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CA19141

INTEGRATING NEANDERTAL LEGACY: FROM PAST TO PRESENT (iNEAL)

Working Groups meeting

Date: March 12 – 13, 2023

Venue: University of Haifa, Israel

199 Aba Khoushy Ave., Mount Carmel, Haifa, Israel

MINUTES



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Sunday, March 12th 2023

Working Groups meeting

1st session

The meeting started at 9.30. Ivor Janković, the Action Chair, opened the meeting, made an introduction and greeted all present. I. Janković gave basic information about the Action, gave an update on the Action status and major issues to be discussed at the Working Groups meeting. Omry Barzilai welcomed everyone present and spoke on behalf of the local organizers of the University of Haifa, Haifa, Israel. Ron Shimelmitz greeted everyone present and gave technical information about the venue and coffee breaks.

The meeting started with presentations of participants. Every participant (or a group of participants from the same country) gave a presentation about archaeological sites in their country, relevant for the Action.

Andrew Kandel started by giving an overview of the data from Germany and Greece, which was made in collaboration with Carolin Röding. He reported that the ROAD database now contains 2.300 localities, 22.000 assemblages and 5.000 publications, and data about archaeology, paleoanthropology, paleontology, paleobotany, stratigraphy, dating, bibliography, and geography. He presented the ROAD database schematic structure and a map of Eurasia with data about lithics, human remains, flora and fauna. Next, he presented a table of sites with Neandertal remains in Germany with information whether data about human remains / lithics is included in the ROAD database, and whether data is included in human fossil record books or in Oakley (1971). There are two out of 12 sites where presence of Neandertals were confirmed with certainty. He raised a question about what to do with sites which were considered Neandertal but through DNA analysis it was confirmed that are not. Next, he showed a list of Middle Palaeolithic sites in ROAD database. For Greece, he presented a similar table, showing that Neandertal remains were confirmed in three sites, while one is under discussion, also he showed a list of Middle Palaeolithic sites in ROAD database. I. Janković asked about Steinheim site because he did not see it in the list, explaining that, some experts consider this specimen to be Neandertal, based on morphological traits. A. Kandel said that this exactly was the question; someone will consider the list incomplete, however the Action needs to decide on what it will focus (human remains / confirmed Neandertal / time period etc.).

Francesca Romagnoli, the Working Group 2 Leader, gave an overview of data in Spain. She started by saying that Jean-Luc Voisin and C. Röding sent a list of sites with human remains that we can consider Neandertal (155 sites in 27 countries) and that there are 17 such sites in Spain (MIS 5-3). If we only look at MIS 3 cultural data, she continued, there are 27 sites in Spain, Gibraltar and Portugal, and if we look at MIS 5-3 cultural data, only in Catalonia region there are 25 sites. F. Romagnoli also raised a question of evidence which we need to consider to include in the catalogue because there are sites without human remains. The problem is, she continued, if we want to include other sites, we need to decide which criteria we want to apply.



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F. Romagnoli also gave an overview of the work done by WG2. There are currently 64 participants from 22 countries. She asked everyone interested to join. In 2022, main activities were increasing the network (members from Israel, Turkey, Armenia, Germany, Croatia and Italy joined), collaborating with WG4, giving talks at the iNEAL session at the Meeting of the European Association of Archaeologists (Budapest, Hungary). WG2 organized one Training School and three seminars and roundtables in 2022:

1. TRAINING SCHOOL *The technological variability at the transition between Middle to Upper Palaeolithic*, May 4 – 6, 2022, Czech Academy of Sciences, Institute of Archaeology, Brno, Czech Republic (Petr Škrdla)
2. INTERNATIONAL LITHIC TAXONOMY GROUP (F. Romagnoli, A. Kandel)
3. LAMINAR PRODUCTIONS IN PRE-UP MIS 3 CONTEXTS (Jacobo Gennai, Davide Delpiano, Marco Peresani)
4. INTEGRATIVE PALEOECOLOGY: MULTIPROXY ANALYSES TO RECONSTRUCT NEANDERTHAL PALEOECOLOGY, SEASONALITY AND MOBILITY BASED ON MAMMAL ASSEMBLAGES (Florent Rivals)

She also presented a book *Updating Neanderthals: Understanding Behavioural Complexity in the Late Middle Palaeolithic* edited by F. Romagnoli, F. Rivals, and Stefano Benazzi.

