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**Identity Restored:
Nesmin's Forensic Facial Reconstruction in Context***

Abstract: A wide range of archaeological human remains stay, for the most part, anonymous and are consequently treated as objects of analysis; not as dead people. With the growing availability of medical imaging and rapidly developing computer technology, 3D digital facial reconstruction, as a noninvasive form of study, offers a successful method of recreating faces from mummified human remains. Forensic facial reconstruction has been utilized for various purposes in scientific investigation, including restoring the physical appearance of the people of ancient civilizations which is an important aspect of their individual identity. Restoring the identity of the Belgrade mummy started in 1991. Along with the absolute dating, gender, age, name, rank and provenance, we also established his genealogy. The owner of Cairo stela 22053 discovered at Akhmim in 1885, and the Belgrade coffin purchased in Luxor in 1888, in which the mummy rests, have been identified as the very same person. Forensic facial reconstruction was used to reproduce, with the highest possible degree of accuracy, the facial appearance of the mummy Nesmin, ca. 300 B.C., a priest from Akhmim, when he was alive.

Key words: Nesmin, Belgrade mummy, 3D facial reconstruction, Akhmim, identity, human remains

Identity of the dead

Archaeological human remains, ranging from Epipaleolithic skeletons and Egyptian mummies, via Iron Age bog bodies, to Mediaeval burials and Native

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American ancestral bones – the remnants of tens, if not hundreds, of thousands of human beings – stay, for most part, anonymous.¹ To paraphrase Bieder (2000, 20), toward the late 18th century, older ways of seeing the body disappeared, and a new political anatomy of the body was implemented: a dead body – depersonalized and desacralized, redefined symbolically, politically and scientifically – became not only data, a specimen for observation that was collected for medical and racial research, but also a form of public entertainment.² In the rather arbitrary name of science (cf. Crossland 2009), let alone a special fascination for museum audiences (Kilmister 2003), we usually overlook the fact that the dead, especially the ones long ago removed from traceable social relations, should retain their individual autonomy, "*prima facie* right to privacy" (Bahn 1984, 137), a human's dignity and moral status like that they had when they were living.³ To avoid misunderstanding – the study of the past, including human remains, is a matter of the uttermost importance. However, it should be carried out with a fine balance between interest in scientific examination and respect of the moral status, cultural integrity and, wherever possible, individuality of the dead. We should keep in mind that any archaeological, or other for that matter, disturbance of the dead demands a good cause and respectful treatment, and must involve an appropriate form of ethics (Bahn 1984; cf. Blakely and Harrington 1997; Scarre and Scarre 2006).⁴

Since the final decades of the 20th century – along with growing awareness of environmental issues, anti-discrimination policy, improved human/civil rights and political correctness – the treatment of human remains in archaeology, enforced by accompanying legislation (Márquez-Grant and Fibiger 2011; cf. Historic Scotland 2009) has, it appears, been gradually shifting toward a vi-

¹ They are "nameless" not only at the individual level, but frequently at the ethnic level as well. For instance, more than 15,000 fourth-millennium graves having been excavated in Upper Egypt (Hendrickx and van den Brink 2002, 346); for the convenience sake we call their owners Naqadians, after the eponymous site of Naqada. In other words, we have no idea by which name they called themselves. The same is true for Vinča culture bearers (named after a village near Belgrade, Serbia) too, and many other archaeologically defined cultures whose original ethnic name is unknown.

² As shown by an invitation card to the unrolling of an Egyptian mummy: "Lord Londesborough, At Home, Monday, 10th June, 1850, 144. Piccadilly. A Mummy from Thebes to be unrolled at half-past Two" (David and Tapp 1984, 29).

³ ICOM Code of Ethics for Museums suggests that human remains "must be presented with great tact and respect for the feelings of human dignity held by all peoples" (ICOM 2006, 4.4).

