease, but not of crime. It continues to describe Gibson's life up to 1925, with a detailed analysis of the diseases she suffered from, and her wanderings in England and various Italian cities. The report reveals that she

had suffered severe nervous breakdowns and had attempted suicide. According to the testimony of the chief nurse at the asylum directed by Prof. Mendicini, Violet already appeared a little eccentric, she led a secluded life, and did not read newspapers, but only religious books. She answered the questions that were asked after the shooting with disconnected sentences, and then there was the mystery of the revolver, which Violet said had been delivered to her by a compatriot. During her detention in the Mantellate prison, Gibson maintained a “calm and indifferent” demeanor, with the exception of her striking another inmate on the head with a hammer.

On July 2nd, Gibson was transported from the Mantellate prison at the Provincial Psychiatric Hospital in Sant’ Onofrio to be subjected to investigation experts (ibidem, p. 204).

The experts subjected Violet to a “somatic clinical examination”, which revealed her frail constitution; observations on the organs were followed by data on heart rate, reflexes, tremors, etc., and more generally, on sensitivity (tactile, painful, etc.) and even her handwriting. The mental state examination consisted of 10 visits, based on behavioral analysis and interrogations, but no experiments in mental semeiotics were done, in order to avoid refusals and hostility from the accused. Violet was calm and resigned, a “woman of well-developed general intelligence”, an “astute woman of spirit [...] of an elevated psychological state”, and she admitted that she was crazy, although she stubbornly continued to protect her *secret*. Her discourse was “lucid, ordered, precise”, but it lacked any spontaneity. “Each of her discourses contained a program; every answer from her was thought out, indeed meditated; in short, her behavior was consciously organized towards defense”⁹.

The subject was “a closed character, taciturn, mistrusting, meek but suspicious and touchy, jealous of her liberty and independence, intolerant of any control, a lover of isolation and having a propensity to disregard the counsel of others, including friends”. She harbored a persecution complex, consistently blaming her family for being the cause of her illness and of wanting to deprive her of her freedom. There were also symptoms of megalomania: she talked repeatedly of having to carry out “great things”¹⁰.

Ultimately, Gibson never expressed “neither regret, nor remorse” for her insane act. Nevertheless, the two psychiatrists found no signs of psychic dissociation, hallucinations, or delirious ideas. On the contrary, the fundamental characteristic of her mental structure and behavior was “without a doubt, dissimulation”, with different and artificial explanations for all her actions¹¹.

The medical-psychological study on Gibson led to a paragraph entitled: “VIOLETTA GIBSON IS NOT A CRIMINAL”: despite her aggressive attitude on several occasions, and having never shown any regret towards her victims, she is said to be “mild-tempered”, and “in the face of psychopathology she is nothing but an alienated-criminal... afflicted with paranoia”¹². In this regard, Giannelli and De Sanctis explicitly

quoted the definition given by the German psychiatrist Emil Kraepelin, according to which paranoia is characterized by “the furtive development, resulting from inner causes, of a lasting, immovable delusional system that is accompanied by the complete retention of clearness and order in thinking, willing and acting”¹³.

The fact that Violet did not show any emotion or regret for the victims was interpreted as an “emotional shift”, proven by the reddening of her face and psycho-cardiac reflexes, “a symptom of a deeper transformation of the psychic person, that is, a symptom of a pathological state of consciousness and of certain cortical and mesencephalic segments of the brain respectively”¹⁴. Although they considered it important to highlight the “psychological determinism” that was at the root of the insane gesture, the two psychiatrists did not consider it appropriate to “go along the path of the unconscious” or the “doctrine of libido” brilliantly formulated by Freud. However, as there were various signs and symptoms of “metaphysical-mystical-political” delusion, in the absence of any “discernible link” between the cause and the effect, they refer to the opinion of the English alienist Henry Maudsley, according to which

*it is impossible for a sane mind to foresee ... what mad thought it may conceive and bring forth in action ... To require a discernible link of cause and effect between the delusion and deed ... that is neither more nor less than to make the sane thought the measure of insane thought and to postulate the necessity or sane logical order in the disorder of madness*¹⁵.