In 2023, in the next Annual meeting of the Hugo Obermaier Society (Aarhus, Denmark) and in the iNEAL session at the Meeting of the European Association of Archaeologists (Belfast, Northern Ireland) several members will give talks. WG2s Training School *Neandertal and Homo sapiens material culture in Middle Paleolithic western Asia* will be held in Haifa, Israel, from March 14 to March 16, 2023 (local organizers: Omry Barzilai, Ron Shimelmitz, Reuven Yeshurun). WG2 will host another Training School in 2023, entitled *Advancing into a community of practice in Palaeolithic Archaeology: Sharing best practices and discussing problems in multidisciplinary studies*. It will be held in Madrid, Spain, from September 27 to September 29, 2023 (local organizers: María Soto, F. Rivals, F. Romagnoli). They will continue working on organization of thematic seminars.

F. Rivals, Grant Awarding Coordinator of the Action, gave a short overview of the three types of grants which are planned in the Grant Period 3. He emphasized that most of the grants focus on young researchers, and that Action prioritizes applicants from Inclusiveness Target Countries (ITC). For the Short Term Scientific Missions (STSM), he said that it is planned 1.500 EUR per STSM, that it can be done in any country, and that application is very simple. Next, he presented the ITC conference grant, which is intended for presenting in conferences by young researchers from ITC, and Dissemination conference grant, which is intended for promoting the Action in conferences.

Next, O. Barzilai gave a presentation on sites with Neandertal remains in Israel. It was a presentation made by him, Natalia Gubenko, R. Shimelmitz, R. Yeshurun, and Ella Been. He showed a map of Neandertal and archaic *Homo sapiens* sites in southern Levant. There are four sites with Neandertal remains, while Nesher Ramla *Homo* was found in central Israel.



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Sites with Neandertal remains at Mt. Carmel (90-50 ka) are: Tabun Cave, Ein Qashis, Kebara cave, and Amud Cave. Sites with archaic Homo sapiens at Mt. Carmel (170-100 ka) are: Misliya Cave, Tabun Cave, Skhul cave, Geula Cave, and Qafzeh Cave. Site with Neshar Ramla Homo, coastal plain (140-120 ka): Neshar Ramla.

After the overview, he gave a list of sites and what was found there (human remains, lithics, fauna and shells) and where they are currently kept. At the end, he showed a map of the sites that would create the Neandertal trail – the idea of two or three days walking route to Neandertal sites.

Sanjin Mihelić, Working Group 4 Leader, gave an overview of the work done by WG4. He said that WG4's agenda is working on the work of others in the Action do and then disseminate it. S. Mihelić's presentation was divided into several points:

- iNEAL session at the EAA Annual conferences – in 2022, it was held in Budapest, Hungary, he reported that was informative and excellent; in 2023, it will be held in Belfast, Northern Ireland, and Action participants will give talks (total of 12 presentation), out of which one will be dedicated to Neandertal trail.
- Publications – WG4 pledged to publish 4 publications; one supposed to be about cultural route and there are more planned; they will focus on the use of Neandertal heritage/legacy.
- Neandertal Cultural Route – in collaboration with I. Janković and Ivor Karavanić, they started the idea of Neandertal Cultural route in Croatia 12 years ago. The book Neandertal Trail he showed is the physical evidence of the idea: how to approach, combine, connect. There are sites that are accessible and sites that they wanted to present to the public. Basically, anywhere where the Neandertals once walked, that is where they want to have the route; to connect academia, general public and tourism.
- Website and Social Media; Newsletter – S. Mihelić asked everyone for whatever they are doing and believe that is directly or indirectly connected to the Action, write about it to him, I. Janković, Agne Zilinskaite and/or Tamara Leskovar. He invited everyone to jointly work on the newsletters.
- Training Schools – Each Training School is dedicated to one out of the four topics. The first one was dedicated to cultural route; the second one was about education, this year's will be on presenting the Neandertals (planned for Lisbon in October 2023), and the last one will be about Neandertals in tourism (planned for Antalya in May 2024).
- iNEAL catalogue – while WGs 1, 2 and 3 are working on the list of Neandertal sites, he emphasized that WG4 will be focusing on other columns such as are these sites available for visit, how to open it for tourism, etc.

