

Authors' Response

Sir,

Thank you for the opportunity that your editorial policy gives us to go into some aspects of our research thoroughly.

We know our case report is “*receiving extraordinary emphasis in the mass media*” and it seems this is the main “*reason*” for the criticism received. In fact, recently RAI, Italian national TV, has aired for the second time (the first time being March 24, 2010) only a part of the documentary made by National Geographic. To be precise, the news about our research spreads worldwide after a poster presentation (1) at the 2009 AAFS annual meeting in Denver, and the world’s first broadcast of the documentary was February 23, 2010. It is relevant to underline that emphasis in the documentary (according to the authors and the broadcast) that this was not on the “vampire” discovery, but on the scientific analysis from a forensic point of view of the belief in revenants, based on a possible archeological evidence of an exorcism.

The application of forensic techniques on an ancient superstition related to the years of the Black Death (2) was the reason for the interest of the National Geographic Society, which supported a research project after a review by scientists; some aspects of this research have just been presented as an oral presentation (3) at the Last Word Society section during the 2011 AAFS annual meeting in Chicago and also published in an Italian book (4).

It is important to remember that the first presentation of the identification of a possible ritual of exorcism involving a vampire was made at a scientific meeting of the Italian Society of Anthropology and Ethnology in 2008 (5); one of the Italian colleagues who signed the letter to which we are responding was present at that meeting and on that occasion stressed that the data presented represent evidence of an *anomalous burial*.

Before proceeding further with the answers to the questions raised by colleagues, it is important to note that the entire research framework presents a hypothetical reconstruction of the facts based on the archeological pieces of evidence and the analysis of ancient traditions: it is not therefore a “truth” but a reconstructive hypothesis. Forensic scientists know the implication of the difference between what can be extrapolated by a piece of evidence and what actually was the case (6): facts that can be known in each detail only by those involved in them. With the awareness of the necessity of intellectual modesty, the authors have tried to propose a hypothetical but plausible reconstruction of what might have happened in that place at that time.

The intentional deposition of the brick in the mouth is strictly linked with the contextual analysis. Here, we present a section of the excavation map: all the human remains of the Lazzaretto Nuovo and the contextual analyses are in fact being studied as research project of University of Florence since 2007 and some results have recently been published (7,8).

The stratigraphic analysis, as evidenced by Fig. 1 (where the stratigraphic units are identified with the initials US), shows how the burial of ID6 was intercepted at two different times by the excavation of two other graves: ID1 and ID12. It is possible to infer that US – 112 intercepted ID6 when her body was already skeletonized. It is suggested not only by the general stratigraphy (8) but also from the fact that the second graves physically cut the

bones of the skeleton in question producing typical postmortem fractures. Unlike US – 112, the burial cut US – 114 intercepts ID6 grave without disrupting relations between the bones.

The maintenance of the temporo-mandibular joint, and also the preservation of the cervical articulation, the sternum-clavicle articulation, and the humeral-scapular relations, in spite of the evidence of the intersection between the two burials, allows a reconstruction of a disturbance that occurred when the corpse was not even completely skeletonized (as reported by Duday (9), Mallegni and Rubini (10), and Canci and Minozzi (11)).

This evidence therefore suggests that, at the time of the deposition of ID1 (ID6 occurred separately as it is clear from the intersection between the two grave cuts), the body of ID6 was uncovered during its decomposition: the gravediggers encountered that cadaverous phenomena which was interpreted, at the time, as evidence of vampirism.

Barber (12) and also Borrini (13) have written about the link between the birth of the belief in vampires and also stages of decay (a part of the research supported by the National Geographic Society also regarding this topic); this and perhaps because of the brevity of the article reviewed (about dental issues and not archeological or cultural ones) is why the authors were not too clear, which gave rise to the misunderstanding with Italian colleagues. The reference to “*body quite intact*” and the holed shroud are assumed considering other cases of “vampire exhumations” cited by the authors of the 17th century as More (14) or 18th century as Calmet (15); in these reports, as better explained elsewhere by Borrini (13), the corpse was described as “*undamaged by decay*” (16), although it exhibited distinct changes nowadays known as lack of rigor mortis, the epidermolysis and the emphysematous stage: this postmortem phenomena had been instead interpreted as a stigmata of vampirism.

