



## THE SINAI PENINSULA AND ITS ENVIRONS: OUR CHANGING PERCEPTIONS OF A PIVOTAL LAND BRIDGE BETWEEN EGYPT, THE LEVANT, AND ARABIA

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### ABSTRACT

*The Sinai Peninsula has provided a continuous land bridge connecting northeast Africa and Asia, and particularly Ancient Egypt with the Levant. This paper focuses mainly upon past through recent explorations of Ancient Egypt's Prehistoric through pharaonic interactions with the Sinai and its environs, including the Negev, and in particular considers our changing perceptions of Egyptian contact and influence, and also examines Near Eastern, Arabian, and other cross-cultural relations with the Sinai. The nature of these cross-cultural relations fluctuates and changes, taking place in three main areas: the North Sinai transit route between Egypt's East Delta and Southwest Levant, a Red Sea crossing to South Sinai to obtain turquoise, copper, and other materials, and a more complex, adjacent Negev route between the Red Sea and Southwest Levant, which variously accommodated Egyptians, Canaanites, and others mining copper in the southern Arabah and Faynan, obtaining Red Sea shells, and getting aromatics from Arabia.*

Ancient Egypt exploited South Sinai chiefly for turquoise (Egyptian *mefkat*), malachite and copper (*hmt*), North Sinai provided a land route between Egypt and Asia, and northeast Sinai (Negev-Arabah) contained copper sources and a trade route from the Red Sea. The Sinai's significance to different cultures and people changes in ancient through classical and Biblical texts, the latter of which formed the initial basis for many conceptions of and interest in the Sinai desert, its inhabitants, and its heritage (figure 1). Beginning in the late Roman period, increasing numbers of pilgrims travelled throughout Sinai<sup>1</sup>, visiting places identified with the Hebrew Exodus<sup>2</sup> and sojourn in Sinai (e.g., Ayun Musa; Gharandel; Feiran), the revelation of the Ten Commandments (Mt. Sinai), the holy family's passage to Egypt, the appearance of Saint Catherine (Mt. Sinai) and other notable associations. Elgeria detailed her Sinai trip in 383 AD. Pilgrims placed inscriptions in Wadi Mukhattab and elsewhere en-route to the Monastery of St. Catherine. Friar Niccolò recorded his Sinai travels in 1349. Breydenbach illustrated the places, peoples and outlandish animals he saw in 1483. In contrast, the discovery of Egyptian antiquities often occurred as a byproduct of other ventures, including military activity (e.g., 1798–1802 Napoleonic expedition; Israel's occupation of the Negev [1949 onwards] and Sinai [1956; 1967–82]), the 1859–69 digging of the Suez Canal, ordnance and geological surveys<sup>3</sup>, the North Sinai irrigation project (1990–present), and construction (e.g., 2004 discovery of a Coptic cave at Hammam Pharon). This paper introduces the

topic for this particular issue of *The Journal of Ancient Egyptian Interconnections (JAEI)*, namely the past through present rediscovery of the Sinai Peninsula and its immediate environs, focusing mainly upon our evolving perceptions of Ancient Egyptian contact and influence in the regions of South Sinai, indicating the routes to South Sinai, North Sinai, and the Negev and Arabah along the Sinai's eastern fringe.<sup>4</sup>

### SOUTH SINAI

The “rediscovery” of Egyptian antiquities in South Sinai began in 1762: Niebuhr visited Serabit el-Khadim and published three stelae and a schematic plan of its temple, which he interpreted as Egyptian tombstones in a cemetery.<sup>5</sup> In 1809, Seetzen observed pharaonic texts and mines at Wadi Maghara.<sup>6</sup> Champollion's decipherment of Egyptian hieroglyphs in 1822 led to greater scientific interest in Egypt and more direct knowledge about pharaonic Sinai. Ruppell explored Serabit and Wadis Maghara, Kharig and Nasb in 1817, 1822, 1826 and 1831, studying an Egyptian text, ancient copper mines, mining techniques and smelting at Nasb.<sup>7</sup>

Lepsius toured Sinai in 1845, copying twenty-nine Egyptian texts from Maghara and Serabit.<sup>8</sup> He examined Maghara's mines and incorrectly interpreted *mefkat* as ‘copper’. Laval went to Sinai in 1850, describing and drawing thirty-eight texts from Maghara and Serabit and numerous Nabataean inscriptions. Major