Pere Gelabert, representative of Working Group 3, on behalf of the WG3 Leader Ron Pinhasi, gave a short overview of the work done by WG3 – molecular data input for database/catalogue.

Previously suggested items:

- type of data (mt, nuclear, shotgun, capture)



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- successful or unsuccessful
- extraction of related sediment DNA
- data repository link

WG3 suggests the further inclusion of the following items:

- source of DNA (skeletal element, sediment)
- corresponding archaeological IDs of samples uses (linking to section 10)
- associated DNA laboratory codes (DNA extract, DNA library IDs, etc.)
- UDG treatment (yes/no)
- Year samples were collected and name of sampling and storing organisation
- Genomic coverage (very low / low / high coverage, or approximate numbers)

Furthermore, he proposed the final list for the section 4.j.1.DNA:

4. HUMAN REMAINS

j. Analyses

i. Type: multiple choice: DNA, mtDNA, isotopes, proteomics, taphonomy, dating

1. DNA

- a. Source of DNA (multiple choice: coprolite, bone, sediment, calculus)
- b. Sample ID (from menu with existing samples and layers)
- c. Stored at (location)
- d. Main researcher (name)
- e. Main publication (text)
- f. Public data repository link (text)
- g. Sampling or publication date (multiple choice)
- h. Successful or unsuccessful (yes/no)
- i. Associated ancient DNA laboratory IDs (text)
- j. Type of data (multiple choice: mitochondrial, shotgun, capture)
- k. UDG treatment (3 options: full / partial / none)
- l. Genomic coverage – shotgun (multiple choice: 0-0.5X, 0.5-1X, 1-5X, >5X)
- m. Capture coverage – positions (multiple choice 0-20K, 20-50K, 50-100K, 100-250K, 250-500K, 500-750K, 750-1000K, 1M-2M, >2M)
- n. Molecular sex (M/F)
- o. Kinship (multiple choice: 1st degree relatives, 2nd degrees relatives)

A. Kandel asked P. Gelabert how many samples are there. P. Gelabert answered that for the genomic data there are 20-100 samples. A. Kandel raised an issue of scale of what each WG needs to do. Following on A. Kandel's statement, F. Romagnoli said that in comparison to the fact that human remains are usually found in one layer, WG2 has huge amount of work.

2nd session

After the coffee break, 2nd session with lunch break started at noon.

I. Janković gave a presentation on Neandertal sites in Croatia divided into two lists: (A) Krapina and Vindija – cave sites, with Neandertal remains; and (B) 19 sites without human remains, only cultural data, they are open-air sites with an exception of one which is an underwater site (Kaštel Štafilić). Next, he showed a map of Croatia with sites listed. Krapina (Hušnjakov brijeg) is located in continental Croatia, dated to OIS 5 (around 130 ka). There were found 1000 fossils from up to 70 individuals, of various ages, both sexes, and numerous animal remains. Vindija cave is also located in continental Croatia, dated to cca 45 ka or later; Mousterian, Aurignacian, Gravettian; and Neandertal skeletal remains were confirmed by aDNA (complete draft genome sequence). He presented also other sites without Neandertal remains: Veternica, Velika Pećina, Mujina Pećina, Romualdova pećina, Velika Pećina u Kličevici, Mala pećina u Kličevici, Gornja Baračeva špilja, Pećina na Zmorašnjem grebenu and Kaštel Štafilić.

Zsolt Mester gave a presentation on Middle Palaeolithic sites and Neandertal human remains of Hungary, made in collaboration with Tamas Hajdu. He showed three maps of main cultural units of Late Neandertals in Central Europe: MIS 5e 130-117 ka; MIS 5d-4 117-64 ka; MIS 3 61-22 ka, with green dots representing Taubachian, red dots representing Mousterian; and blue dots representing Micoquien. Next, he gave an overview of the sites: Subalyuk Cave, Érd open-air site, Tata open-air (travertine) site, Jankovichian cave and small cave sites of the former 'Szeletian of Transdanubia', as well as findings in the other sites.

Srđan Delić and Nikola Borovinić gave an overview of Middle Palaeolithic sites in Montenegro. Crvena stijena, Mališina Pećina and Bioče are all MP cave sites, however, there were not found any human remains.