⁴ However, we should simultaneously bear in mind that because "they are tangible, visceral, and evocative human remains have been easy to manipulate as a political issue, under the guise of religious and moral concerns" (Hallote and Joffe 2002, 104).

ew that peoples' integrity, "the wishes of the dead" as Bahn put it (1984, 127; cf. Hubert 1992), does not cease with the end of life. In contrast to anonymous human remains,⁵ the members of some religious⁶ and ethnic groups, including the participants, even supposed ones, of some historical events (e.g. Hallote and Joffe 2002), or the embalmed corpses of famous people such as V. I. Lenin, Hồ Chí Minh and Evita Perón (Quigley 2006) – as publicly and/or politically⁷ sensitive issues – are handled with care.⁸ What, aside from one or the other sort of fame,⁹ differentiates (or rather discriminates) anonymous archaeological human remains from the named "celebrities" is, *inter alia*, their identity, set of properties – the distinguishing character of an individual. To escape anonymity is exactly the reason why a number of, otherwise anonymous, museum "residents" received their present "names" such as Ginger (an Egyptian Predynastic body from the British Museum), Ötzi the Iceman (Copper Age body from South Tyrol Museum of Archaeology), Tollund Man (Iron Age body from Silkeborg Museum), Red Franz (3rd century body from the Provincial Museum Hanover), Juanita (Inca body from Catholic University's Museum of Andean Sanctuaries) etc.

The basic elements of human identity¹⁰ – let us employ only personal and identifying information present in the 20th century identity documents used to verify standard aspects of personal identity are: the bearer's full name, gender, date (age) and place of birth, father's/mother's name, address, profession or rank,¹¹ ethnic classification, citizenship status, a portrait photo,¹² and biometric information, such as external physical characteristics including finger-

⁵ Anonymous archaeological remains seem similar to 19th century bodies of the poor, the "impoverished and 'unclaimed' dead", "targeted for dissection because they were less well protected after death" (Crossland 2009, 107-108).

⁶ Including so-called saintly bodies.

⁷ As noted by Hallote and Joffe (2002, 84) "Death is political, no less so in the past than in the present, and [some] ancient burials are even more symbolic and powerful than modern burials".

⁸ The 'double standard' is present in the archaeological treatment of human remains, since "some are treated as objects of analysis and others as dead people" (Crossland 2009, 119 n.1).

⁹ In contrast to anonymous "faceless" archaeological human remains, ancient Egyptian royal rulers belong to the "renewed fame" category (cf. Partridge 1994).

¹⁰ Although there are various aspects of identity, archaeologists usually identify gender, age, role, and status as the most common aspects of personal identity.

¹¹ For instance, the Federal Republic of Germany identity card notifies if a bearer holds a doctorate degree.

¹² The importance of individual visual identity is well attested with Tutankhamen, whose world-famous face, or rather his golden mask, was one of the most reproduced images of the 20th century. As noted by Beuker (2005, 128) to meet face to face with our ancestors, i.e. people from the past, is an attractive topic.

prints. To an analyst, the sum of the data – especially when related to differences in the distribution of prestige items and various levels of energy consumption data when archaeology is concerned – could also define the approximate position of an individual within the social structure of a particular culture, i.e., a person's group identity. A database containing such information, not only in regard to ancient Egypt but to many other ancient civilizations respectively, could contribute considerably toward a better understanding and reconstruction of ancient social fabric and dynamics.¹³

The Belgrade mummy: Recent history and personal identity

In February 1888, the nobleman Pavle Ridički, who was 82 at the time, purchased in Luxor a human mummy with the intention to donate it to the National Museum in Belgrade (Anđelković 2002a), so that his Serbian nation in such way could learn about this particular ancient Egyptian funeral custom (Anđelković 1995). In July 1888, via the Mediterranean Sea, the Black Sea and the Danube River, the mummy reached Belgrade, to be exhibited in August 1888. In 1888 the antiquity market of Luxor was particularly well supplied with numerous pieces from the necropolis of Akhmim some 200 km downstream (M. Depauw, personal communication, July 7, 2001). The mummy was obviously among the mass of undocumented material¹⁴ that was removed from Akhmim in the late 1880s (Anđelković and Teeter 2005, 319). In contrast to the donor's noble wish, what the mummy received in the Museum was little more than 104 years¹⁵ of mistreatment, with hardly any scientific examination whatsoever. In October 1992 the mummy was transferred to the Archaeological Collection of the Faculty of Philosophy, University of Belgrade. The coffin with the mummy was opened in May 1993,¹⁶ and the first