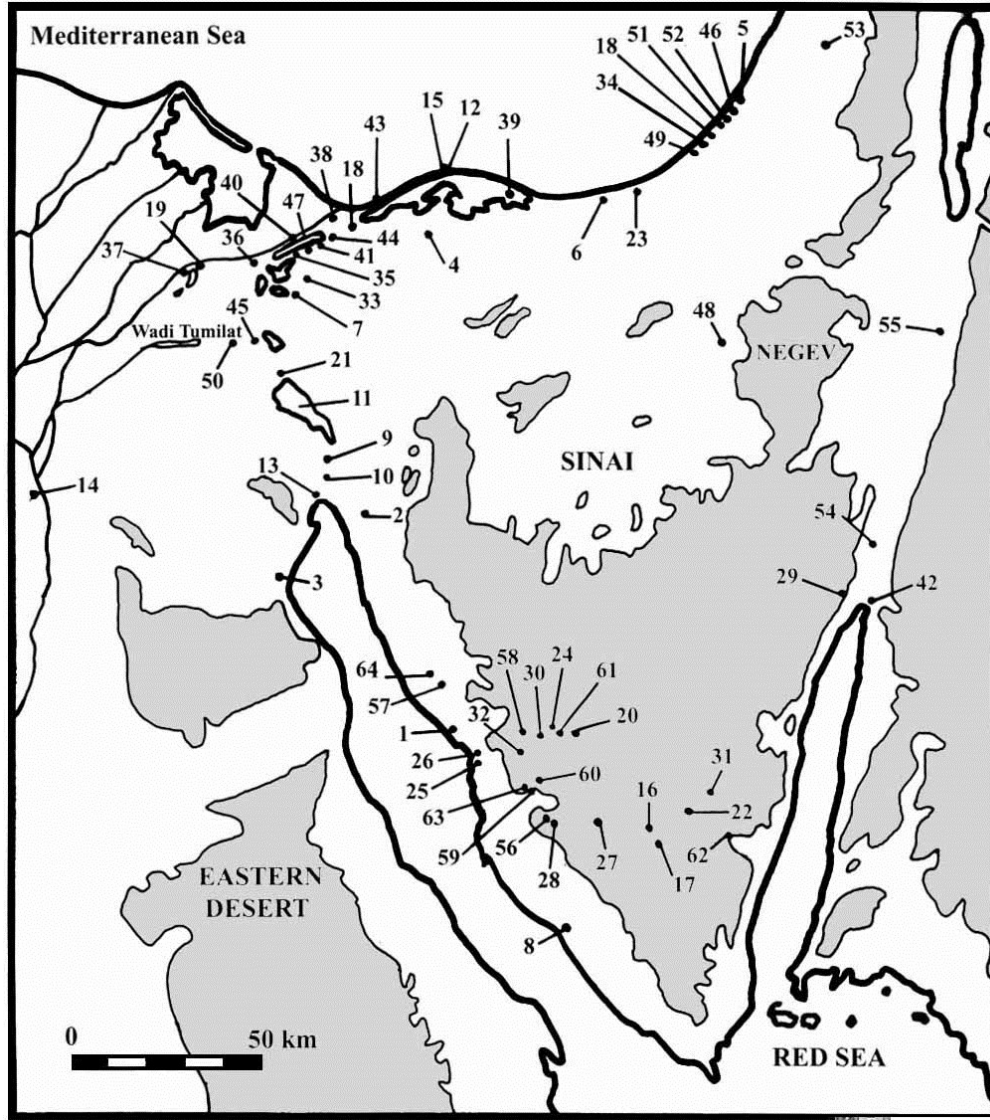


Figure 1: Map key: Sites in the Sinai Peninsula and neighboring regions

KEY

- |                            |                             |                             |                         |
|----------------------------|-----------------------------|-----------------------------|-------------------------|
| 1 Abu Zenima               | 17 Nabi Saleh               | 33 Tell Abu Sefah           | 49 Tell Rafa (Raphia)   |
| 2 Ayn Mussa                | 18 Rumani                   | 34 Tell Abu Salima          | 50 Tell Retabeh         |
| 3 Ayn Sukhna               | 19 Qantir (Per-Ramesses)    | 35 Tell Borg                | 51 Tell Ridan           |
| 4 Bir el-Abd               | 20 Serabit el-Khadim        | 36 Tell Defenneh            | 52 Tell Ruqeish         |
| 5 Deir el-Balah            | 21 Serapeum                 | 37 Tell Daba (Avaris)       | 53 Tell Yarmuth         |
| 6 El-Arish (Rhinoculura)   | 22 Sheikh Mukhsen: 1046     | 38 Tell Farama (Pelusium)   | 54 Timna (site 200)     |
| 7 El-Qantarah              | 23 Site A345 (Haruba)       | 39 Tell Felusiyat/Ostrakine | 55 Wadi Feinan (Jordan) |
| 8 El-Tor                   | 24 Site 344 (W. Nasb)       | 40 Tell Heboua              | 56 Wadi Feiran          |
| 9 Gebel Abu Hassa          | 25 Site 345 (Ras Budran)    | 41 Tell Herr (Magdolus)     | 57 Wadi Gharandel       |
| 10 Gebel Mourr             | 26 Site 346 (Albright port) | 42 Tell Kheleifeh           | 58 Wadi Kharig          |
| 11 Kem Wer: Bitter Lakes   | 27 Site 364 (El-Mekharet)   | 43 Tell Mahammediya         | 59 Wadi Maghara         |
| 12 Khatib el-Gals (Kasion) | 28 Site 367 (W. Feiran)     | 44 Tell Makhzan             | 60 Wadi Mukhattab       |
| 13 Kom el-Qulzoum          | 29 Site 582 (Borot Roded)   | 45 Tell Maskhuta            | 61 Wadi Nasb (Bir Nasb) |
| 14 Memphis                 | 30 Site 702B                | 46 Tell Qatif               | 62 Wadi Reqeita         |
| 15 Mount Casius            | 31 Site 1042 (Watiya)       | 47 Tell Qedwa               | 63 Wadi Umm Themaim     |
| 16 Mount Sinai             | 32 Site 1125                | 48 Tell Qudeirat/K.Barnea   | 64 Wadi Wiset (1011)    |

Macdonald explored Maghara and Serabit in 1845, making squeezes of texts and collecting over 400 diverse votives from Serabit.<sup>9</sup> He gave these materials to the British Museum in 1849 and resided at Maghara around 1854<sup>2</sup>–67, making impressions of texts.