Adrian Nemergut gave a presentation about Neandertals in Slovakia, made in collaboration with Ľubomíra Kaminská. He showed a map of MP archaeological sites in Slovakia, and there were two sites with human remains: Šaľa and Gánovce. He also talked about Hôrka Ondrej, Bojnice, Dzeravá skala cave, Čertova pec cave sites. He concluded with GEOPARK Neandertal where workshops, conferences, educational programs for schools are being held.



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Petr Škrdla and Jaroslav Bartík made a presentation on overview of Neandertal sites in Czech Republic. P. Škrdla first showed a hypothetical migration routes map of Moravia. Next, he talked about three caves with Neandertal remains: Šipka cave, Švédův stůl Cave / Ochots Höhle and Kulna Cave. Other sites relating to Neandertals are Přerov / Předmostí II, Bečov I / Písečný Hill, and Jislova Cave.

Damian Stefanski reported on Neandertal sites in Poland. A presentation was made in collaboration with Magda Ciesla and Pawel Valde Nowak. He started by showing a map of distribution of MP sites in Poland indicating caves and open-air sites. There are two clusters: Kraków-Częstochowa Upland aka Polish Jura, and Moravian Gate – transfer via Danube. Next, he talked about the following sites: Zwoleń, Wrocław-Hallera street site, Biśnik cave, Kraków-Zwierzyniec I site, Ciemna cave, Obłazowa cave, Stajnia cave.

Costantino Buzi presented a specific case study. First, he showed a map of Italy with the presence of non-modern human remains; Middle Pleistocene sites, Late Pleistocene and not dated/problematic sites. He highlighted the Spinadesco site where frontal bone of an adult individual was found. One of the Middle Pleistocene sites he will focus on in his presentation is Altamura. The site is located in National Park, close to Bari, and was discovered by the local speleologists. Next, he showed a map of the entire site (underground), and showed which parts are covered with faunal remains. In the chamber at the very end, a perfectly preserved Neandertal remains were found, although embedded in calcite concretions. It is a skeleton of a male individual, dated approximately 170-130 ka (ESR method), and very fragile. Only fragment of this skeleton was brought outside of the cave – right scapula. C. Buzi showed a photo of reconstruction of the skull which was made by laser scanner (front side of the cranium) and photogrammetry (rear side of the cranium, accessed with probes, as it is not accessible).

O. Barzilai asked about how many cases of such deep caves with Neandertal remains is he familiar with in Europe. C. Buzi answered that situations like these are results of an accident. Individuals were not going in there on purpose, they would fall accidentally or were dragged in by animals. O. Barzilai was interested in intentional use of such deep caves by Neandertals. C. Buzi said that the theory is that the individual fell down. There were many animals found, which also probably fell and found themselves helpless. There were bones of a man and many animal bones, and no vertical entrance was found.

R. Shimelmitz asked why dating is so wide, because the method used usually gives a narrower range of dates. C. Buzi said that he thinks that there are problems with context, however, from morphological point of view, it seems more archaic.

Next, Berkay Dinçer presented sites with Neandertal remains, divided into two lists, in Turkey. Presentation was made in collaboration with Parisa Göker, Pınar Gültekin, and Yaşar Selman Gültekin. First, he showed a map with Middle Palaeolithic excavation sites in Turkey, and emphasized that Neandertal remains come from Karain cave in Antalya. It



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presents a longest palaeolithic excavation in Turkey, and excavations are still ongoing. There were found various hominin remains, thousands of lithics, and he highlighted isolated teeth, mandibular, postcranial remains, and phalanges. He continued presenting other sites: Ucağızlı 2 – Hatay, Surmecik – Usak, Yarımburgaz cave – Istanbul, Kaletepe Deresi 3 – Nigde, and Sinekkaya – Bursa.

I. Janković said that members that are not present in the meeting should present their countries online, so that we have a complete overview. All presentations should be stored at a repository available to members. Also, he said that he will ask WG3 to do an overview of sites in which molecular analyses were done.

All were asked for additional comments, remarks and questions.

