### **List of Figures**

#### Acknowledgements

| Fig. 1             | Part of the Ba'ja Team at the end of the 2018 excavation season.   | xxiv |
|--------------------|--|------|
| Empiric<br>Environ | al Data and Thanatological Perspectives on Ba`ja's Late PPNB Sepulchral<br>ments: a Synthesis                      |      |
| Fig. 1             | Location of Ba'ja and other Middle and Late PPNB sites mentioned in the text.                                      | 2    |
| Fig. 2             | Insights that can generally be gained from burials.  | 5    |
| Fig. 3             | Insights that can be gained from the human remains themselves.   | 6    |
| Fig. 4             | Insights that can be gained from eco- and artefacts in the grave.  | 7    |
| Fig. 5             | Alignement of window-like wall openings in Area C.   | 15   |
| Fig. 6             | A The position (white rectangle), $\hat{B}$ close up of the naturally coloured stone inserted in wall Loc. C22:10. | 18   |
| Fig. 7             | Western most row of stone slabs that covered the burial of "Jamila" (CG7).   | 18   |
| Fig. 8             | Cross-shaped MOP pendants found in Burial CG9 and in the collective Burial CG11                                    |      |
| -                  | in Area C.   | 20   |
| Fig. 9             | Distribution of beads and pendants in burials of Areas C and D.  | 21   |
| Fig. 10            | Distribution of beads and pendants in burials: A total number of ornamental  |      |
|                    | elements, B sorted according to raw material in each burial of Areas C and D.                                      | 23   |
| Fig. 11            | Selection of some ornamental elements uncovered in 2021 in the collective Burial CG11.                             | . 24 |
| Fig. 12            | "Teardrop pendants" from the Harifian sites of Ramat Harif and Abu Salem.  | 27   |
| Fig. 13            | Semi-translucent white quartz pebble (blue arrow) from Burial CG9.   | 29   |
| Fig. 14            | Orientation of the corpses in burials.   | 33   |
| Fig. 15            | Estimation of time and effort investment for each burial regarding grave 'goods' and                               |      |
|                    | grave constructions.   | 41   |
| Fig. 16            | Estimation of time and effort considering all categories for each burial.  | 41   |
| Fig. 17            | Interacting areas and interdependence of factors influencing the thanatological                                    |      |
|                    | behaviour and practices.   | 52   |
| "Domest            | cicating" Death: the Burial Contexts   |      |
| <b>D</b> ' 4       |  |      |
| Fig. 1             | Overview of all burials excavated between 2000 and 2019.   | 76   |
| Fig. 2             | Overview of the burial locations in Area C.  | 76   |
| Fig. 3             | Overview of the burial locations in Area D.  | 77   |
| Fig. 4             | Overview of CR5 in 2019.   | 78   |
| Fig. 5             | Harris Matrix of Burial CG2.   | 78   |
| Fig. 6             | Position of the Burial CG2 in Room CR5.  | - 79 |

Fig. 6 Position of the Bur Fig. 7 Burial pit of CG2.

| 0.   |   | F           |           |              |
|------|---|-------------|-----------|--------------|
| Fig. | 8 | Grave cover | of Burial | CG2 in situ. |

- Fig. 9 White deliberately broken covering slabs.
- Fig. 10 Two possible versions for the stratigraphic sequence of Burial CG3.
  Fig. 11 1.5-2 year-old infant buried in a shallow pit very close to the southern wall Loc. CR5:55 of Room CR5.
- Fig. 12 Infant Burial CG3.
  Fig. 13 Three MOP pendants and a shell or limestone cylindrical limestone bead aligned *in situ* along the right *humerus* of the infant.
- Fig. 14 Poorly preserved ornaments of the infant.
- Fig. 15Burial CG4 discovered in a test pit beneath Loc. CR6:19 in 2018.86Fig. 16Harris Matrix of Burial CG4.87

79 80

80

83

83 83

85

85

87

Fig. 17 Large sandstone slab covering the burial discovered in 2018.