¹³ Here is a good example: in the course of the years Prof. Herman de Meulenaere (1923-2011) has assembled a quite extensive database on Akhmim in the Late Period, trying to disentangle the families which were buried in the local necropolis; his extraordinary knowledge and an organized collection of data considerably helped in correcting Nesmin's genealogy (H. de Meulenaere, personal communication, January 16, 2009).

¹⁴ From 1884 to 1888, the Akhmim necropolis was thoroughly ransacked by unauthorized diggers.

¹⁵ The mummy spent approximately half of that time stored in the National Museum collection depot.

¹⁶ It is hard to say when and how many times the coffin had been opened after 1914. At the outbreak of World War I the room of the National Museum in Belgrade, where the mummy was exhibited (last time when it was exhibited in opened coffin, in

systematic, multidisciplinary, non-destructive research started (Anđelković 1993). Various studies included: examination of the linen wrappings (Anđelković 1994, 155, 158), X-ray examination (Anđelković 1997), entomological and bacteriological analyses (Anđelković, Anđus and Stanković 1997), DNA analysis (Čuljković *et al.* 2000), identification of the wood of the coffin (Anđelković and Asensi Amorós 2005), and many other examinations (Anđelković 2003; cf. Anđelković 2002b, 39-40) including Computerized Tomography (CT) scanning. As is obvious from the references, at first it was referred to only as a mummy from the National Museum of Belgrade, but since 1995, it became known as the Belgrade mummy. Once the full text on the coffin lid¹⁷ was translated in 2005, the name of the owner of the coffin was established as Nesmin¹⁸ (Anđelković and Teeter 2005). Although the name of Nesmin's father was lost in the lacuna on the coffin, the name of his mother Chay-Hathor-Imw, his grandfather Wennefer and great grandfather Djedhor are preserved.¹⁹ In 1885, shortly before the purchase of the Belgrade mummy, a limestone stela, now in Cairo (CG 22053), was discovered at Akhmim (Kamal 1905: 49-50). Cairo stela 22053, dated to ca. 300 B.C., belonged to a Nesmin, son of Djedhor, son of Wennefer, born by Chay-Hathor-Imw (Awadalla 1998). The name of Nesmin's mother Chay-Hathor-Imw is a rare name, which in association with the names of her son Nesmin and his grandfather Wennefer on both monuments, as well as her husband Djedhor (CG 22053) and his grandfather Djedhor (the Belgrade coffin),²⁰ is strong evidence that the owner of the stela and the coffin is the same person. Not only did the inscription on the stela fill in the lacuna on the coffin supplying the name of Nesmin's father, Djedhor who was named for Nesmin's great grandfather, but at the same time, the text confirms the supposition that Nesmin – the Belgrade mummy – originated from Akhmim (Anđelković 1991, 70; Anđelković 1993, 157). As a result, the basic elements of identity in this particular case study can be summarized: –

horizontal position, within glass showcase), was hit by Austro-Hungarian shelling from the Monitor guns of the Danubian Flotilla (see 1914 photos in: Anđelković 1994, T.II; also *National Geographic Serbia* of February 2007). Fragments of showcase glass were still in the coffin after its reopening in 1993.

¹⁷ The lid of the coffin bears two lines of a very rare text known as Book of the Dead 191 "Spell for bringing the soul to the body"; it has also been classified as belonging to the Books of Glorifications of Osiris (Anđelković and Teeter 2005, 313-317).