We have already explained that it was possible to hypothesize ID6 at the moment of the grave reopening as a decomposing and not skeletonized body by the intersection between ID1 and ID6 and by the preservation of the joints. These allow us to hypothesize the presence of a shroud because of the verticalization of the left clavicle associated with medial rotation of humeri (Canci and Minozzi [11], Duday and Guillon [17]). It is certainly true that this phenomenon might be attributable to a *wall effect* originated from possible barriers in the ground (not present in this case) or a coffin, but no evidence of wooden containers for ID6 or any other skeletons in the site were attested during the excavation. There were no traces in the stratigraphy of *linear demarcation* (Canci and Minozzi [11]) and even nails that indicated the presence of such containers for corpses, as has been found at other sites more or less contemporary (18). The finding in other individuals is noteworthy, as well as the presence of the taphonomic aforementioned indicators of a shroud, the use of small pins to secure the bandages (Fig. 2).

When the authors reported that ID6 was “*interred supine in a simple burial pit (covered space)*,” they indicate the absence of evidence that could suggest the presence of a coffin, as just explained previously. Nevertheless, a shroud can create a *delayed filling* because of its decay at different times than those of the corpse, as it happens with clothes (Canci and Minozzi [11]). With regard to the modification of bones, it is important to remember that the decomposition can create an *empty space* within the body’s volume (Mallegni and Rubini [19]). Again, the “*slight rotation of skull*” is

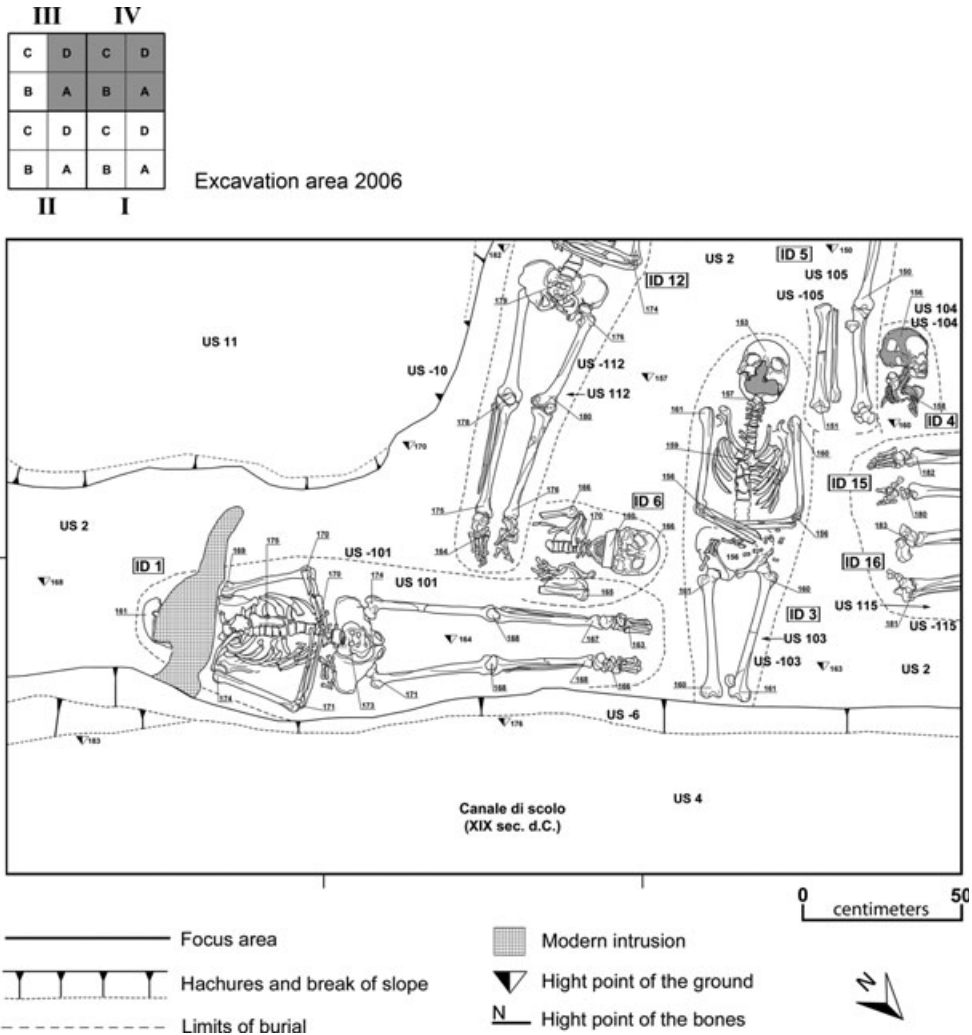


FIG. 1—Island of Lazzaretto Nuovo (Venice), graveyard. Section of the excavated area in 2006. The burial of ID6 is intercepted at two different times by the excavation of two other graves: ID1 and ID12. US 4 is drain built in the 19th century; US 11 is the cut of a big grave never used.



FIG. 2—Island of Lazzaretto Nuovo (Venice), graveyard. Small pin used to secure the bandages and the shroud discovered associated with ID 31.

created by the perspective of the images: it was not present and, as just reported, all the joints of the cervical vertebrae were preserved in close articulation.