| Fig.        | 18       | Upper layer of the grave filling that contained many pieces of charcoal.                       | 87  |
|-------------|----------|--|-----|
| Fig.        | 19       | A Child Loc. CR6:48 placed in a strongly (180°) flexed position on its right side,             |     |
|             |          | <i>B</i> drawing of Burial CG4.  | 88  |
| Fig.        | 20       | Rubified soil northwest of the skull at the bottom of the grave.                               | 89  |
| Fig.        | 21       | Objects related to Burial CG4.   | 89  |
| Fig.        | 22       | The double child Burial CG5 on top of the grave cover of Burial CG6.                           | 91  |
| Fig.        | 23       | Harris Matrix of Burials CG5 and CG6.  | 92  |
| Fig.        | 24       | The skeleton of an approximately 3 year-old child (Loc. CR6:23a).                              | 92  |
| Fig.        | 25       | Bracelet made of 33 "greenstone" and one limestone bead uncovered between the left             |     |
| B.          |          | pelvis and the left arm of the child Loc. CR6:23a  | 95  |
| Fig         | 26       | Beads from the bracelet discovered between the left pelvis and left arm of individual          | 20  |
| 1 15.       | 20       | Loc CR6.23a  | 98  |
| Fio         | 27       | Naturally red and white coloured stone inserted at the bottom of wall Loc C22.10               | 70  |
| 1 15.       | 21       | on top of the burial sequence CG5/6  | 98  |
| Fig         | 28       | Pit Loc. CR6:22: A covered with one large white-grey sandstone slab (CR6:28) $B_{-}C$          | 70  |
| 1 15.       | 20       | two large reddish sandstone slabs beneath (Loc. $(R6.34 1.2)$ )                                | 99  |
| Fig         | 20       | 4 The burial nit Loc CR6:22 filled with stones and three large sandstone slabs B the           | "   |
| I ig.       | 2)       | infant Burial CG6 in the western part of the nit   | 100 |
| Fig         | 20       | Human remains uncovered in the western part of Buriel CC6                                      | 100 |
| Fig.        | 21       | Ornaments possibly related to the Buriel CC6   | 101 |
| Fig.        | 22       | Alignment of the three well energings Legi C1:26, C10:117A, and C10:78A (Fig. 44)              | 105 |
| Fig.        | 32<br>22 | The still uneverysted, blocked well energing Los, C10.117A, and C10.76A (Fig. 44).             | 100 |
| гig.<br>Eia | 22       | Con in the plaster floor Loo. C1:40  | 107 |
| гıg.<br>Ein | 24<br>25 | Gap in the plaster floor Loc. C1:40.   | 107 |
| Fig.        | 33<br>26 | Harris Matrix of Burial CG/.   | 108 |
| Fig.        | 30       | Western part of the grave construction of Burial CG7.  | 109 |
| Fig.        | 3/       | Main steps of the burial construction of Burial CG/.   | 110 |
| F1g.        | 38       | Schematic reconstruction of the stages of construction of Burial CG/ from the three            | 111 |
| ъ.          | 20       | layers of the cover $(A-C)$ to the grave cist $(D)$ .  | 111 |
| Fig.        | 39       | White sandstone slab fragments from the grave cover.   | 116 |
| Fig.        | 40       | In situ position of the red stained sandstone plate from the cover of Burial CG/.              | 116 |
| F1g.        | 41       | The about 8 year-old child buried on its left side with the legs in an $c$ . 80° hocker        |     |
|             |          | position.  | 116 |
| Fig.        | 42       | MOP ring that was torn by the chains in the direction of the mandible.                         | 117 |
| Fig.        | 43       | The black buckle of the necklace that was found behind the neck of the child.                  | 117 |
| Fig.        | 44       | Overview of Room CR35 at the end of the 2016 excavation season.                                | 120 |
| Fig.        | 45       | Harris Matrix of Burial CG8.   | 121 |
| Fig.        | 46       | <i>A-C</i> Layer 1-3 of Burial CG8 (Loc. C10:405).   | 122 |
| Fig.        | 47       | Two subadults from the double Burial CG8 with the infant (Ind. I) on top of the                |     |
|             |          | 3-4 year-old child (Ind. II).  | 122 |
| Fig.        | 48       | Covering slab of Burial CG8.   | 122 |
| Fig.        | 49       | Traces of an intense fire (Loc. C10:401) between the collective Burial CG1, the                |     |
|             |          | primary adult Burial CG10, and the double subadult Burial CG8.                                 | 123 |
| Fig.        | 50       | Situation during the 2003 excavation, showing the burial cover of Burial CG10 and              |     |
|             |          | the covering slab of the collective Burial CG1.  | 124 |
| Fig.        | 51       | Drawing of the small section through the supposed floor Loc. C1:146a, relabled as              |     |
|             |          | Loc. C1:403, and the grave cover Loc. C10:146b.  | 124 |
| Fig.        | 52       | Harris Matrix of Burial CG10.  | 126 |
| Fig.        | 53       | Main steps of the burial construction of Burial CG10.  | 126 |
| Fig.        | 54       | Drawing of the Burial CG10.  | 129 |
| Fig.        | 55       | Detail of the <i>in situ</i> left upper arm with the composite arm ring and the fingers of the |     |
| U           |          | right hand with the red pigment stone.   | 129 |
| Fig.        | 56       | Objects found next to the skeleton.  | 129 |
| Fig.        | 57       | Composite upper arm ring of the young adult man.   | 130 |
| Fig.        | 58       | Objects embedded in the grave cover (Loc. C10:146b).   | 130 |
| Fig.        | 59       | Harris Matrix of Burial DG2.   | 133 |
| Fig.        | 60       | Burial DG2 without any grave construction but with a turquoise button under the                |     |
| -0.         |          | right hand of the infant.  | 133 |
|             |          |  |     |