¹⁸ Not Zeho (probably misidentified coffin owner's great grandfather Djedhor) as stated by Porter and Moss (1973: 821).

¹⁹ In that sense, Nesmin's genealogy previously presented in Anđelković and Teeter (2005, 318) should be corrected. See also n. 13 above.

²⁰ Name Djedhor was used repeatedly, being given to two individuals of alternate generations, as was quite common in extended genealogies.

Name: Nesmin (confirmed by inscription on the coffin and the stela); Gender: male (confirmed by X-ray and DNA analysis); Date of birth: ca. 350 B.C. (he was about 50 when he was mummified ca. 300 B.C.); Place of birth: Akhmim (confirmed by the stela); Father's name: Djedhor (confirmed by the stela); Mother's name: Chay-Hathor-Imw (confirmed by the coffin and stela); Profession: *sma* priest (confirmed by the coffin and stela; all men of the family held the same title); Height: about 165 cm (based on the length of the femora of about 43 cm, measured during X-ray examination). A further level of individualization was provided by facial reconstruction.²¹

Digital forensic facial reconstruction

The 3D digital reconstruction method is not new in regard to the fundamental process which gives us the framework from which to do the reconstruction. What is unique is the application of new tools to effectively merge the existing 2D and 3D methods. The initial procedure for a 3D digital forensic facial reconstruction in this particular case was to get a CT scan of the subject's skull.²² A 3D laser scan of the surface of the skull was not an option, due to the presence of heavy layers of mummified tissue and wrappings. From this data it is necessary to generate a 3-dimensional model(s) from which to

²¹ Since certain facial features have a hereditary component a facial anthropology assessment can also be utilized to ascertain (or not) family links between individuals, as in the case of Ramses II and KV5 skulls (Wilkinson 2008, 176-177).

²² The CT scan/Digital Imaging and Communications in Medicine (DICOM) data was generated by radiologist Z. Rakočević in 2003. Working with DICOM data is very laborious due to the voluminous file sizes and necessary processing of the data. This technical stage of the process requires multiple passes at different filter settings in the DICOM processing software to provide various levels of "cleanliness" and accuracy of the skull. Each setting does this to varying degrees of success. Many times to remove enough soft tissue in one area means important bony structures are lost in another. It is necessary to generate multiple models of the skull at various settings so as to capture all the necessary bony structures while removing as much soft tissues as possible (particularly of the nasal aperture, orbits, and teeth). By having multiple models of the skull, the most accurate and cleanest areas without degradation to the bony structures can be disseminated from each model and assembled into a "master" model of the skull. Conversely, the appropriate model may also simply be referred to on an as needed basis depending on which model is most suitable for whichever facial or anatomical feature is being worked on at any given point. 3D models are generated from the DICOM data at the various filter settings and exported. Before the reconstruction process can begin it is necessary then to convert the files into a suitable format for importation into the software to be used for the reconstruction.

make the reconstruction. The applied 3D digital reconstruction²³ method used a combination of the three prevailing and accepted reconstruction techniques: the American Tissue Depth Method;²⁴ the Manchester Method (cf. Wilkinson 2008, 162-163);²⁵ and Taylor's 2-dimensional reconstruction techniques (Taylor 2000). The digital method allows us to apply each process simultaneously, which offers more potential accuracy in the reconstruction.

Before the anatomical reconstruction process can be begin, the appropriate dataset for tissue depth²⁶ must be selected. This selection is determined by gender, age, height, lifestyle and environmental exposure provided by previous research (Anđelković 1997). The anthropological race of ancient Egyptians is uncertain, so a more generalized tissue depth is determined. Once the model(s) of the skull had been imported, it was necessary to confirm scale and begin prep work. In Nesmin's case, there was much foreign material – probably some sort of artificial eyes²⁷ and wrappings (Anđelković 1997, 93) – within and directly over the orbits, that the filter settings were not able to remove. This had to be done by manually selecting and deleting polygons from the generated 3D model meshes. By doing this we were able to carefully expose the orbits without losing necessary geometry of the skull. Once the skull model(s) are prepped, tissue depth markers and eyes can be placed. Virtual pegs representing tissue depth markers were located in 26 paired and unpaired points of the skull.²⁸ Eye size (including iris diameter) is remarkably typical across ethnicity and gender although consideration is given in regards to age. The architecture of the skull is the foremost driving aspect of a human's facial features regarding their placement and proportion. Even using a "wrong" tis-