In 1868–69, Captains Wilson and Palmer directed an ordnance survey of the Sinai Peninsula, recording Egyptian materials at Serabit and Wadis Umm Themaim, Maghara and Nasb. They mapped a pharaonic, hilltop mining camp at Maghara and the Middle-New Kingdom temple at Serabit, illustrating twenty-three Egyptian texts.<sup>10</sup> Ebers visited Maghara in 1870–71 and noted a stela of Ramesses II, which remains unverified.<sup>11</sup> Baedeker published a guide to Egypt, summarizing the findings at Serabit el-Khadim, Wadi Nasb and Maghara, with a map of Maghara.<sup>12</sup> In 1888–89 and 1890, Bénédict recorded over 2,400 Nabataean and other inscriptions in Wadis Feiran, Mukhattab, Nasb and Maghara.<sup>13</sup> In 1895, Morgan examined the geology and prehistoric–historic occupation in Sinai, arguing against ancient copper mining and smelting at Serabit, and copied some texts at Maghara.

Borchardt (1879) published a plan and texts from the Middle Kingdom Hathor shrine at Serabit. He argued that it had been initially designed as a tomb.<sup>14</sup> He found a new text of Sneferu at Maghara. In 1904, Weill published the 1869 ordnance survey's hieroglyphic inscriptions from Maghara and Serabit. This included topographic maps showing ancient huts and texts at Maghara and the distribution of inscriptions on a plan of the Serabit temple. He translated and discussed 194 texts and votives, illustrating 142 items, including the first Proto-Sinaitic text (no. 44) from Maghara.<sup>15</sup>

In 1904–5, Petrie introduced a broader focus, recording many artifacts in addition to inscriptions from the turquoise mining region in Southern Sinai, as well as examining some Chalcolithic to Early Bronze Age I nawami tombs in southeast Sinai.<sup>16</sup> He provided a topographic map, photographs and descriptions of the Old and Middle Kingdom huts, middens, a wadi wall (flash flood protection?), turquoise mines and spoil heaps at Maghara.<sup>17</sup> Maghara yielded turquoise, pottery, copper smelting evidence (crucibles; slag; ore; an ingot mould), chisels, stone mining tools, grinding stones, flint tools, mollusks and sea urchin spines. Petrie's photographs document Old through Middle Kingdom kings at Maghara: 'Semerkhet' (actually Sekhemkhet<sup>18</sup>), Sanakht, Sneferu, Sahura, Nyusera, Menkauhor and Amenemhet III. Petrie noted the survival of Djoser and Thutmose III's rock inscriptions, but relates that recent mining had destroyed or obscured the texts of Khufu, Djedkara-Isesi, Pepy (I–II) and Amenemhet (III–IV).

Petrie reconnoitered Wadi Nasb briefly, observing slag heaps and a text of Amenemhet III<sup>19</sup>, but concentrated upon Serabit.<sup>20</sup> He examined, mapped and selectively photographed fourteen turquoise mines (with six rock-stelae of Amenemhet II–IV and Thutmose IV), rock shrine Q (New Kingdom), and a series of circular enclosures en-route to the temple. Two enclosures contained an offering slab and stela (Senusert I; Amenemhet III).

Petrie suggested they represented incubation stelae (or 'Bethel' memorials), citing parallels for people sleeping at a sacred place to receive a divine vision. The adjacent mines yielded evidence for Egyptian mining with metal chisels and stone tools.

Petrie produced a more accurate plan and a reconstructed model of the temple.<sup>21</sup> Spatial designations of rooms enabled the recording of artifact and monument distributions. Petrie incorrectly believed Sneferu founded the temple owing to a (commemorative) hawk statuette bearing his name (Instead, the initial installation of the Hathor Temple is best placed in the early Middle Kingdom). The remaining early inscriptions indicate a Middle Kingdom construction of the initial approach way to the temple, a shrine of venerated kings, and the sanctuaries of Hathor ('Mistress of the Turquoise') and Sopdu ('Lord of the East'), while the later extensive New Kingdom building occurs after a gap in construction. Petrie also noted additional examples of Proto-Sinaitic script at Serabit el-Khadim, suggesting an 18th Dynasty date and Syrian origin (They have been suggested more recently to date somewhere from the late Middle Kingdom through Second Intermediate Period). The Egyptian materials cited Senusert I–III and Amenemhet I–IV from the Middle Kingdom and New Kingdom rulers: Ahmose, Amenhotep I–III, Thutmose I–IV, Hatshepsut, Sety I–II, Merenptah, Tawosret, Setnakht and Ramesses I–VI. The Hathor temple produced Egyptian pottery, a copper chisel, a crucible, and stone altars, basins and statuettes. The sanctuary and portico yielded numerous votive offerings: figurines and amulets (e.g., females; Mut; Neith; Sekhmet; Bes; Bastet; felines; other figures), a clay ear, pottery, faience and calcite containers (e.g., jar stands; bowls; cups; jars; anthropoid and zoomorphic vases), jewelry of various materials and forms (e.g., bracelets; amulets; bead necklaces; menat necklace counterpoises), seals (e.g., scarabs; plaques), and faience throw sticks, Hathor sistra, and plaques (displaying cat- and Hathor-figures). Petrie also found a Meroitic(?) offering table and some Roman pottery in the environs of the Hathor Temple's sanctuary.<sup>22</sup>