To formulate their final evaluation, Giannelli and De Sanctis quoted a treatise on forensic medicine by one of their professors, Attilio Cevidalli of the University of Parma¹⁶, a text that is compared here with the seminal *Textbook* of the Swiss psychiatrist Eugen Bleuler:

one could believe that the paranoid, who is oriented, logical, who is not prey to obsessions, if he kills the one by whom he believes himself persecuted, he is ultimately in the condition of a normal person who kills the one who really persecutes him (Cevidalli, p. 551).

The essence of paranoia is the delusional system, i.e., a structure of delusions that all have certain logical connections and contain no inner contradictions, even though the logic is not in all cases compelling (Bleuler, p. 518)

The final judgment therefore recognized that the accused was not in “normal conditions”, and even though she was “aware” of the act she was carrying out, she was not acting with “free will”. Having established that she could not be held responsible for her actions, she was declared to be suffering from (chronic) paranoia, and a danger to herself and others. It should be emphasized that the considerations in the margin of this psychiatric report reveal that the two phrenologists, with their diagnostic-differential analysis approach, aimed to ascertain the defendant’s mental capacity. They demonstrate that they were following the procedure of the Zanardelli Code, which was based on the fundamental principle of a preliminary assessment of the offender’s alleged “imputability”. Shortly thereafter, with the introduction of the Rocco Code and, above all, of the “very fascist

laws”, the military magistrates of the Special Tribunal would no longer show the same open-mindedness towards positivist criminology.

The era of fruitful collaborations between criminology and the judiciary thereby ended in Italy in the 1930s.

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Could the Life of Admiral Nelson in Trafalgar Be Saved?

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ABSTRACT

Could the life of Admiral Nelson in trafalgar be saved?

The Authors, after carrying out an historical reconstruction of the war and socio-political events inherent to the Battle of Trafalgar which took place on 21 October 1805, focus and place the emphasis on the physiopathological events that led to the death of Admiral Nelson. They highlight the probable traumatic injuries he suffered and subsequent development of the morbid mass determining an example of ex post reconstruction with profiles of forensic medicine and history of medicine, definitely interesting and original.

Keyword: Chest Injury from Firearm - Hemorrhagic Shock - Infirmary on Board of a Battleship

Introduction

Great emotion had aroused in England the news of the victory of the British fleet over the Franco-Spanish one at Trafalgar on 21 October 1805, a joy however clouded by the death of Admiral Nelson caused by the bullet from a musket fired by an arquebusier of the French vessel *Redoutable*.

The bullet passed through vital organs but the death did not occur immediately but about three hours after the injury. A fact that animated debates between historians and doctors and it also left questions to be answered such as the one of a well-known English Surgical Association: if the accident would have happened today in a large London hospital, could it have been possible to save the life of the admiral?

In order to answer this question, it is necessary to take a step back to understand how and why we arrived to the naval combat which has been defined as the greatest battle of the sailing navy.

On March 25, 1802, the peace treaty between Great Britain and France was signed in Amiens to end a long conflict, but in reality, it was a fragile agreement. The pact was violated several times and Napoleon continued with determination his program of increasing the French fleet with the aim of invading the British Isles.

Because the British were well aware of the threat, the hostilities were resumed and the Royal Navy's strategy was to block the French ports.

The situation became worst in December 1804 following the declaration of war by Spain against Britain, while in France Napoleon was crowned emperor at Notre Dame in the presence of the pope Pius VII.

In October 1805 the Franco-Spanish Allied fleet commanded by Admiral Pierre Villeneuve, who succeeded at Latouche-Treville who died on August 20, 1804 aboard his flagship *Le Bucentaure*, was anchored in the port of Cadiz, the British ships under Nelson's command stationed offshore: 27 vessels, four frigates and two brigantines for a total of 17,000 men and 2148 guns.