²³ We should note that the digital reconstructions are not automated or "computer generated" any more than the sculptor's chisel is responsible for the art that it used to create. All forms and interpretations must be determined and manually executed – this simply illustrates the human/artist factor still necessary in the process.

²⁴ Developed by B. P. Gatliff and C. Snow (Taylor 2000; Gibson 2008).

²⁵ Adapted from M. Gerasimov's anatomical musculature approach (Gerasimov 1971; Wilkinson 2004).

²⁶ The data for the tissue depth markers was originally gathered by poking a needle with a small cork collar on it into a cadaver's face (of White Europeans) at various cranial points and recording the measurements – the process that was pioneered by Kollmann and Büchly (1898). This is now accomplished using Magnetic Resonance Imaging (MRI) on living subjects. There are many published datasets providing reference for a variety of ethnicities, ages, and genders (e.g. Simpson and Henneberg 2002).

²⁷ As we can tell from the X-ray and CT examinations, artificial eyes seem to be present within the orbits.

²⁸ There are 26 tissue depth markers (10 unpaired, 16 paired) plus 1 nose projection marker and 1 nose width marker (28 total markers).

sue depth dataset will still provide great similarity in the finished reconstruction provided all the other steps are followed. There is an averaged tissue depth table (Stephan and Simpson 2008) that has come into common use that has demonstrated the prevailing importance of the skull in formation of recognizable individual identity regardless of gender or race.²⁹

Now begins the anatomical reconstruction phase. Musculature and tissue geometry is added to the skull and built up to the corresponding tissue depths assigned by the markers. Once basic anatomical construction is achieved, the fleshy features of the nose, lips and eyes are developed considering the criteria of the available information on the skull. Lip shape, width, and thickness, projection and width of the nose, slant of the eyes, arch of the eye brows, and arguably even if the earlobes are attached or not, can be extrapolated from landmark and measurement information in the skull. After that, the texture and cosmetics of the skin are added: a degree of ambiguity can be built in regarding perception of details such as skin color by selecting a "middle ground" color that intentionally alludes to different racial possibilities. In Nesmin's case,³⁰ art from the era was referenced for insight into skin and eye color, as well as his hair style – namely, ancient Egyptian priests³¹ are shown with cleanly shaved heads. The facial reconstruction is now complete and images can be rendered for subject identification or, in Nesmin's case, discovery (figs. 1-2).

Virtual anthropology reliability

Facial reconstruction – the process utilized to reproduce the facial appearance of an individual by relating the skeletal structure to the overlying soft tissue (Wilkinson 2008) – has been used for the facial depiction of ancient Egyptians since the early 1970s (Neave 1979; cf. Fletcher and Neave 1984, 140-141). Since that time – to avoid compromising the integrity of the physical remains, especially when dealing with wrapped Egyptian mummies – a traditional anthropological examination and, more or less, invasive procedures³² gradually ceased to be among the options. As stated by Benazzi *et al.* (2010, 1572) virtual anthropo-

²⁹ Gender and race are still major cosmetic considerations but play a diminished role in regard to tissue depths.

³⁰ As well as in case of another 3D digital forensic facial reconstruction of ancient Egyptian mummy –Meresamun from the Oriental Institute, Chicago (cf. Teeter and Johnson 2009) – done by J. Harker.

³¹ Nesmin was a "stoalist", the rank of priest that was responsible for clothing and dressing the divine cult statue (Anđelković and Teeter 2005).