Harvard and Washington Catholic Universities investigated Serabit el-Khadim in 1927, 1930 and 1935, and briefly visited Maghara.<sup>23</sup> The 1930 expedition rediscovered the ancient ascent to the plateau, uncovering Middle and New Kingdom texts and graffiti at Rod el-Air, and placed new findings on a topographic map of the plateau. They excavated several circular rock shelters near Mines L-M, finding slabs with Proto-Sinaitic script. Butin interpreted them as listing each hut's occupants. Subsequent translations differ somewhat, citing the receipt of a gift in one case.<sup>24</sup> Starr and Butin cleared Mine M in 1935, producing New Kingdom potsherds, Proto-Sinaitic inscriptions, stone utensils and turquoise.<sup>25</sup> They excavated the temple, retrieving pottery and artifacts. Černý checked the 1905 transcriptions of hieroglyphic texts in preparation for publication. Starr and Butin generated plans, profiles and cross-sections of Mine M, the Hathor and Sopdu sanctuaries and quarry shrines I–II. In 1947–48, the California Africa Expedition explored the Sinai Peninsula: Albright examined the Proto-Sinaitic texts and discovered a New



Figure 2: 2004 excavations of an Old Kingdom fort at Ras Budran (Photo: P. Carstens)



Figure 3: Middle Kingdom camp and mines in Wadi Maghara (Photo: G. Mumford)

Kingdom anchorage in Markha Plain.<sup>26</sup> The revised and more comprehensive publication of the hieroglyphic texts from the Hathor Temple, mining galleries, and the Serabit plateau in general, reveal that Egyptian New Kingdom expeditions brought offerings of bread, beer, wine, milk, water, oxen, fowl, geese, incense, pure ointment, linen clothing, and perhaps gold and silver for Hathor and Sopdu.<sup>27</sup>

South Sinai was explored more thoroughly between 1967 and 1982. From 1971–82, Beit-Arieh located 306 sites.<sup>28</sup> He found Egyptian vessels amounting to one percent of the pottery at three late Chalcolithic to Early Bronze I sites, while sixteen EB II sites yielded similar percentages of 1st Dynasty pottery. Nabi Saleh and Sheikh Mukhsen contained Egyptian beads,<sup>29</sup> while site 1042 produced a Nile mollusk.<sup>30</sup> This minimal Egyptian presence in Sinaitic and Canaanite artifact assemblages, suggested that Bedouins/Asiatics sent turquoise and copper to Egypt, possibly via Arad (see below for the later discovery of 1<sup>st</sup> dynasty rock cut texts in South Sinai).<sup>31</sup> Excavations at Arad and seasonal EB II campsites in parts of southeast Sinai reveal the transmission of pottery and other materials and influences into southern Sinai.<sup>32</sup>

Rothenberg directed surveys in Sinai during 1956/57 and 1967–73, reporting further pharaonic materials in Markha Plain, Serabit and Wadis Maghara, Umm Themaim, Kharig, Nasb and Reqeita.<sup>33</sup> He designated Albright’s pharaonic “sea port” as site 346 and observed an additional, possible pharaonic site (no. 345) in Markha Plain, but published few details about them (figure 2). During a 1970 visit to Wadi Kharig, Rothenberg’s geologist determined that its mines had produced turquoise, not copper. Giveon planned the Old-Middle Kingdom mining camp at Kharig, and observed a rock text of Sahure and a stela of Senusert I.<sup>34</sup> Giveon also mapped the pharaonic mining camp at Maghara, rediscovered an inscription of Sekhemkhet in 1973 and found two Old Kingdom graffiti in 1978 (figure 3). Albright suggested that an incised prenomen at Wadi Nasb might represent Sekhemrakhutawy (Sobekhotep II) of the Thirteenth Dynasty,<sup>35</sup> which, if confirmed, would represent the last indigenous Egyptian activity in South Sinai during the (late) Middle Kingdom.

The 1967–82 investigations also revealed possible Hyksos activity: Serabit yielded several Yahudiyeh ware potsherds, seven Hyksos-style scarabs<sup>36</sup> and more Proto-Sinaitic texts.<sup>37</sup> The Israeli surveys found additional Egyptian texts (e.g., Hathor as a cow) and produced a detailed topographic map and plan of the temple, clarifying that its ‘bent axis’ followed the dictates of the local terrain, rather than other factors.<sup>38</sup> The publication of additional votives from the 1905 excavations revealed the presence of Mycenaean and Cypriot pottery and glass vessels,<sup>39</sup> amongst other offerings brought to the Hathor Temple from Egypt. Beit-Arieh’s 1978–79 excavation of Mine L produced New Kingdom pottery, various utensils and evidence for copper working: a stone foot-bellows, crucibles, tuyeres and stone moulds for tools and mirrors. Mine G yielded two new Proto-Sinaitic texts, New Kingdom pottery, faience and similar traces of copper working.<sup>40</sup> At Bir Nasb, Giveon and Rothenberg recovered more evidence for copper mining and smelting in context with turquoise, a rock-text

of Ramesses II, a Ramesside scarab and New Kingdom pottery and faience.<sup>41</sup> Rothenberg noted possible Ramesside copper working at Wadi Reqeita (southeast Sinai),<sup>42</sup> which requires further investigations and publication.