| Fig.  | 61         | The large nerite shell found <i>in situ</i> next to the left humerus of the infant.   | 134  |
|-------|------------|---|------|
| Fig.  | 62         | The nerite shell and the turquoise button found next to the infant.   | 134  |
| Fig.  | 63         | The gracile adult female of Burial TU7G1 (Loc. TU7:9).  | 136  |
| Fig.  | 64         | Harris Matrix of Burial TU7G1.  | 136  |
| Fig.  | 65         | Female adult primary Burial TU7G1 in Trench TU7: A Stage A with rubble layer on   |      |
| 0     |            | top of the burial, B Stages B-C after having taken off the stone layer.   | 137  |
| Fig.  | 66         | Two beads that were found in Loci TU7:4/9 with the Burial TU7G1.  | 137  |
| Fig.  | 67         | The collective Burial DG1 after the excavation of the human bones.  | 138  |
| Fig.  | 68         | Harris Matrix of Burial DG1.  | 141  |
| Fig.  | 69         | Excavations beneath the stone slab floor of Burial DG1.   | 141  |
| Fig   | 70         | Sealing of Burial DG1 with a hard lime plaster (Loc. D11/12/21/22:21)   | 142  |
| Fig.  | 71         | Stone slab that was embedded in the debris layer (Loc. D11/12/21/22:14)   | 142  |
| Fig.  | 72         | Three layers (A-C) of the collective Burial DG1   | 143  |
| Fig.  | 73         | Schematic drawings of the distribution of ornaments and selected objects: A lower   | 115  |
| 1 15. | 15         | laver <i>R</i> bottom laver of ornaments  | 145  |
| Fig   | 74         | MOP rings ("naillettes") associated to infants uncovered in Burial DG1  | 146  |
| Fig.  | 75         | Selection of stone head types from Burial DG1   | 140  |
| Fig.  | 76         | Macehead uncovered in the collective Burial DG1   | 146  |
| Fig.  | 70         | Location of Burial CGQ close to the southern wall Loc C10:68  | 1/18 |
| Fig.  | 78         | Stratigraphic sequence of Burial CG0  | 1/10 |
| Fig.  | 70         | The pit of Purial CC0 with white deliberately destroyed conditions clobe in situ  | 149  |
| Fig.  | 80         | A Deliberately destroyed white Ordevician stone slobe <i>R</i> dislocated large white   | 149  |
| rig.  | 80         | A Denoeratery destroyed while Ordovicial stone stabs, D dislocated large while  | 151  |
| Fig   | <b>Q</b> 1 | Main stone of the execution of Puriol CC0   | 151  |
| Fig.  | 01<br>01   | Schemetic drewings of the main store after superimposed photos of at least 4 subadults  | 154  |
| Fig.  | 02<br>92   | Schematic drawings of the main steps after superimposed photos of at least 4 subadults.   | 134  |
| гıg.  | 85         | old children.   | 156  |
| F1g.  | 84         | Raw materials used for beads and pendants for the three individuals Loci  |      |
|       |            | CR28.2:122a, CR28.2:122b, and CR28.2:123a.  | 156  |
| Fig.  | 85         | Selection of bead types that were used for the adornment of the corpses in Burial CG9.  | 157  |
| Fig.  | 86         | Small bowl that was found broken in two pieces.   | 158  |
| Fig.  | 87         | Accumulation of human bones uncovered on the floor Loc. C10:170F/400 in 2003  |      |
|       |            | and excavated in 2005.  | 162  |
| Fig.  | 88         | Preliminary Harris Matrix of the collective Burial CG12.  | 162  |
| Fig.  | 89         | Human bones in the upper layer of the burial surrounded by ashy sediment in Layer Loc. C10:133.   | 162  |
| Fig.  | 90         | Fine silt sediment washed in and dried after decomposition of the soft tissue inside  |      |
|       |            | Skull N°21.   | 164  |
| Fig.  | 91         | The stony layer Loc. C10:129 above the human bones of Burial CG12.  | 164  |
| Fig.  | 92         | A Stage C of the collective Burial CG12, B completed excavation of the collective   |      |
| •     |            | Burial CG12.  | 164  |
| Fig.  | 93         | Four stages (A-D) of the excavation of the collective Burial CG12.  | 165  |
| Fig.  | 94         | Concentration of three arrowheads and a small patch of ash and charcoal.  | 166  |
| Fig.  | 95         | The collective Burial CG1.  | 168  |
| Fig.  | 96         | Harris Matrix of the collective Burial CG1.   | 168  |
| Fig.  | 97         | The grave pit Loc. C10:147 of the collective Burial CG1.  | 169  |
| Fig.  | 98         | Three selected stages of the human bones: A Layer C, B Layer G, and C Layer H.  | 169  |
| Fig.  | 99         | The sequence of excavation layers of the collective Burial CG1.   | 171  |
| Fig.  | 100        | A all individuals, B Individual V buried in a supine position, C Individual VI buried<br>on top of Individual V. D Individual IV buried at last | 172  |
| Fig   | 101        | Large hone spatula on top of the dislocated skull (Nº61 Fig. 90F) of the primarily  | 1/2  |
| 1 1g. | 101        | interred Individual V   | 173  |
| Fig   | 102        | Terrazzo-like plaster floor (Loc. CR17:114/138) and the hump-like feature   | 1/3  |
| 1 1g. | 102        | $(I \circ CR17.140)$  | 176  |
|       |            |   | 1/0  |