The shroud question seemed to tax the Italian colleagues, to the point that they finished the sentence about the hypothesis shroud mastication with an exclamation mark. It is possible that because of the brevity of the case report the authors have not clearly emphasized the nature of those claims: it is a reconstructive hypothesis based on ancient stories related to the “mastication” by the dead, or the fact that some of them were found apparently with chewed clothes or shrouds. This sort of postmortem bulimia (as already mentioned and published originated from the difference between the timing of fabric and body decomposition) was at the basis of the belief of a particular species of vampire, the *nachzehrer*.

Therefore, the authors found no evidence of a hole in the shroud but assumed the presence of the cloth and the intentional inclusion of a brick for the reasons already explained, they reconstructed, according to ancient tales, the possible scene of the accidental exhumation. During this operation, because of the lack of understanding of the process of decomposition, the gravediggers thought they had come face to face with a vampire and then decided to exorcise it to stop the plague that raged in the city.

Before thoroughly analyzing the considerations related to the brick (the only one present in the backfill directly above ID6), although unnecessary, we remember that the image published with

the black background is an indicative representation performed in the laboratory to illustrate the placement of the brick which does not represent the accurate reconstruction of the original position. It is true that other pieces of bricks were present in the other stratigraphic units, but this does not conflict with the exorcism hypothesis. It is plausible that the gravediggers could have performed the superstitious ritual using what they found in the newly excavated soil: pieces of bricks usually used in Venice to drain and reinforce the areas near the lagoon, as in the banks where the graveyard was placed.

First of all, the brick was within the frame of the oral cavity, in contact with the upper teeth (breaking the alveolar bones with the loss of the first and second left incisors, found in the soil inside the oral cavity) and partially with the area of the distal lower teeth. The original absence of the teeth is visible in the reconstruction proposed in the article questioned (Fig. 2), while the restoration is visible in the Fig. 3b after the maxillary removal; the repositioning of the first left incisor was proposed also during the excavation, as visible in the Fig. 2 proposed by the colleagues.

The deep introduction in the oral cavity and the relationship with the jaws bones preclude that the brick was simply loose in the soil after a “secondary infiltration of the sediment” (differently from what we see in Fig. 3 of our Italian colleagues’ article), and also the preservation of anatomical joints (which is not present in the “eater of bones” from Lazzaretto Vecchio) “suggests the intentionality of the action” and can exclude that “the brick was accidentally into the mouth.”

This peculiar position of the object has made it necessary to remove the brick in the immediacy of its discovery because of the risk of rupture of the skeletal districts on which it weighed.

About the nachzehrer legend, although born in Kashubia (Poland), it is true that it is attested in the Germanic area, but it is hard to imagine that it was confined only to those areas without reaching Venice which in that Epoch was a crossroads of peoples and trade routes. As it is known, when goods move, men, ideas, and cultures travel with them.

As support to these speculations, it is certainly not only suggestive that between the graffiti (20) left by the sailors confined in quarantine in a warehouse in the Lazzaretto Nuovo Island, there is one that indicates the docking of a ship from Naples of Romania, an area well known for its beliefs on the subject of vampires (21).

Finally, regarding the plague, it is important to remember how the previous wave in the 14th century had arrived in Italy through commercial traffic, and it is not hard to imagine that also beliefs about the origin of such a mysterious (for the time) pandemic reached Italy together with the pathogen.

An episode of a woman gnawing her shroud and the origin of the plague was also reported by Institor and Sprenger (22) in the *Malleus maleficarum*, a very popular handbook for the Inquisition during that Epoch (23).

To conclude, the authors would like confirm that in agreement with the sentence of Dudany, reported by Italian colleagues, the presence of the ritual in other cultural contexts has been verified. In fact, as also reported during the oral presentation at Last Word Society (3), in the book of Philippus Rhor (24), it is possible to read “*alii hoc medium non satis tutum rati, etiam mortuo, priusquam ejus os claudatur, lapidem et nummum pununt in ore, ut si in sepulcro mordere incipiat, lapidem et nummum inveniatur, et ab esu abstineat.*”

This demonstrates that the practice to put something inedible in the nachzehrer mouth was attested and diffused: if no other archeological evidence of this ritual has been discovered (or recognized), this does not mean that the author’s hypothesis is invalid.

In this regard, the author would end by quoting what Braccini (25) reports about the subject of their study discovery: “*compared with many other more uncertain and hypothetical cases, that of the vampire of Venice (a vampire, in fact, only in the broadest sense of the word) is particularly striking and also supported by a rather solid base documentary.*”

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