C. Buzi made a suggestion related to WG4 and dissemination. As many sites allow students to participate in excavations, his idea is to have a network which would connect students and excavation leaders in other countries which would also lead to a learning component of the Action. He suggested to have a calendar of excavations and contacts. I. Janković welcomed this idea, however, he said that there are a lot of problems with insurance and some excavation leaders do not want such hustle. S. Mihelić mentioned a European solidarity corps, a program of the European union through which it can be done. F. Romagnoli asked what will happen with the website of the Action after the end of the Action, and commented that there can be posted information about excavations, contacts and requests for volunteers. I. Janković said that the web site is managed by the Institute for Anthropological Research and that this is not a problem. S. Mihelić said that if this is something that the Action wants to support, we can make it happen – we can start with emails, if someone is looking for students (volunteers), they can always send an email and WG4 will then disseminate it further (website, conferences); if people are for it, this partnership can be built.

O. Barzilai asked about the catalogue and how we will deal with copyrights. I. Janković said that there will not be any photographs or results of research *per se* – it will be based on Oakley and Italian catalogue. Basically, the catalogue will give the list of sites with the information about it and in the beginning of the book there will be an explanation of the codes; it supposed to be used for a fast checking of what one is looking for.

The meeting ended at 16.00.



Monday, March 13th 2023

Working Groups meeting

1st session

The meeting started at 9.30.

I. Janković made an introduction, described the main tasks of the second day of the meeting – final data collecting formats. He said that it was agreed that the catalogue will be built on Oakley and Italian catalogue, with expansion mostly on genomic data. He suggested going through the codes and asked everyone for comments and suggestions.

He started with showing a simplified version of the data codes:

1. Name of the site – if site has different names, the first one should be the one that is commonly used; if name of the site is spelled used different alphabet, it should be also listed. Z. Mester asked what about the changing of names of sites during time. I. Janković explained that this is why there is an additional line for listing alternate names.
2. Description of site and geographical position – geographical coordinates, latitude and longitude. Accurate at least to the minute. It was agreed to add “decimal”.
3. Name of the responsible for the research and / or the discoverer and the date of the discovery.
4. Geological typology of the site. Alluvial deposits, loess, occupation deposits, cave deposits, etc. A suggestion was to put other, as there can be multiple possible, combination.
5. Presence of burials. With elements characteristic of the burial. If fossils are a part of the burial, this should be noted. It was agreed to add descriptive list which are burials.
6. Stratigraphic information (indicated for all human remains).
7. Archaeological context. In reference to possible present industries. Presence of lithic/bone and other types of relevant archaeological material according to stratigraphic sequence should be noted (referring to only modified bone, etc). A. Kandel suggested to keep it simple; yes / no is the simplest. F. Romagnoli suggested to separate in a way yes/no for lithics; and yes/no for bones.
8. Paleontological context. With indications of the fauna and, if available, floral/floristic presence. Major taxa should be noted. F. Romagnoli said that this should be split: fauna and flora.
9. Absolute dating.

At this point, I. Janković switched to the other list:

1. Description

- a. **General introduction: descriptive text**
- b. **Geopolitical location: list of countries**
- c. **Type: drop-down menu: cave, open-air, rock shelter**
- d. **Time span**
 - i. **Beginning.** A. Kandel suggested to put the “oldest date”, and everyone agreed.



1. **Dating type: drop-down menu: absolute, relative, isotope stage**
2. **Dating method: drop-down menu: MIS, paleomagnetism, geo-chronology, bio-chronology**
3. **Age: number**
- ii. **End.** Everyone agreed to put “youngest date”.
 1. **Dating type: drop-down menu: absolute, relative, isotope stage**
 2. **Dating method: drop-down menu: MIS, paleomagnetism, geo-chronology, bio-chronology**
 3. **Age: number**
- iii. **Other.** A. Kandel asked what this refers to, and I. Janković answered that this supposed to be for specific specimen, Lia Vidas suggested to rename it to make it more clear. It was agreed to call it “Specific dates (dates for specific relevant specimen)”.
 1. **Dating type: drop-down menu: absolute, relative, isotope stage**
 2. **Dating method: drop-down menu: MIS, paleomagnetism, geo-chronology, bio-chronology**
 3. **Age: number**
- iv. **Publications.** For this item, F. Romagnoli asked which one, more recent or something else. I. Janković said that this item should focus on most important publications, regardless of the language, indicating the first or original descriptive publications, and a type of data in the publication should be noted. He went back to the simplified list of codes and showed the legend: P for publications on physical anthropology, A for publications on archaeology, Z for zooarchaeology, S for stable isotopes, and G for genomic data, R for raw material studies, E environmental, if more than major type of study is done in a single publication, just add all letters after the publication.
 1. **Articles.** It was agreed to add “in journals”.
 2. **Books.** It was agreed to add “including edited volumes, proceedings, and books chapters.
 3. **Websites**
 4. **databases**
- e. **Management.** It was elaborated that this refers to the management of the site, management of major types of finds and their location. There was a short discussion about what it refers to (site or finds), so I. Janković said that he will split this item to make it more clear.
 - i. **Site name**
 1. **Current: text**
 2. **Former: text**
 - ii. **Reference**
 1. **Name: text.** It was agreed to put only institution, not person.
 2. **Institution: text**
 3. **Contact details: email address, phone number**
 - iii. **Excavation mission.** It was agreed to delete item *iii. Excavation mission* and their subitems.
 1. **Team**
 - a. **Leader**