| Fig. | 103 | Rectified photo of: A upper and B lower layer of human bones in pit Loc. CR17:117a.   | 176 |
|------|-----|---|-----|
| Fig. | 104 | Stone cover (Loc. CR17:116) of the northern part of the burial pit Loc. CR17:117.     | 179 |
| Fig. | 105 | Infant N°110 in the burial Layer CR17:137.  | 180 |
| Fig. | 106 | Cross-shaped MOP pendant <i>in situ</i> in the northern most part of the ashy zone of |     |
| -    |     | Loc. CR17:137.  | 180 |
| Fig. | 107 | Heap of disarticulated bones (Loc. CR17: 131/133) in the southwestern corner of       |     |
| C    |     | Room CR17.  | 181 |
| Fig. | 108 | Upper part of burial sequence Loc. CR17:131.  | 181 |
| Fig. | 109 | <i>A-B in-situ</i> position of the two MOP pendants close to the infant skull N°101.  | 181 |
| Fig. | 110 | Upper layers of the burial Loc. CR17:130.   | 182 |
| Fig. | 111 | Concentration of disarticulated human bones in the lower layer of Loc. CR17:127 in    |     |
| -    |     | the centre and Loc. CR17:115.   | 182 |
| Fig. | 112 | Top layer of human bones (Loc. CR17:127).   | 183 |
| Fig. | 113 | Harris Matrix on the various burial events in Room CR17.                              | 183 |
| Fig. | 114 | Compilation of small artefacts and ornaments from the sequence of collective Burials  |     |
| C    |     | CG11 in Room CR17.  | 184 |

#### Human Remains from Areas C and D: Morphological and Palaeopathological Investigations

| Fig. | 1  | Overview of the bones and bone fragments of the multiple infant Burial CG9, Room       |     |
|------|----|--|-----|
| U    |    | CR28.2, in the lab.  | 202 |
| Fig. | 2  | Well-represented and preserved skeleton of the newborn of Burial CG6, Loc. CR6:40.     | 202 |
| Fig. | 3  | Highly fragmented long bones of the adult male of CG10, Loc. C10:408.8.                | 203 |
| Fig. | 4  | External lamina of the right parietal bone of CG5, Loc. CR6:23a with localised large   |     |
| C    |    | red colouring in the anterior part.  | 204 |
| Fig. | 5  | View of the external lamina of the superior region of the frontal, both parietal, and  |     |
| -    |    | occipital bones of CG7, Loc. C1:46 with equally distributed red staining.              | 204 |
| Fig. | 6  | Anterior view of the bones of the left arm (from top to bottom: humerus, radius,       |     |
| _    |    | ulna) of CG7, Loc. C1:46 with slight equally distributed red staining.                 | 204 |
| Fig. | 7  | Anterior view of the right frontal of CG2, Loc. CR5:54 with several small red spots.   | 204 |
| Fig. | 8  | Dorsal view of the left parietal bone of CG2, Loc. CR5:53 with distinct plant          |     |
|      |    | root etching.  | 204 |
| Fig. | 9  | Posterior view of the left femur of CG10, Loc. C10:408.8 with gnawing marks            |     |
|      |    | of rodents.  | 206 |
| Fig. | 10 | Anterior view of the left femur of the adult male in CG10, Loc. C10:408.8 with         |     |
|      |    | severe plant root etching, the roots still being in place.                             | 206 |
| Fig. | 11 | Individuals sorted by age class and burial type.                                       | 207 |
| Fig. | 12 | Dorsal view of the occipital and both parietal bones of CG2, Loc. CR5:53.              | 208 |
| Fig. | 13 | Shoveling of the lingual surface of tooth 12 of CG2, Loc. CR5:53.                      | 208 |
| Fig. | 14 | Carabelli's cusp on the lingual surface of tooth 16 of CG7, Loc. C1:46.                | 208 |
| Fig. | 15 | Internal lamina of the occipital bone of CG8, Loc. C10:405-I.                          | 209 |
| Fig. | 16 | Detail of the internal lamina of the right frontal bone close to the coronal suture of |     |
|      |    | CG2, Loc. CR5:54.  | 210 |
| Fig. | 17 | Detail of Fig. 16.   | 210 |
| Fig. | 18 | Detail of the internal lamina of the right squama temporalis of CG2, Loc. CR5:53.      | 210 |
| Fig. | 19 | Detail of Fig. 18.   | 210 |
| Fig. | 20 | Detail of the right ala major of CG4, Loc. CR6:48.                                     | 210 |
| Fig. | 21 | Detail of Fig. 20.   | 210 |
| Fig. | 22 | Labial surface of tooth 42 of CG4, Loc. CR6:48.  | 212 |
| Fig. | 23 | Labial surface of tooth 61 of CG2, Loc. CR5:54.  | 212 |
| Fig. | 24 | View of the occlusal surface of the mandibular teeth of CG2, Loc. CR5:53.              | 212 |
| Fig. | 25 | Transverse and enamel hypoplasia and their approximate time of development.            | 213 |