Neither Rothenberg nor Beit-Arieh found evidence for Iron Age activity in South Sinai (sites 344, 364 and 367 contained a few ‘possible’ Iron Age sherds), while Beit-Arieh observed only one Hellenistic site (no. 1125). Rothenberg noted many Nabataean-Roman sites, while Stone recorded numerous Armenian and Nabataean inscriptions during his 1979–80 survey.<sup>43</sup>

Since 1982, different research projects have visited South Sinai.<sup>44</sup> In 1987, Vinçon and Chartier-Raymond produced a detailed plan of the hilltop settlement at Maghara and focused on excavating one structure. This building yielded Middle Kingdom to Second Intermediate Period pottery and other items. In 1992–93, Valbelle and Bonnet initiated excavation and restoration at Serabit (figure 4). They found new inscriptions and examined the Middle Kingdom temple phase, suggesting a pylon entry. The report has many invaluable photographs, plans, isometric drawings and construction phases of the temple. Chartier-Raymond examined a Middle Kingdom camp at Serabit.<sup>45</sup> It contained a crude stone wall securing the approach, stone huts and ore-processing basins. Pinch studied numerous unpublished votives from the 1905 season at Serabit.<sup>46</sup> The Royal Ontario Museum materials from Serabit contain a votive bearing a prenomen purported to be Horemheb,<sup>47</sup> but it probably actually represents Sety II’s prenomen.<sup>48</sup> In 1995, Rothenberg published his discovery of an Old Kingdom copper smelting site: 702B (near Serabit el-Khadim).<sup>49</sup> In 1996, Eddy and Wendorf surveyed and excavated in east-central Sinai, noting seventy-two sites spanning the Chalcolithic through Bronze Age<sup>50</sup>, but apparently did not find Egyptian artifacts at these sites. More recently, the Supreme Council of Antiquities (recently renamed the Ministry of Antiquities) investigated a Ptolemaic-Roman period site in Wadi Gharandel.

The last decade has yielded some significant findings in South Sinai and adjacent regions. Surveys along Wadi El-Humur have found a 1<sup>st</sup> dynasty rock-cut text of King Den, and other Early Dynastic inscriptions, revealing the earliest known Egyptian expeditions came directly to the turquoise mining region, 20-30 km east of Markha Plain.<sup>51</sup> In 2002, Mumford examined Albright’s anchorage (site 346) in Markha Plain, finding a copper smelting furnace, two stone anvils, other stone utensils and pottery that has been recently re-dated to the Middle Kingdom.<sup>52</sup> In 2002, 2004, and 2008, Mumford also investigated Rothenberg’s southern coastal site (345) in Markha Plain.<sup>53</sup> The initial excavations here revealed that it contained a circular structure (i.e., a fort, or fortified way-station and anchorage), built mostly using rough limestone slabs, and measuring 44 m in diameter. The site contains late Old Kingdom potsherds from a spouted bowl, carinated bowls, platters, bread moulds, and jars, a copper mortar chisel, a broken copper bar (perhaps a chisel fragment?), much copper slag and lumps, hammer stones, anvils, reddish mineral debris, rough turquoise chips, Red Sea shells, chiton mollusks, sea



Figure 4: New Kingdom chambers in Hathor temple at Serabit el-Khadim (Photo: G. Mumford)

urchin bodies and spines, fish bones, and a few remains from crabs. The fort's presence in South Sinai during the late Old Kingdom clarifies the changing political climate along Egypt's frontiers and in such peripheral regions at this time, emphasizing both Egypt's need and desire to maintain access to the South Sinai turquoise and copper mines.<sup>54</sup> In addition, recent investigations by the Supreme Council of Antiquities/Ministry of Antiquities, to the immediate southwest of Suez, have uncovered a substantial stone structure that reused some Late Period inscribed blocks, including ones bearing the cartouches of Nectanebo, which suggests that the region of Suez may originally have had a 30<sup>th</sup> dynasty structure<sup>55</sup> – unless these stones had been transported from a much greater distance via the Red Sea canal during one of its post-pharaonic periods of dredging and renewed usage.<sup>56</sup>

#### ROUTES TO SOUTH SINAI

Although the pharaonic route(s) to South Sinai have long been debated, Sinaitic inscriptions attest to maritime and overland transportation, while archaeological evidence is now sufficient to offer various solutions. The 1798–1802 Napoleonic and later surveys revealed Persian period stelae along the Wadi Tumilat to Suez<sup>57</sup>, bolstering Herodotus' tale of a Saite-Persian canal to the Red Sea and Nekau/Necho (II)'s founding of a trireme base nearby. In 1905, Petrie's excavations at Retabeh (Wadi Tumilat) exposed a Ramesside fort,<sup>58</sup> which secured both Egypt's eastern frontier and facilitated a major transit route between Egypt and

northern Sinai. Clédat explored the southern Isthmus of Suez in the early 1900s, recording a 15 x 15 m stone shrine of Sety I and Ramesses II at Gebel Abu Hassa and a stela of Ramesses II at Gebel Mourr.<sup>59</sup> The shrine at Abu Hassa yielded a stela citing 'Hathor, Mistress of the Tur[quoise],' attesting to the passage of turquoise mining expeditions through this region to and from South Sinai. In 1930–32, Bruyère excavated a Ptolemaic-Roman town (Clysma)<sup>60</sup> at Kom el-Qulzoum (Suez), and observed that an earlier (pharaonic?) occupation lay below this town. In 1949, Bruyère investigated Serapeum<sup>61</sup>, near Lake Timsah, discovering the foundations for a church that contained re-used, ex-situ blocks from a gateway of Ramesses II, the latter of which may have originated from an underlying mud brick wall and opening that approximated the Ramesside gate's reconstructed dimensions.<sup>62</sup> From 1960–62, Farid uncovered a Ramesside fort at Kom el-Qulzoum,<sup>63</sup> which displayed good preservation, a commandant's residence, storerooms, 7 m wide exterior walls, and a buttressed gateway on its western side.<sup>64</sup> Between 1978 and 1985, Holladay excavated at Tell el-Maskhuta, uncovering a small, MB II (Second Intermediate Period) Hyksos settlement, and investigated the environs of a Saite period fort, an associated canal dating to both Necho II and the Persians (27<sup>th</sup> dynasty), and the subsequent Persian through early Roman occupation at this site.<sup>65</sup>