Villeneuve, a very prudent man by nature, would not have left the safe shelter of the port that October 19th if he did not receive the news from his informants that six British vessels were in Gibraltar for refueling of food and water, therefore the fleet was heavily reduced. Another element was added as the French admiral who received the notice of his imminent replacement with Admiral Francois de Rosily wanted by Napoleon who was unsatisfied with his conduct. Villeneuve was pushed by the Minister of the Navy Decrès to take a more determined attitude: His Majesty - wrote the Minister - wants to extinguish the circumspection that reproaches his Navy, that defensive system that kills audacity, doubling that of the enemy on the other hand ... we must not hesitate to attack inferior or even equal forces. He makes no account of the loss of his vessels, in order to lose them gloriously.

Discussion

Thus, the joint Franco-Spanish fleet (the latter commanded by Admiral Francesco Gravina) left Cadiz and headed towards Gibraltar. It was composed of 33 vessels (18 French), five frigates and two corvettes for a total of 22,000 men and 2,626 cannons. A numerical situation for ships, men and artillery apparently favorable to the French; but it is necessary to consider some factors that change the balance of power: first, with all the training in sea maneuvers, the English sailors were superior in navigation and they could count on their strong fighting spirit. In terms of artillery, it is enough to consider that the British managed to fire one shot per minute from each cannon while the French needed twice as much time.

Another important factor was lack of the French commanders, replaced after the Revolution by officers, who were rapidly promoted to the highest ranks, more often based on their republican faith rather than on their skills and competences.

Despite all these considerations, what substantially decided the fate of the battle was the strategy prepared by Nelson which differed from the classic combat tactics contained in the "Fighting Instructions": based on the latter, the opposing teams would arrange themselves with opposite and parallel routes, facing each other when they were side by side and within range for the artillery to be effective.

An ordinance made by Louis XV the 25 March 1765, commanded the exclusive adoption of the line as a row and established among other things that no captain could leave the line during the fight to rescue a vessel in danger, unless an admiral decided to do so. Nelson's plan of attack is contained in the famous Memorandum of which I quote some passages: "I order that the team is placed on two columns of 16 vessels each, composing an advanced team of 8 two-deck vessels, the finest sailing ships, so that, if necessary, a line of 24 vessels can always be formed with that of the two columns that the Commander in Chief will designate....My column will penetrate towards the center, while the light squad will move to the second or third vessel of the center itself in order to help us reach and surround the enemy admiral vessel ... in this way I admit that 20 enemy vessels of the rear will not be attacked, but it will take some time before they can unite in sufficient numbers to fight a part of our army or to rescue their comrades ..."

Once in contact with the enemy, it will be given full freedom of action at the commanders. There is only one weak point in this plan: the exposure of the first English ships to enemy crossfire without the possibility of reacting for a time that is a function of the speed which in the specific case (due to the lack of wind) did not exceed the two knots to British units.

When Nelson read it to the commanders in the Victory council chamber, he raised a wave of al enthusiasm and approval.

On the morning of October 21, the enemy teams are facing each other, the French one is arranged in a single row about 5 miles long, while the English one moves on

two parallel columns as ordered by the Commander in Chief, the first column has at the head the Victory and the second the Royal Sovereign with Admiral Collingwood. There are a few miles left for the contact and at that point Nelson gestures to one of the Staff Officers to approach and orders him: “Mr. Pasco, transmit this signal to the Army: England is waiting for everyone to do their duty”.

The British vessels solemnly raised the flag of San Giorgio; the French in response hoist the tricolor with their crews deployed who were shouting the martial cry: Vive l’Empereur! At the same time, the yellow and vermilion banner of the two Castles rose was raised at the peak of the Gravina ships.

The first cannon shots were launched from the French vessel Fougueax which opened fire against the Royal Sovereign who arrived first, favored by the recent change of the copper lining of the hull, but it did not cause damage. Collingwood’s ship then set its aim on the Santa Ana and engages it in fierce combat forcing it to surrender; then it was the turn of the Victory which approached the Bucentaure and opened fire immediately: the damage was considerable, the rigging is damaged, and the main-cage mast swept away with all the cutters., the tiller was smashed so much that the ship was to be steered through hoists from below.