### Non-Metric Traits of Deciduous and Permanent Dentitions of Ten Non-Adult Individuals from Area C

| Fig. 1           | A Relationship graph demonstrating the Jaccard indices between the individuals with permanent dentition, <i>B</i> relationship graph with a different layout to show the distances. | 265 |
|------------------|---|-----|
| Fig. 2           | Numbers of traits (y-axis) shared by pairs of individuals (x-axis).   | 266 |
| The A            | chaeogenetic Evidence   |     |
| Fig. 1           | Scatterplot of the first two PCs from PCA performed on modern west Eurasian   |     |
|                  | populations.  | 280 |
| Fig. 2<br>Fig. 3 | The <i>qpAdm</i> modelling performed separately on Ba'ja and 'Ain Ghazal individuals.<br>Distribution or Runs of Homozygosity (ROH) for Ba'ja and other contemporaneous             | 281 |
| C                | individuals from Anatolia and the Levant.   | 283 |
| Local            | People or Masked Mobility: Results of Strontium Isotope Analysis of Human Teeth   |     |
| <b>-</b> . 4     |   | ••• |
| Fig. 1<br>Fig. 2 | Geological setting of major Pre-Pottery Neolithic B sites in southern Jordan.<br>Strontium isotope ratios of human enamel samples sorted according to age and sex,                  | 292 |
| -                | and animal teeth and bones from Ba`ia.  | 296 |

| Fig. 3 | Strontium isotope ratios of human enamel samples sorted according to burial               |     |
|--------|---|-----|
| -      | contexts (rooms and graves).  | 296 |
| Fig. 4 | Box plot of strontium isotope data of Natufian and early Holocene sites in the Near East. | 297 |

### Histotaphonomy Report

| Fig. 1  | Sample a1 from Burial DG2.  | 312 |
|---------|---|-----|
| Fig. 2  | Sample a2 from Burial CG8, Individual I.  | 313 |
| Fig. 3  | Sample b1 from Burial CG8, Individual II.   | 314 |
| Fig. 4  | Sample a3 from Burial CG6, Loc. CR6:41a.  | 314 |
| Fig. 5  | Sample b2, Loc. CR6:41a.  | 315 |
| Fig. 6  | A Mineralised inclusions in Sample b2: B of sulphate and C oxygen.                  | 315 |
| Fig. 7  | Sample a4 from Burial CG4, Loc. CR6:48.   | 316 |
| Fig. 8  | Sample a5 from Burial CG3, Loc. CR5:49a.  | 316 |
| Fig. 9  | Sample a5: <i>A</i> mineralised inclusions of <i>B</i> barium and <i>C</i> sulphur. | 317 |
| Fig. 10 | Sample b4 from Burial CG5, Loc. CR6:23a.  | 317 |
| Fig. 11 | Sample b3 from Burial CG5, Loc. CR6:23b.  | 318 |
| Fig. 12 | Sample b5 from Burial CG7.  | 318 |
| Fig. 13 | Sample b6 from Burial CG10.   | 319 |