During the last two decades our knowledge of Ancient Egypt's exploitation of the Red Sea has increased exponentially. For instance, from 2000 through recent years Ayn Soukhna, which

lies southwest of Suez, is known to have functioned both as a source for copper mining and as a launching point for some Egyptian turquoise mining expeditions to South Sinai.<sup>66</sup> It has yielded Old Kingdom copper mines, smelting areas, a workshop, pottery, seal impressions, and rock texts (Khafre; Niuserre; Djedkare).<sup>67</sup> The Middle Kingdom activity at Ayn Soukhna includes numerous copper smelting furnaces, a campsite, make-shift housing, a bakery, storage galleries, re-fitting installations for ships, and other findings, including ship parts of imported cedar wood, pottery, jar inscriptions, stone tools, and rock texts from the reigns of Mentuhotep IV, Amenemhat I, Senusret I, and Amenemhat III.<sup>68</sup> Some pharaonic activity apparently continued at Ayn Soukhna in later periods, but this is mostly attested via sporadic rock-cut texts during the New Kingdom (Amenhotep I),<sup>69</sup> Saite (Psammetichus I or Apries),<sup>70</sup> late Ptolemaic, and Coptic periods,<sup>71</sup> and may reflect transitory passage through this area. In addition, a recent survey and excavation at Wadi al-Jarf have discovered an early 4<sup>th</sup> dynasty through early 5<sup>th</sup> dynasty sea port, which is located on the western side of the Red Sea, 50 km opposite el-Markha Plain and Ras Budran.<sup>72</sup> This installation contains six distinct areas, with a submerged, L-shaped, rough stone quay (190 m east x 120 m south), an adjacent campsite (featuring a limestone block pile/landmark), a 30 x 60 m rectilinear building to the west, a pottery kiln, 25–30 rock-cut storage galleries, a 40 x 80 m complex with rectilinear buildings, an affiliated midden, and other outlying campsites and guard posts along a ridge.<sup>73</sup>

Hence, this writer suggests that royal mining missions departed the king's residence during the Old Kingdom (i.e., Memphis), Middle Kingdom (i.e., Itj-towy), and 18<sup>th</sup> dynasty (Memphis). These expeditions headed overland to either Ayn Soukhna (i.e., in various periods), or Wadi al-Jarf (in the Old Kingdom), initially crossing the Red Sea to an earlier anchorage somewhere along the coast of el-Markha Plain: They then proceeded to the late Old Kingdom fortified port at Ras Budran (site 345). In later periods expeditions utilized a Middle-New Kingdom site (no. 346) in Markha Plain. Hyksos and Ramesside expeditions may have departed from east delta palaces at Avaris (Tell ed-Daba) and Per-Ramesses (Qantir), respectively, passing MB II and Ramesside sites in the Wadi Tumilat en-route to Qulzoum. The presence of a mayor of Tjaru at Serabit<sup>74</sup>, reveals that some expeditions originated from Tjaru (Tell Heboua). Ramesside expeditions probably sailed from Qulzoum to Markha Plain, but the presence of a Late Bronze Age copper smelting campsite (no. 1011) and wells in West Sinai<sup>75</sup>, imply periodic overland travel. Although the presence of Saite texts at Ayn Soukhna and some late amulets at Serabit<sup>76</sup> suggest possible 26<sup>th</sup> dynasty expeditions to Sinai, the virtual absence of Iron Age through Hellenistic pottery in South Sinai minimizes this scenario. Saite activity might be limited to a Red Sea canal and perhaps a trireme base.<sup>77</sup> The canal operated periodically in the Persian through Ptolemaic-Roman periods.<sup>78</sup> However, the current and future surveys and excavations in the Sinai and the Red Sea region in general hold much promise for changing our

views regarding the scope and nature of Egypt's interactions with this region and its inhabitants.<sup>79</sup>

#### NORTH SINAI

The Napoleonic Expedition and subsequent travelers noted ancient ruins in North Sinai.<sup>80</sup> More detailed knowledge of this region relied initially on textual-pictorial allusions. Pyramid Texts and other Old Kingdom inscriptions mentioned an (eastern) fortification ('Double Ram gate') to repel the Fenkhu ('Syrians'), an 'Overseer of the Way of Horus' (North Sinai), and a stronghold at Kem-wer (equated with the Bitter Lakes near Maskhuta).<sup>81</sup> Middle Kingdom literary and propagandistic texts (Sinuhe; Neferti) noted an east delta fortification ('the Wall(s) of the Ruler') ascribed to Amenemhet I.<sup>82</sup>

Our initial understanding of the 'Way of Horus' relied mainly upon Sety I's captioned depiction of this military road in Karnak Temple, various Egyptian texts, and later classical accounts.<sup>83</sup> The 1840 discovery of a Ramesside monument and other finds (e.g., a bronze sword) at Qantarrah, near Tell Abu Sefah, led early scholars (i.e., in the late 1800s to early 1900s) to believe that this site represented both New Kingdom Tjaru and later Roman Sile.<sup>84</sup> Aside from general knowledge regarding the traces of Ptolemaic-Roman structures in northwest Sinai, W. M. F. Petrie initiated the first significant excavations in North Sinai in 1935–1936 at Tell Abu Salima (also known as Sheikh Zuweid) in northeast Sinai, finding Late Bronze Age through Hellenistic-Roman structures at a site he identified with "Anthedon".<sup>85</sup>