- i. **Name: text**
 - ii. **Institution: text**
 - b. **Members: text**
 - 2. **Excavation sessions**
 - a. **Years: number range**
 - iv. **Accessibility conditions.** It was agreed that WG1, 2 and 3 focus on availability of material, not site, as WG4 will deal with site curation.
 - 1. **Drop down: accessible, inaccessible, under-water, destroyed.** After a short discussion, it was agreed to add “part of the museum” and to note if you can physically access it or need permission, if there is a guided tour / open or closed for public. It was also agreed that S. Mihelić gives guidelines for this item.
 - f. **Localization**
 - i. **Elevation: number**
 - ii. **Longitude: number**
 - iii. **Latitude: number**
 - g. **Geology layers.** It was agreed to focus on layers with Neandertal related material.
 - i. **Name (excavation record): alpha-numeric**
 - ii. **Type: drop-down menu: natural, anthropic**
 - iii. **Description.** Everyone agreed that the item *iii. Description* should be deleted.
2. **Archaeology**
- a. **Material culture**
 - i. **Stone**
 - 1. **Modified**
 - a. **Lithic industry**
 - i. **Administrative information.** it was agreed to delete item *i. Administrative information* and their subitems.
 - 1. **Stored at: location**
 - 2. **Main researcher: name**
 - 3. **Main publication**
 - ii. **Layer.** It was agreed to rename it to “geological layer name”.
 - iii. **Raw material.** It was agreed to delete the item *iii. Raw material* and their subitems, however, if raw material study was done in major publications, it should be noted under “Publications”, with R.
 - 1. **Type: drop-down menu**
 - 2. **Provenance: text**
 - iv. **Technology.** F. Romagnoli said that if this should be done for all layers, does this mean there should be multiple tables to enter data for every layer. G. Marciani said that data should be entered only for the layer with human remains. I.



Janković suggested the following and gave an example: “Levallois – present in layer x and y”. It was concluded that this item should be focused only on Middle Palaeolithic Neandertal related layer. Because layer information is too detailed, this item refers to MP sequence and not specific layers.

1. **Knapping: drop-down menu: Levallois, Discoid, Laminar Blade, Laminar Bladelet, Expedient, Quina, Bifacial, Other.** Z. Mester said that there is need for an option “not studied” or “non diagnostic”, as there are assemblages that were not analysed from technological point of view. It was agreed to include such options.
 - v. **Shaping: yes / no.** It was agreed to delete item *v. Shaping*.
 - vi. **Formal typology: yes / no.** It was agreed to delete item *vi. Formal typology*.
 - vii. **Techno-complex: drop-down menu: Mousterian, Micoquian, Micro-Mousterian, Transitional, Non-Levallois, Other.** L. Vidas suggested to add a category “not studied”, and everyone agreed.
 - viii. **Utilization: yes / no.** It was agreed to rename this item to “Use wear analysis done: yes / no”.
 - b. **Ground: yes / no**
 - i. **Raw material.** It was agreed to delete item *i. Raw material* and their subitems.
 1. **Type: drop-down menu**
 2. **Provenance: text**
 - ii. **Description.**
 2. **Manuports.** It was agreed to add options yes / no.
 - a. **Raw material.** It was agreed to delete item *a. Raw material* and their subitems.
 1. **Type: drop-down menu**
 2. **Provenance: text**
 3. **Organic tools**
 - a. **Osseous material:** multiple choice menu: teeth, horn, antler, bone
 - b. **Wood:** yes / no
 - c. **Shell:** yes / no
 4. **Mineral finds**
 - a. **Pigments:** yes / no
 - b. **Rock:** yes / no
 5. **Features**
 - a. **Type: multiple choice: burial, fireplace, built.** It was agreed to add option “other”.
 6. **Analyses.** It was agreed to delete item *6. Analyses* and its subitems.
 - a. **Layer.** It was explained that this item refers to geology layer (item g.i.)
 - i. **Type: multiple choice menu**
3. **Biotic components**