#### Evidence for the Use of Baskets, Mats, and Painted Plaster from a Double Child Burial

| Fig. | 1  | Burial CG5, Loc. CR6:23a/ b with Individuals I-II. Position of clay plaster fragments |     |
|------|----|---|-----|
| -    |    | in situ with associated impressions of basketry and matting.                          | 326 |
| Fig. | 2  | Plaster fragment Type 1, Burial CG5.  | 327 |
| Fig. | 3  | Scanning electron microscopy (SEM) image of clay plaster fragment Type 1.             | 327 |
| Fig. | 4  | Clay plaster fragment Type 1a, Burial CG5.  | 328 |
| Fig. | 5  | Clay plaster fragment Type 1b, Burial CG5.  | 328 |
| Fig. | 6  | Clay plaster fragment Type 2, Burial CG5.   | 329 |
| Fig. | 7  | SEM image of clay plaster fragment Type 2, Burial CG5.                                | 329 |
| Fig. | 8  | Clay plaster fragment Type 2, Burial CG5.   | 330 |
| Fig. | 9  | Lime plaster fragment Type 1, Burial CG5.   | 331 |
| Fig. | 10 | SEM image of lime plaster fragment Type 1, Burial CG5.                                | 331 |

| Fig. | 11 | Lime plaster fragment Type 2, Burial CG5.  | 332 |
|------|----|--|-----|
| Fig. | 12 | SEM image of lime plaster fragment Type 2, Burial CG5.                                   | 332 |
| Fig. | 13 | A Red ochre on cranial vault fragment, Burial CG5, Loc. CR6:23a, Individual I, B         |     |
| -    |    | particles of red ochre selected from the same location.                                  | 333 |
| Fig. | 14 | A Red ochre and whitish calcareous substance adhering on a skull fragment, Burial        |     |
| -    |    | CG5, Loc. CR6:23a, Individual I, <i>B</i> detail of red paint overlapped by a calcareous |     |
|      |    | substance.   | 334 |
| Fig. | 15 | Two bone fragments, Burial CG5, Loc. CR6:23a, Individual I.                              | 334 |
| Fig. | 16 | Silicified plant remains (arrows) on a bone fragment, Burial CG5, Loc. CR6:23a,          |     |
| -    |    | Individual I.  | 334 |
| Fig. | 17 | Differently processed red pigment on a fragment of the right zygomatic bone, CR17.       | 336 |

#### The Use of Red Pigments: Colour-Coded Territories

| Fig. | 1  | Red pigment pellets/ balls.   | 348 |
|------|----|---|-----|
| Fig. | 2  | A sandstone slab/ plate (?) fragment and B elongated sandstone slab used for grinding |     |
|      |    | pigment stones.   | 349 |
| Fig. | 3  | Intentionally shaped and ground pounder/ small pestle for production/ processing      |     |
| _    |    | pigments.   | 349 |
| Fig. | 4  | Two flint bowlets with pigment traces.  | 350 |
| Fig. | 5  | Flint bowlet fragment made from natural flint "capsule" with pigment traces.          | 351 |
| Fig. | 6  | A Example of a common quartz pebble polisher, most probably used for burnishing       |     |
| -    |    | fresco red the plaster floors, B red-stained plaster fragments.                       | 352 |
| Fig. | 7  | Examples for red-stained plaster floors.  | 353 |
| Fig. | 8  | Preserved part of mural DR26:32 in Room DR26.2.                                       | 354 |
| Fig. | 9  | Cristalline limestone plate/ bowl (?) fragment with pigment remains.                  | 355 |
| Fig. | 10 | Intense red pigmentations in the grave fill of collective Burial DG1 of Room DR26.2.  | 356 |
| Fig. | 11 | Small pieces of dark red and yellow ochre.  | 357 |
| Fig. | 12 | Small grinding slab fragment for preparing the pigment, most likely taking place      |     |
| -    |    | during the burial: found in Burial CG7 "Jamila" in Room CR36.1.                       | 357 |
| Fig. | 13 | Example of secondary and tertiary pigmentations.                                      | 358 |
|      |    |   |     |

#### Sepulchral Commodification: the Rituality of the Ba`ja Daggers

| Fig. 1 | Collective chamber Burial DG1 in Room DR26.2: A-B in situ medial fragment,            |     |
|--------|---|-----|
| -      | resting in the lower part of burial deposits.   | 373 |
| Fig. 2 | Collective small room pit Burial CG1 in Room CR35: A-B in situ complete dagger,       |     |
| -      | resting on its edge: secondary position?  | 373 |
| Fig. 3 | Single cist-type Burial CG10 "Usaid" in Room CR35: A in situ dagger, embedded         |     |
| -      | with other burial objects in the upper hard gravel/ mortar bed above the B stone slab |     |
|        | cover protecting the burial underneath.   | 374 |
| Fig. 4 | Ba'ja Dagger from collective chamber Burial DG1 in Room DR26.2.                       | 376 |
| Fig. 5 | Ba`ja Dagger from collective pit Burial CG1 in Room CR35.                             | 377 |
| Fig. 6 | Ba'ja Dagger from single cist-type Burial CG10 "Usaid" in Room CR35.                  | 378 |
| Fig. 7 | Ba'ja Dagger fragment possibly originating from a burial and being reused as a burin  |     |
| -      | (from Room DR6, secondary context: Loc. D12:50).                                      | 384 |
| Fig. 8 | The Late – Final PPNB mega-sites' interaction spheres.                                | 385 |