Ancient Biblical, Egyptian, Assyrian and Babylonian sources also alluded to Egypt's eastern frontier and relations with Palestine across North Sinai in the Third Intermediate Period.<sup>86</sup> The tale of Wenamon's journey to Byblos (ca. 1069 BC) implied active international maritime commerce. Assyrian texts mentioned King Esarhaddon dispatching armies against Egypt, presumably crossing North Sinai, and capturing the delta in 671 BC; Ashurbanipal invaded and occupied Egypt briefly in 667 and 664 BC. With such background knowledge, Petrie suggested Assyrian (or Babylonian) architectural parallels for an Iron Age fort he found at Abu Salima.<sup>87</sup>

Herodotus also provides information on Northwest Sinai, including some details on Psammetichus (I) establishing a garrison with Ionian and Carian mercenaries at Daphnae (east delta). Petrie's 1886 excavation at Defenneh (Greek *Daphnae*; Biblical *Tah'panhes*) seemingly confirmed and augmented this account.<sup>88</sup> Defenneh contained a 375 by 630 m Saite fortification enclosing dwellings, iron smelting installations and a royal fort-tower and storage complex. This royal residence and Judaean juglets<sup>89</sup> parallel Biblical texts, which mention a pharaoh's palace and Jewish refugees at Tah'panhes (Jeremiah 43:7–11, 44:1–3).

The 1972–82 Israeli surveys and selected excavations across North Sinai have altered dramatically and clarified our understanding of the prehistoric through later periods in North Sinai.<sup>90</sup> Oren and Gilead found Egyptian Naqada I pottery at a

Chalcolithic site (R48) in northeast Sinai. They also found that Naqada II through Early Dynastic Egyptian pottery (including *serekhs* of Ka, Scorpion? Narmer, Aha and Den) and other Egyptian-type artifacts began to dominate assemblages at many of the 250 EB I–II North Sinai campsites and emerging towns in Southwest Palestine.<sup>91</sup> It continues to be debated, however, whether this intense material presence reflects Egyptian trade, conquest or colonization.<sup>92</sup>

These surveys also showed that Bedouin campsites virtually disappear from the Sinai for most of the Old Kingdom (EB III), coinciding with minimal Egyptian influence in Palestine (e.g., Tel Yarmuth) and increased maritime contact with Syria.<sup>93</sup> By EB IV, over 1,000 Bedouin campsites and several settlements appear throughout Sinai-Negev.<sup>94</sup> This occupation spans the Sixth through mid-Eleventh Dynasties and concentrates in North Sinai and the Negev: Egyptian Meidum ware vessels occur at many of the North Sinai campsites, demonstrating continued Egyptian-Bedouin interactions.

Oren's survey found five large Middle Kingdom settlements in northwest Sinai and over 100 Middle Bronze Age II campsites across North Sinai, which contained Egyptian and Canaanite pottery from the Middle Kingdom through Second Intermediate Period. The 1973 excavation at Tell Ridan exposed MB II housing, a pottery kiln and burials, including Egyptian-style pottery and scarabs.<sup>95</sup>

Oren's excavation at Tell Abu Sefah in Northwest Sinai (near Qantara) revealed no evidence for occupation prior to the late Persian period<sup>96</sup>, demonstrating that it could not be New Kingdom Tjaru (i.e., postulated previously). However, he detected 150 New Kingdom sites distributed in ten clusters across North Sinai.<sup>97</sup> Each cluster incorporated an administrative complex, or fort, surrounded by campsites for Egyptian troops and other travelers. At Bir el-'Abd, one group contained thirty campsites and a 40 by 40 m fort with nearby magazines, a granary and a water reservoir. The buildings produced Egyptian scarabs and pottery, and some Canaanite, Cypriot and Mycenaean pottery. In northeast Sinai, Haruba yielded twenty campsites around an Eighteenth Dynasty complex (A345) and a 50 by 50 m Ramesside fort. Site A345 contained buildings, magazines, courtyards and pottery kilns; the fort had storerooms, housing and similar items to those at Bir el-'Abd. At the northeast extremity of the Sinai Peninsula, Trude Dothan's 1972–82 excavations at Deir el-Balah uncovered a similar Eighteenth Dynasty complex, pottery kilns, a possible water reservoir, and a Ramesside fort (20 by 20 m) and cemetery.<sup>98</sup> The cemetery yielded a limestone anthropoid coffin (for the commandant?), 50–60 Egyptian ceramic anthropoid coffins, stelae and many simple graves.<sup>99</sup>

During Egypt's Third Intermediate Period, a dramatic decline occurred in Iron IIB sites across North Sinai. Oren located thirty Iron IIB sites between el-Arish and Gaza, spanning the eighth to sixth centuries BC.<sup>100</sup> These settlement patterns and selected excavation findings clarified the nature and extent of Assyria's domination of Palestine and conflict with Kushite Egypt. For instance, the 1982–84 excavations at Ruqeish in Northeast

Sinai uncovered a 150 by 650 m fortified settlement from the late eight to seventh centuries BC.<sup>101</sup> Ruqeish represents the best candidate for Sargon II's international trading depot<sup>102</sup>, the 'sealed harbor (*Karum*) of Egypt', and a military headquarters at the southwest border of the Assyrian empire.