The response of Nelson’s vessel was prompt and effective: as many as 20 guns from the Bucentaure were dismantled and the sailors were torn to pieces; The Redoubtable, commanded by Captain Lucas was sent to Villeneuve’s rescue, who also garnished the coffees and musketry of the French with fusiliers scourging the Victory deck. Nelson along with Commander Hardy was on the deck between the steering wheel and the hatch leading to the ladder leading to his cabin.

He was in full uniform with showy gold epaulets while 4 decorations sparkled on his chest: they are the insignia of the Order of the Bath, that of the Imperial Order of the Half Moon (*), which was granted by the King of Naples of San Ferdinando and finally that of San Gioacchino. A clear, easy and paying target^{1,2,3}.

At an hour and a quarter after noon a sharpshooter stationed on a nest of the Redoubtable mizzen at a distance of about 16 meters hit Admiral Nelson with his musket. The bullet, we learn from the autopsy, pierced the left shoulder, it injured the acromion, and it fractured the second and third left ribs, perforated the left lung near the hilum. Moreover, it hit a branch of the pulmonary artery, it touched the sixth and the seventh dorsal vertebra, affecting the spinal cord, and it finally stopped in the soft tissues of the right back about two inches (five centimeters) below the angular angle of the scapula^{4,5,6}.

Nelson immediately realized the severity of the wound and turning to Hardy told him “I am a dead man Hardy”. He was then rescued and was taken to the bridge below the waterline where the infirmary was located as it was considered safe from the enemy’s fire. It was cluttered of wounded, a cramped space, poorly lit by lanterns and candles, stinking from poor ventilation, and permeated with damp. The admiral placed on a cot, didn’t lose the lucidity of his spirit, managed to take his handkerchief out of his pocket

and covered his face so that his sailors in the under bridge couldn't see him injured. While the Purser, Mr. Burke, helped him to undress, the surgeon William Beatty rushed to the Admiral who said: "You can't do anything for me, Beatty, I have little time to live"^{7,8,9,10}.

But what was the service of a Royal Navy surgeon like? The activity was disciplined by the Regulations with relative instructions of the Naval Service of Majesty established in 1731 which provided a surgeon and three assistants for the ships of the line. In some cases, there was a hospital unite in the naval teams (they were sick transport ships) on which the fleet doctor, responsible for the health of the crews, was on board. He carried out weekly inspections at the surgeons of the various ships, periodically informing the admiral with detailed reports^{11,12}.

The marine surgeons were all volunteers and had the duty to visit the sick twice a day (there were frequent epidemics of dysentery, typhus, scurvy, malaria, and yellow fever) and they also had to present the list of patients to the Commander every day and keep a register of activities carried out.

The salary of naval surgeons was modest, but there were extras like Queen Anne and the right to share the sale value of ships caught at sea¹³.

The pay of naval surgeons since 1805 (s stands for shilling and d stands for penny)

	Active service	Active service (after 10 years)	Active service (after 20 years)	Half-pay	Half-pay (after 10 years)	Retirement (after 20 years)	Retirement (after 30 years)
Assistant surgeons	6s. 6d.			2s.-3s. ^a			15s.
Surgeons	10s.	14s. ^b	18s. ^c	6s.		6s. ^d	15s.
Physicans	21s.	29s.		10s. 6d.	21s.		
Hospital surgeons	15s.	20s.					

Tab. 1. Daily rates of pay for naval surgeons from 1805 (shillings/pence)

Despite the admiral request, Beatty visited the patient: he felt his pulse, delicately probed the entrance hole with his right index finger, with the hope of finding the bullet. Then he asked him to describe his feelings. Nelson replied that he felt like a gush of blood in his chest, that he was having difficulty breathing, he also felt a sharp pain near his spine where he believed the bullet stopped and he also didn't feel his lower body^{14,15,16}.