#### **Faunal Remains in Burial Contexts**

| Fig. | 1 | Survivorship curves for sheep/ goat based on epiphyseal fusion data.           | 397 |
|------|---|--|-----|
| Fig. | 2 | Summarised distribution of mammals and birds in burial and household contexts. | 399 |

### Elements of Ornaments in Non-Burial Contexts: Investigations on Raw-Materials, Production, and Use-Wear

| Fig. | 1  | Nomenclature: <i>A-B</i> for gastropods and <i>C</i> for bivalves.                        | 406 |
|------|----|---|-----|
| Fig. | 2  | Shell species and anatomical types.   | 409 |
| Fig. | 3  | Shell and mineral-based objects of geometric and singular shapes.                         | 411 |
| Fig. | 4  | Sizes of the identified species of the pierced shells represented by the ratio of length  |     |
| C    |    | to width.   | 413 |
| Fig. | 5  | MOP objects.  | 415 |
| Fig. | 6  | Schematic drawing representing, from left to right, the flat, the narrow, and the         |     |
| -    |    | pointed main types of MOP rings at Ba'ja.   | 416 |
| Fig. | 7  | Technical and use-wear traces observed on shell beads from Ba`ja.                         | 417 |
| Fig. | 8  | <i>Pinctada</i> sp. technical pieces and final products with indications of manufacturing |     |
| C    |    | traces.   | 419 |
| Fig. | 9  | Schematic drawing proposing the main manufacturing stages of <i>Pinctada</i> sp. simple   |     |
| C    |    | rings.  | 420 |
| Fig. | 10 | Technical and use-wear marks observed on shell, stone, and bone beads from Ba'ja.         | 421 |
| Fig. | 11 | A-C Use-wear traces on Nerita sp. shells and D schematic drawing proposing their          |     |
| C    |    | hanging system.   | 423 |
| Fig. | 12 | Technical and use-wear traces on shell and stone items.                                   | 425 |
| Fig. | 13 | A cowrie shell bead, B drawing proposing the fixing system by stitches on a support       |     |
| -    |    | (clothes, bags, <i>etc.</i> ).  | 426 |

#### **General Contextual Evaluation of Ornamental Elements**

| Plate 1 | Selected ornament items (2000 and 2001 seasons).                                      | 438 |
|---------|---|-----|
| Plate 2 | Selected ornament items (2000 and 2001 seasons).                                      | 439 |
| Plate 3 | Selected ornament items (2000 and 2001 seasons).                                      | 440 |
| Plate 4 | Selected ornament items (2000 and 2001 seasons).                                      | 441 |
| Fig. 1  | Complete bone bead ornament of at least 28 tubular hare (?) bone beads and one        |     |
| -       | nerite shell uncovered in situ in Area B-North, in 2007.                              | 442 |
| Fig. 2  | Distribution of main shell beads and pendants in various contexts.                    | 443 |
| Fig. 3  | Distribution of mineral based ornaments according to contexts.                        | 445 |
| Fig. 4  | Distribution of shell ornaments sorted according to area and shell species, excluding |     |
| -       | burial goods.   | 446 |
| Fig. 5  | Spatial distribution of main beads, pendants, and "ear plugs/ tokens" according to    |     |
| -       | main raw materials.   | 448 |
| Fig. 6  | Percentages of main raw material types in non-burial contexts.                        | 451 |

#### Results of XRF-Analyses and Thin Sections of Raw Materials from Beads

| Fig. 1 | Main elements of turquoise beads.                 | 462 |
|--------|---|-----|
| Fig. 2 | Main elements of chrysocolla and amazonite beads. | 462 |
| Fig. 3 | Trace elements of turquoise beads.                | 462 |
| Fig. 4 | Trace elements of chrysocolla and amazonite.      | 464 |
| Fig. 5 | Main elements of limestone beads.                 | 464 |
| Fig. 6 | Trace elements of limestone beads.                | 464 |
| Fig. 7 | Thin sections of disk beads.                      | 469 |
| Fig. 8 | Main elements of "diverse" beads.                 | 470 |