- a. **Fauna: multiple choice menu: large mammal, small mammal, birds, reptile/amphibians, birds, fish, mollusks**
- b. **Flora: multiple choice menu: herbaceous, shrubs/tree, fungi**
- c. **Analyses: multiple choice menu** (type of analysis done e.g. zooms, isotopic, DNA, etc.)
4. **Human remains**
 - a. **PID.** It was agreed to rename this item to “specimen ID number”.
 - b. **Description: text**
 - c. **Provenance: layer i.d.**
 - d. **Burial: yes / no / undefined**
 - e. **Study history.** It was agreed to delete item e- Study history and its subitems.
 - i. **Name of researcher**
 - ii. **Institution**
 - iii. **Discovery year**
 - iv. **Analysis year**
 - f. **Archival condition**
 - i. **Exhibited: name of museum.** It was agreed to delete item *i. Exhibited*.
 - ii. **Storage: name of the institution**
 - iii. **Cast**
 1. **Location**
 2. **History**
 - g. **Nature of remain.** F. Rivals asked is this should be done for all specimen together or individual specimen. I. Janković said that we want to have all the information. It was agreed to add estimation on number of individuals. It was also agreed to add multiple tables with all specimens for sites that have large number of bones.
 - i. **Physical: text**
 - ii. **Imprint: foot/hand, endocast**
 - h. **Bone component**
 - i. **Condition**
 - i. **Pathology: text**
 - ii. **Complete: yes / no.** There was a C. Röding’s comment in the text that this item might require text or several categories (like complete, incomplete, fragmented, single fragment) and not simply yes or no.
 - iii. **Sex**
 1. **Type: M / F / Ind.**
 2. **Diagnostic criteria: proteomic / genomic.** There was a C. Röding’s comment in the text that would be desirable to add also other methods, such as morphological.
 - iv. **Age at death: infant, juvenile, adult.** There was a C. Röding’s comment in the text that she is not sure if three categories are enough or if for infant and adult there should be the option to go



further, if possible. E.g. infants I (0-6); infants II (7-12); infants (if not possible to go further; 0-12); juvenile (13-ca.18/20); young adult (ca. 20-40), mature (40-60); senil (60+); adult (if not possible to go further; ca. 20+)

j. Analyses

i. Type: multiple choice menu: DNA, mDNA isotopes, proteoms, taphonomy, dating. There was a C. Röding's comment in the text to add virtual morphology to give a hint if scans exist or if the internal structures were analysed at all so far. It was agreed to add geometric morphometrics and other major types of analyses, that is, to allow multiple choice.

1. DNA

- a. **Source of DNA (multiple choice: coprolite, bone, sediment, calculus)**
- b. **Sample ID (from menu with existing samples and layers).** P. Gelabert raised a question of soil samples that they don't have ID. There are soil samples that have better quality than bones, so how to include soil samples if these are not human remains. It was agreed that in this item should be allowed entry of a new ID.
- c. **Stored at (location).** It was explained that this refers to location where sample (powder or extract) is stored.
- d. **Main researcher (name).** It was agreed to delete this item.
- e. **Main publication (text).** It was agreed to delete this item.
- f. **Public data repository link (text).** It was agreed to delete this item.
- g. **Sampling or publication date (multiple choice).** It was agreed to delete this item.
- h. **Successful or unsuccessful (yes/no).** It was agreed to delete this item.
- i. **Associated ancient DNA laboratory IDs (text).** It was agreed to delete this item.
- j. **Type of data (multiple choice: mitochondrial, shotgun, capture)**
- k. **UDG treatment (3 options: full / partial / none)**
- l. **Genomic coverage – shotgun (multiple choice: 0-0.5X, 0.5-1X, 1-5X, >5X)**
- m. **Capture coverage – positions (multiple choice 0-20K, 20-50K, 50-100K, 100-250K, 250-500K, 500-750K, 750-1000K, 1M-2M, >2M)**
- n. **Molecular sex (M/F)**
- o. **Kinship (multiple choice: 1st degree relatives, 2nd degrees relatives)**

F. Romagnoli asked if the list a.-o. about DNA data is for all or for each specimen. P. Gelabert said that, ideally, this is for a specimen, that this is how they do it in the laboratory.