³² As noted by Wilkinson (2008, 163), traditionally "the facial reconstructions of ancient Egyptians resulted from the invasive study of the mummified remains".

logy is becoming a fundamental tool in bioarchaeology for studying mummies.³³ However, can such virtual approach reach a high reliability of facial reconstruction, i.e. "to achieve a reasonable facsimile of a living human being" (Krogman and İşcan 1986, 8)? Indeed, we rarely have a possibility to compare the image produced by forensic art methods with the particular person's portrait (or photograph, or even live person; cf. Wilkinson 2008, 164), as in the case of Ferrante Gonzaga an Italian noblemen of the Renaissance (Benazzi *et al.* 2010). His embalmed body was CT scanned to enable 3D facial reconstruction that was compared with two of his portraits.³⁴ Although forensic arts has to deal with a number of ambiguous variables (facial fatness, ear shape, the shape of the eyes, lips and nose, facial wrinkle pattern), and accordingly "cannot claim to provide with absolute certainty the look of the personage", the facial reconstruction, at least in the case of Ferrante Gonzaga – along with some differences – "showed clear similarity" (Benazzi *et al.* 2010, 1577). In other words, the computer-based facial reconstruction can produce "a better than approximate resemblance", including the faces of ancient Egyptians recreated from mummified remains (Wilkinson 2008, 165).

Scope for future research

The 3D digital forensic facial reconstruction has restored Nesmin's face to him. Although we already recovered many elements of his identity, it should be stressed that he carries an additional sort of ID – a thick papyrus roll, a Book of

³³ 3D Digital reconstruction technique combines the benefits of the standard methods being more accurate than traditional 2D or 3D sculptural techniques alone because: the ability to reference skull continuously throughout the reconstruction to confirm and maintain proper soft tissue depths and contours (this is not possible in the traditional American and Manchester methods using clay directly on the skull); it offers extremely sophisticated lighting, rendering, and coloring options that provide fantastic realism and volumetric accuracy versus sole artistic intuition of the 2D technique; it is perfectly suited for reconstructions where the skull is too fragile to be handled or too valuable to risk any damage or contamination, or is physically unavailable; endless views of the facial reconstruction are immediately available; hair, eye and skin color, hair styles, facial hair, jewelry, clothing, etc. are easily changeable; final data can be scaled to any size, exported, and built via a variety of readily available 3D printing technologies; images, movies, and data are easily disseminated to media and internet or used for exhibition, via present standard file formats (jpeg, bmp, tif, mov, mpeg, etc.).

³⁴ First Ferrante Gonzaga portrait is in Galleria degli Uffizi, Florence, whereas the second, historically more reliable portrait is in Kunsthistorisches Museum, Vienna (Benazzi *et al.* 2010).

the Dead, which is between the body and the outer bandages, near his left upper arm³⁵ (Anđelković 1997, 99-100). The papyrus should be inscribed with the name of the deceased, and it could therefore further confirm his identity.

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³⁵ Nesmin's arms were crossed right over left on the breast (Anđelković 1997, 94) both hands seem to be relaxed.

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Vraćeni identitet: kontekst forenzičke rekonstrukcije
Nesminovog lica

Ljudski ostaci otkriveni arheološkim istraživanjima imaju širok hronološki i kulturni raspon, od epipaleolitskih skeleta i egipatskih mumija, preko tela iz