# "Jamila's" Necklace: Study and Reconstruction of a Complex Ornament Found in the Child Burial CG7

| Fig. | 1          | The cist-type burial, the child, and the progress of the excavation of the associated |     |
|------|------------|---|-----|
| U    |            | ornamental items.   | 476 |
| Fig. | 2          | Examples of beads.  | 477 |
| Fig. | 3          | The excavation of the ornament with a focus on the MOP ring.                          | 479 |
| Fig. | 4 <i>a</i> | Four uppermost layers of beads in Burial CG7.   | 481 |
| Fig. | 4b         | Four middle layers of beads in Burial CG7.  | 482 |
| Fig. | 4 <i>c</i> | Three lowermost layers of beads in Burial CG7.  | 483 |
| Fig. | 5          | Challenging excavation due to severe space constraints.                               | 484 |
| Fig. | 6          | The beads analysed by XRF and the identification of their raw materials.              | 486 |
| Fig. | 7          | Percentage of the chemical elements composing the reddish disc beads based on XRF     |     |
| C    |            | measurements of thin sections.  | 487 |
| Fig. | 8          | XRD graph and information corresponding to the analysis of one disc bead fragment     |     |
| C    |            | (powder) indicating the calcite mineral.  | 488 |
| Fig. | 9          | Two resin-based beads.  | 489 |
| Fig. | 10         | Typological diversity of the disc beads and technical and use-wear traces detected on |     |
| C    |            | the turquoise beads.  | 490 |
| Fig. | 11         | Examples of the shell tubular beads from the burial.                                  | 491 |
| Fig. | 12         | Technical and use-wear traces on the tubular shell beads.                             | 491 |
| Fig. | 13         | A micro-CT scan of a shell bead showing the conical tubes and their unperfect         |     |
| -    |            | alignment.  | 492 |
| Fig. | 14         | Examples of flat and tubular calcite beads.   | 493 |
| Fig. | 15         | Hematite elements, types and technological and use traces.                            | 494 |
| Fig. | 16         | Nomenclature and convention of measurements used for the study.                       | 495 |
| Fig. | 17         | MOP ring – "paillette" – of DG 1.   | 496 |
| Fig. | 18         | Flat decorated MOP ring.  | 496 |
| Fig. | 19         | Traces observed on the deteriorate surfaces of the MOP ring.                          | 497 |
| Fig. | 20         | Proportions of beads according to their types and sizes.                              | 498 |
| Fig. | 21         | Plot of the diameter and degrees of circularities of the calcite disc beads.          | 500 |
| Fig. | 22         | A The structure of the necklace between the MOP ring and the buckle, and B its        |     |
| -    |            | display when exterior rows (R4 to R10) are gathered with the spherical beads.         | 505 |
| Fig. | 23         | The final physical reconstruction of the necklace with tubes of black foam.           | 506 |

## The Bead Necklace from the Child's Grave CG7: Conservation and Restoration of an Exceptional Find

| Fig. 1  | Fragments of the mother-of-pearl ring before treatment.                                | 516 |
|---------|--|-----|
| Fig. 2  | Detail of degraded mother-of-pearl ring showing a characteristic lamellar structure;   |     |
| -       | covered with an alteration layer.  | 516 |
| Fig. 3  | Barrel-shaped shell bead attached to six limestone disc beads before treatment.        | 517 |
| Fig. 4  | Disc-shaped limestone beads.   | 517 |
| Fig. 5  | Nine disc beads, one tubular cylindrical red bead and one tubular shell bead, attached |     |
| -       | to each other in a row in their original position.                                     | 517 |
| Fig. 6  | SEM images of limestone bead.  | 518 |
| Fig. 7  | SEM images of limestone bead.  | 518 |
| Fig. 8  | SEM images of shell bead.  | 519 |
| Fig. 9  | SEM images of shell bead.  | 519 |
| Fig. 10 | Classification of the beads into three groups.   | 520 |
| Fig. 11 | The mother-of-pearl ring after treatment.  | 521 |
| Fig. 12 | Airtight glass tubes for the Oddy Test.  | 522 |
| Fig. 13 | The mounted necklace.  | 523 |
| Fig. 14 | Detail of mounted beads with placeholders made of polyethylene foam.                   | 523 |
| Fig. 15 | Storage system for beads of Group 2 and 3.   | 523 |

#### "Jamila's" Grave: Consolidation and Reconstruction

| Fig. | 1 | Every constructional element was photographed, labelled, and carefully packed for        |     |
|------|---|--|-----|
| e    |   | transportation down the <i>siq</i> to the old Petra Museum.                              | 527 |
| Fig. | 2 | Almost every constructional element relocated them in a 3D Model.                        | 528 |
| Fig. | 3 | <i>A-B</i> testing and discussing solutions to meet the restoration standards as well as |     |
| -    |   | static and archaeological requirements of the reconstruction, C preparing the sub-       |     |
|      |   | construction for its final location in the museum's Neolithic section.                   | 529 |
| Fig. | 4 | A-C Fixing the thin parts of the shistic limestone slab of the stone cist's wall, D      |     |
| -    |   | glueing the three fragments of the main grave cover (Loc. C1:39.1) with epoxy resin.     | 530 |
| Fig. | 5 | Wooden and iron sub-construction to fix the stone cist.                                  | 530 |
| Fig. | 6 | The reconstruction of "Jamila's" grave in the Neolithic section of the new Petra         |     |
| -    |   | Museum.  | 531 |