Nelson then gave an order: "Go take care of those whose lives can be saved!" and Beatty obeyed. The wounded were many, in the report made that same evening he listed 102 wounded with their names. He had to perform 11 amputations of upper and lower limbs eight of which were successful and only three of them did not survive (two due to the onset of tetanus).

But what Dr. Beatty and his assistants Neil Smith and William Westenburg, could have done with the instruments and drugs supplied to a ship of the line? The objects available were various types of saws for amputations, splints, pliers, probes, drills, scissors, knives, bleeding needles, tourniquets, linen threads, gauze, laudanum and alcohol for anesthesia, olive and flaxseed oil, cold vinegar which was often mixed with white lead to treat burns and a few other medications. For the wound that the admiral had suffered (as confirmed by Beatty himself when he will perform the autopsy two months later) a branch of the left pulmonary artery was damaged. Instrumental examinations such as CT or MRI would have been necessary to locate the bullet and to assess the damage caused in its path and they were also needed to formulate a precise diagnosis that would allow an emergency intervention. With an operating room, a surgical team, with the possibility of restoring the mass of blood lost thorough transfusions, the practice of an intervention with extracorporeal circulation in the case of a pneumectomy, they could certainly do a better job^{17,18,19}.

It was very hot in that infirmary and Nelson insistently asked for water and the request was met with lemonade, while his need for air was solved by ventilating with a paper. Commander Hardy announces the victory, Nelson asked him to bring his hair to Lady Hamilton and not to have his body thrown overboard. Hardy reassured him, that the admiral's body would have been placed in a barrel with brandy and, according to historian Christopher Hibbert, with the addition of camphor and myrrh.

Now we must answer the question we asked ourselves at the beginning of this article: Could Admiral Nelson be saved? But first we need to make the diagnosis and we will use four elements^{20,21,22,23,24}:

1° the subjective symptomatology deduced from the story and from the memories of those who assisted him and in particular the Reverend Scott, Commissioner Burke, Commander Hardy and Doctor Beatty they noted:

- worsening dyspnea
- burning thirst
- reported numbness of the lower body
- unbearable pain in the left side under the shoulder blade (where the bullet had finished its run)
- the pain increased so much that to a subsequent question from Beatty, Nelson replies that he continued to be so excruciating that he wished he were dead
- feels a “gush of blood on the chest”

2° the clinical examination performed by the ship's doctor Beatty who ascertained

- pallor of the skin that appears cold to the touch on the forehead and limbs.

- Sweating
- weak, small and irregular pulse (after an hour the pulse became indistinct)

3° the results of the autopsy performed on 11 December 1805 by Beatty himself:

The bullet hit the front of His Lordship's shoulder pad and entered the left shoulder ahead of the acromial process, fracturing it slightly. It then descended obliquely into the chest, fracturing the second and third ribs, then penetrating the left lobe of the lung, injuring a large branch of the pulmonary artery. It entered the left side of the spine between the sixth and seventh dorsal vertebrae, fracturing the left transverse process of the sixth dorsal vertebra, injuring the spinal cord, fracturing the right transverse process of the seventh dorsal vertebra. It continued its run on the right side of her spine, stopping on the back muscles, about two inches from the lower edge of the right shoulder blade. By removing the ball, a portion of the golden chevron and the padding of the shoulder pad, and a piece of fabric from the jacket were adhered to the bullet

4° the diagnosis and cause of death according to William Beatty:

The direct cause of His Lordship's death was a wound in the left pulmonary artery, with blood leaking into the pleural cavity. The amount of blood lost at the time did not appear to be particularly severe, but since the bleeding came from a vessel so close to the heart, the blood was lost rapidly, causing death in a shorter time than it would have produced. hemorrhage of an artery of a further part of the body. The injury to his spine would have fatally led to his death, even if his Lordship could have survived, even if in great suffering, for another two or three days

Conclusions

The evaluation of all these elements allows us to easily hypothesize that the exit was determined by a hemorrhage of a secondary branch of the left pulmonary artery, obviously excluding the main one that would have led to the admiral's death within a few minutes^{25,26,27,28}.