močvara gvođenog doba, do srednjovekovnih sahrana i ostataka starosedelaca Severne Amerike. Sem retkih izuzetaka, stotine hiljada ovih počivših ljudskih bića lišeno je identiteta, ne samo na individualnom, već često i na etničkom nivou. Neretko kontroverzna problematika tretmana ovih ostataka, prešla je dug put od depersonalizacije i desakralizacije XVIII veka, do savremenih shvatanja o njihovom moralnom statusu i viđenja po kome to nisu samo anonimni uzorci prikupljeni u svrhe medicinskih, statističkih i drugih proučavanja, već zemni ostaci nekada živih ljudskih bića, koja činom smrti ne gube pravo na lični integritet, ljudsko dostojanstvo i kulturni identitet. Izučavanje ljudskih ostataka, nesumnjivo neophodno i izuzetno važno, stoga treba vršiti uz uvažavanje i ovih činjenica, u skladu sa savremenim etičkim normama. U kontekstu staroegipatske civilizacije, ali i mnogih drugih kultura, od posebnog je značaja utvrđivanje što više elementa identiteta, kako bi se mogla formirati odgovarajuća analitička datoteka koja bi kroz komparaciju i interakciju mnoštva individualnih podataka doprinela boljem razumevanju prošlosti i potpunijoj rekonstrukciji socijalnog tkiva. Studija slučaja Beogradske mumije, staroegipatskog sveštenika Nesmina, datovane oko početka III veka pre naše ere, pokazuje tok utvrđivanja elemenata identiteta, od konstatovanja fizičkog statusa pokojnika, kulturnih i hronoloških markera, preko DNK analize, utvrđivanja mesta porekla, imena, zanimanja i korigovane genealogije, zaključno sa 3D forenzičkom rekonstrukcijom lica (sl. 1-2). Neinvazivni metod digitalne rekonstrukcije podrazumeva prethodno CT skeniranje glave, generisanje 3D modela lobanje, i aplikovanje filtera koji odstranjuju meka tkiva, platnene ovoje i smolaste materije korišćene u procesu mumifikacije. Sledi sinhrona primena više različitih softvera za rekonstrukciju lica, usklađenih sa prethodno utvrđenim polom i životnim dobom, ali i sačuvanim likovnim delima epohe kada su u pitanju boja kože i očiju. Dobijeni rezultat je rekonstrukcija, ili radije otkrivanje, lica Nesmina, finalnog vizuelnog elementa njegovog povraćenog identiteta.

Ključne reči: Nesmin, Beogradska mumija, 3D rekonstrukcija lica, Akhmim, identitet, ljudski ostaci

Identité rendue: contexte de reconstitution faciale forensique de Nesmin

L'extension chronologique et culturelle des vestiges humains découverts par des fouilles archéologiques est remarquable: des squelettes épipaléolithiques et des momies égyptiennes, en passant par les corps des marais de l'âge du fer, jusqu'aux enterrements du Moyen Age et des vestiges des indigènes de l'Amérique du Nord. De rares exceptions mises à part, des centaines de milli-

ers de ces êtres humains décédés ont été privés d'identité, non seulement sur le plan individuel, mais souvent sur le plan ethnique. La problématique du traitement de ces restes, souvent objet de controverses, a parcouru le long chemin de la dépersonnalisation et la désacralisation du XVIII^e siècle, pour aboutir à des conceptions contemporaines sur le statut moral de ces restes et la manière de les envisager non pas comme des échantillons anonymes rassemblés en vue des recherches médicales, statistiques et autres, mais comme des vestiges d'êtres humains autrefois vivants, qui par l'acte de la mort ne perdent pas le droit à l'intégrité personnelle, la dignité humaine et l'identité culturelle. L'étude des vestiges humains, sans aucun doute indispensable et extrêmement importante, est à effectuer en prenant compte de ces données, en accord avec les normes éthiques actuelles. Dans le contexte de la civilisation égyptienne antique, mais aussi de nombreuses autres cultures, il est d'une importance particulière d'établir autant d'éléments d'identité que possible, pour pouvoir constituer une banque de données analytique appropriée qui contribuerait à travers la comparaison et l'interaction de la multitude des données individuelles à la meilleure compréhension du passé et à la reconstruction plus complète du tissu social. L'étude du cas de la momie de Belgrade, du prêtre Nesmin de l'Égypte antique, datée vers le début du III^e siècle avant J.C. montre le cours d'établissement des éléments d'identité, depuis l'établissement du statut physique du défunt, des marqueurs culturels et chronologiques, en passant par l'analyse ADN, l'établissement du lieu d'origine, du nom, du métier et de la généalogie corrigée, avec en dernier la reconstitution faciale en 3D. La méthode non-invasive de reconstitution numérique prévoit de faire préalablement un scanner de la tête, de générer en 3D le modèle du crâne, ainsi que d'appliquer les filtres qui enlèvent les tissus adipeux, les bandelettes de toile et les matières résineuses utilisées dans le processus de momification. Suit alors une application synchrone de différents logiciels pour la reconstitution du visage, harmonisés avec le sexe et l'âge précédemment établis, mais aussi avec les œuvres artistiques de l'époque conservées, lorsqu'il s'agit de la couleur de la peau et des yeux. Le résultat obtenu est la reconstitution, ou plutôt la découverte du visage de Nesmin, l'élément visuel final de son identité retrouvée.