L. Vidas asked what if there are other biomolecular analysis done other than DNA. There should be yes / no options, but expand on DNA section.

F. Romagnoli asked what happens after we all agree on the list, how the form will look like. There was a short discussion about goals of the Action and best format (book / excel, excel export, etc.).



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2nd session

After the coffee break, there was a discussion about format of the database and ways forward.

F. Romagnoli stated that there is an existing database which is very good. Her suggestion was to check what information already exists in ROAD database and to collect other data that is not included. This way, the Action members will collect data much faster and not use Microsoft Excel. After I. Janković finalizes and share the code list, she continued, Action members will start collecting data in Microsoft Word, without entering data that is already in the ROAD database. This way, the Action will also give information that is missing in the ROAD database to be included in the ROAD database. A. Kandel said that majority of sites are already in there, but on some sites they are still working on. He suggested to extract the lists for Action members to check what is missing. Regarding genetic data, A. Kandel said that they started this year to enter information on genetic analyses, however, it is very basic. If genetic data is missing in the ROAD database for sites relevant to the Action, F. Romagnoli proposed to have an additional Excel sheet for genetic data. P. Gelabert added that it would need then information on sites to be able to link it (site, dating and layer). It was agreed that after finalizing the list, I. Janković will contact A. Kandel so that he knows what information to extract from the ROAD database. C. Buzi asked if the ROAD database marks the date of last change, and A. Kandel explained that once there is a change, system registers it – if someone corrects something, the last update is shown in the database. Just to be sure, F. Romagnoli asked to start with sites with human remains.

Next, I. Janković showed an excel extract from road as an example.

F. Romagnoli asked how information should be sent to A. Kandel, he said, ideally, in .pdf format to extract the data, but he is not sure how much priority it will have as they have staff that is working on different things.

As the meeting was getting close to the end, some conclusions were made: I. Janković and A. Kandel will jointly work on the final list of codes. I. Janković will combine the list and send it to all Working Groups leaders. WG leaders will share the list with Action members to start collecting. For WG3, I. Janković will talk with P. Gelabert and create an additional excel sheet for genetic data. F. Romagnoli proposed to start with the list of sites with human remains and that WG1 should discuss about it. Next, the list of codes should be finalized by I. Janković and A. Kandel, as soon as possible. A. Kandel will divide data from the ROAD database by country. WG leaders with WG members will check the data available.

G. Marciani asked about countries with many members, and how the work will be divided. F. Romagnoli said that she will contact all members from one country and organize the work – who will collect data and who will coordinate the work in specific country. At the end of the meeting, a thank you was directed to A. Kandel who said that the Action should extend the gratitude to Heidelberg academy of science for funding the ROAD database. He added that this is a great use of the ROAD database.

After the lunch break, all participants were invited by the local organizers to visit the Hecht Archaeological museum located in the University of Haifa campus. It was decided to not hold a separate Core Group meeting, as all major issues were discussed.



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The meeting ended at 15.00.

List of participants:

1. Barzilai, Omry
2. Borovinić, Nikola
3. Buzi, Costantino
4. Delic, Srdjan
5. Dinçer, Berkay
6. Galdies, Johann
7. Gelabert, Pere
8. Göker, Parisa
9. Gubenko, Natalia
10. Gültekin, Pınar
11. Gültekin, Yaşar Selman
12. Hajdu, Tamás
13. Janković, Ivor
14. Jarec, Morana
15. Kandel, Andrew
16. Marciani, Giulia
17. Mester, Zsolt
18. Mihelić, Sanjin
19. Moullou, Theodora
20. Nemergut, Adrián
21. Rivals, Florent
22. Romagnoli, Francesca
23. Shimelmitz, Ron
24. Škrdla, Petr
25. Stefański, Damian
26. Vidas, Lia
27. Vukosavljević, Nikola
28. Yeshurun, Reuven

Minutes:

Morana Jarec, PhD, Grant holder manager