Finally, in regard to the question of whether an emergency intervention nowadays could have saved his life, numerous experts, historians and doctors, have addressed this topic. As an example, I will mention a 2005 article by the British historian M. Crumplin published on *J. Royal Naval Medicine Service* titled: *The Most Triumphant Death* and another article, titled "*The Case of the Fearless Mariner With a Mortal Chest Wound*", published in 2008 titled *Medscape* by the American surgeons Lowenfels, Liston e Burris. Crumplin first studied the ballistic aspects of the trajectory and its impact on the left lung, concluding that the oblique direction of the bullet affected the main branch of the pulmonary artery; he evaluated that the low hemothorax found in the autopsy and the long time elapsed between the injury and death^{29,30,31}.

He therefore believed that the loss of blood from the soft tissue vessels, intercostal and paravertebral, together with the collapse of the left lung reduced the blood pressure in

that area and slowed the consequent blood loss. The hypovolemic shock in each case was responsible for the exit.

As for the question about the chances of survival in our days, his answer is positive: intubation, infusion therapy, drainage, thoracotomy with exploration of any extra-pulmonary bleeding vessels, resection of a lung lobe or the entire lung in the case of hemorrhage involving a large vase would have increased the chances of survival^{32,33,34}. Obviously, they were not feasible possibilities in 1800, just based on the fact that the first pneumectomy in the world was performed by William Macewen in 1895 on a patient suffering from tuberculosis and emphysema.

But, moving to the second scientific article published by surgeons Lowenfels, Liston and Burris, they excluded that the bleeding could originate from a large pulmonary vessel and they considered that the fracture of the second and third ribs could also have involved intercostal vessels, which led to bleeding and consequent hypovolemic shock. They argue that Nelson's life could have been saved also if the injury had occurred on an aircraft carrier or in the vicinity of a US hospital ship such as the *Comfort* or the *Mercy*, both equipped with 12 operating theaters with excellent surgical teams. The Battle of Trafalgar had numerous consequences such as the end of the Napoleonic dream of invading the British Isles, and the affirmation of the supremacy of the English fleet over that of the other navies and therefore the British dominion over the sea, a dominion that would have maintained for a long time. But the concomitant glorious death of Nelson highlighted the problems and the delicacy of the role of the naval surgeon, who couldn't deal with particularly serious and critical clinical situations alone and therefore prompted the maritime powers of the time to evaluate the possibility of acquiring real ships, hospital with dedicated health teams and adequate medical equipment^{35,36}.

Italy was among the first to equip itself with this important aid in the first naval trial of the young Kingdom of Italy in the battle of Lissa on 20 July 1866 where the *Washington*, a hospital ship strongly desired by the first Inspector of Health of the Royal Navy Luigi Verde, accompanied the fleet.

Since then, in the colonial wars, in the Great War and in the Second World War, over 40 white ships transported and treated a large number of wounded and sick people, who were recovered to health and often to life in metropolitan hospitals.

"Each one of us in getting on the *Gradisca* has turned his grateful thought more intensely to the Highest who wanted to place our fragile and already lost rafts on the route of the white ship. We are now going to leave it, but we do not want this to happen without first having said our hearts deeply grateful to those who with the passionate tenacious search and with the affectionate constant care, have given us life again, and we think that the expression simpler and more beautiful than this gratitude is to be the first to confide in them our pride in having also given the homeland an odyssey, whose brightest and brightest stones bear the name of the Fallen - in the great sea south of Candia".

From of Hospital Ship Gradisca, 7 aprile 1941 (shipwrecked by the destroyer Carducci, sunk in Cape Matapan on 27.03.1941).

Bibliography and Notes

(*) It was a knightly order established by Sultan Selim III in 1799 for Nelson after the victory of the admiral in the battle of the Nile against the French troops who had invaded Egypt which depended on the Sublime Door.

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