Mots clés: Nesmin, momie de Belgrade, reconstitution faciale en 3D, Akhmim, identité, vestiges humains

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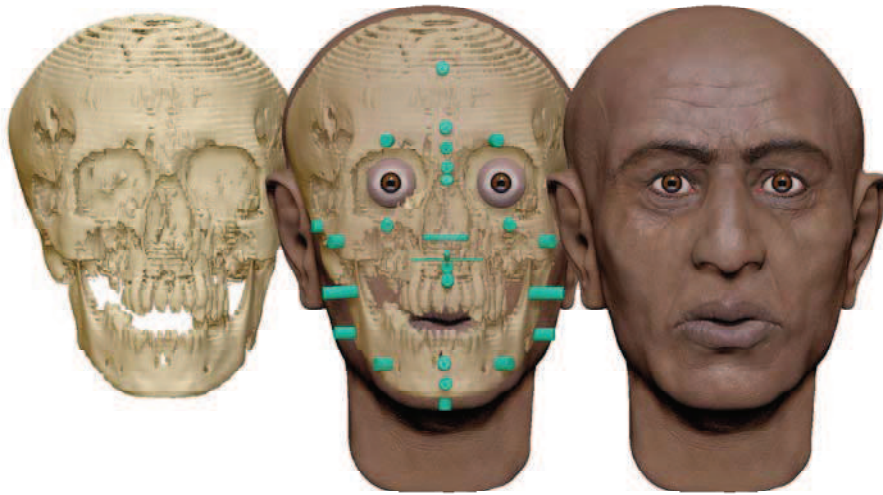


Fig. 1. Phases of Nesmin Forensic Facial Reconstruction, frontal view.

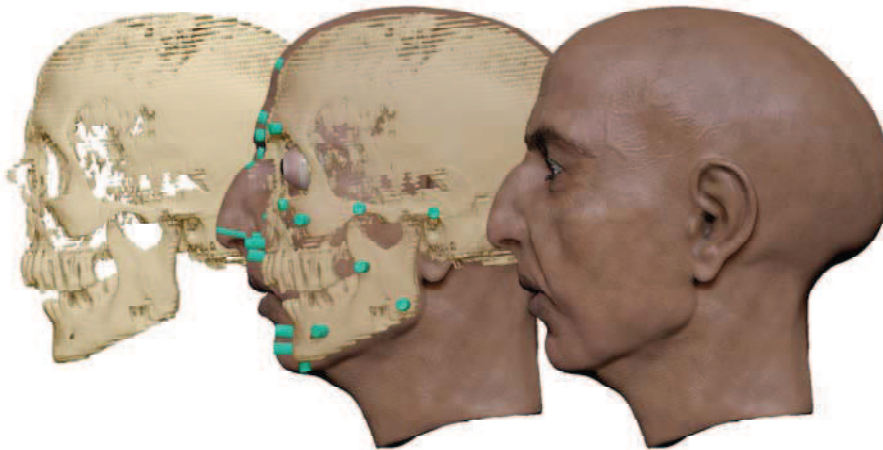


Fig. 2. Phases of Nesmin Forensic Facial Reconstruction, side view.