Saite fortifications concentrated at the western side of North Sinai.<sup>103</sup> In 1974–76, Oren excavated a 200 by 200 m fort at Tell Qedwa (northwest Sinai), while the location of an identical Saite structure at Maskhuta clarified both Maskhuta and Qedwa's role as frontier forts securing the east delta against Babylonian and (early) Persian attacks.<sup>104</sup> Like Defenneh, these forts yielded Egyptian, Phoenician and Greek pottery, weaponry and other items, while a cemetery near Qedwa produced foreign cremation burials and Phoenician pottery. These findings augment references to Phoenician and Greek trade and the influx of foreign mercenaries during the Saite period. A series of destruction levels at the Saite forts also indicated that the historically attested Babylonian attacks (601 and 568 BC) had likely succeeded in breaching Egypt's frontier, culminating in the 525 BC Persian seizure of Qedwa, Maskhuta and Defenneh (see article on Qedwa/Kedwa in this issue of *JAETI*). The loss of the fortification enclosing the sixth century BC town at Ruqeish implies the dismantling or abandonment of this Assyrian military headquarters, presumably during the brief period of Saite imperialism in Syria-Palestine.

Over 200 Persian period sites have been identified in North Sinai.<sup>105</sup> These sites include forts, towns, villages, shrines, cemeteries and seasonal camps: e.g., Tells Herr, Rumani, Qatif, Rafa, Abu Salima and Ruqeish. A small fort at Qatif produced numerous Greek and Phoenician pottery and other imports, indicating flourishing trade across North Sinai. Site R26, near Rafa, contained a shrine with Egyptian, Greek, Phoenician and Cypriot-style figurines, emphasizing the cosmopolitan and diverse nature of its local residents, travelers, and cross-cultural commerce and relations.

In the Ptolemaic-Roman period, settlements increased to over 300 sites, which now included large towns, agricultural farmsteads and irrigation canals: e.g., Abu Sefah (Sile), Farama (Pelusium), Tell Herr (Magdolos), Mahammediya (Gerra), Katib el-Gals (Kasion), Felusiyat (Ostrakine), el-Arish (Rhinocolura), Rafa (Raphia) and Abu Salima (figure 5).<sup>106</sup> Geological surveys found traces of a 70 m wide ancient canal near Qantara and Pelusium. Although Shea suggested a possible Middle Kingdom and New Kingdom date<sup>107</sup>, equating it with the 'Dividing Waters' of Tjaru, the canal's northern segment clearly crosses the defunct Pelusiatic branch, it terminates near the AD 25 (+/- 90) coastline, and lies close to Ptolemaic-Roman Pelusium. This suggests a late Ptolemaic date for the canal, which may have been introduced to counteract the gradual siltation of the Pelusiatic branch.

From 1981 to the present, more surveys and excavations have taken place across North Sinai, and in particular in the western portion of this region. In the past two decades, Abd el-Maksoud has conducted extensive excavations at Tell Heboua<sup>108</sup> and its





Figure 5: Roman Period fort at Pelusium (Photo: G. Mumford)

satellite sites in northwest Sinai, finding a Second Intermediate Period fort below a massive New Kingdom fortified town (at least 300 by 400 m), while the New Kingdom levels have yielded an inscribed block identifying the site with New Kingdom Tjaru. Tell Heboua, with its neighboring, crocodile infested marshland/lagoons, its specific topography and layout (e.g., a natural causeway spanning a western and eastern coastal lagoon), and a nearby coastline during the New Kingdom, parallel other known features identifying it with Tjaru and Sety I's depiction of the 'dividing waters' (Ta-denit) at Karnak Temple.<sup>109</sup> To the southeast, Hoffmeier's 1999–2007 investigations at Tell Borg<sup>110</sup> have traced the remains of a New Kingdom settlement, part of a probable temple, an associated cemetery, and two phases of fortifications (with baked brick and stone-lined moats) spanning late Dynasty 18 to the Ramesside period.<sup>111</sup> Regarding other recent, and significant New Kingdom discoveries, in 2012 a pair of rock-cut cartouches of Ramesses III was found at Abu Gada, 125 km to the southeast of Suez,<sup>112</sup> along the Darb el-Hajj trail to Aqaba (see below for the section on the Negev).

Concerning some post-New Kingdom recent findings, in 1983–86 an examination of a submerged anchorage and quays near Tell Ridan<sup>113</sup> yielded many anchors and lead and tin ingots, some of which bore Phoenician-Hebrew signs from the seventh–sixth centuries B.C.; this provided evidence for at least one Iron Age anchorage along the North Sinai coast. Donald Redford's 1993 and 1997 investigations at Qedwa<sup>114</sup> revealed that this site was composed of multiple Saite period occupation levels and

destructions; his team recorded the late Saite leveling and scarping of the previous settlement and debris mound to create a raised platform for the last fort, which was presumably defeated and levelled in-turn by the Persians ca. 525 B.C.<sup>115</sup> For the more recent Ministry of Antiquities' excavations at Qedwa, and discovery of two phases of forts, see the article on Qedwa/Kedwa in this issue of *JAEI*. The Persian through Roman periods have also experienced new findings: In 1985, Valbelle and Bonnet began excavating a Persian–Roman fort at Tell Herr,<sup>116</sup> while other projects investigated Ptolemaic–Roman sites, including Tell Makhzan and Pelusium.<sup>117</sup> Such on-going projects and studies are refining radically our perceptions regarding activity in and changes to the ancient Mediterranean shoreline in northwest Sinai.<sup>118</sup>

#### NEGEV AND SOUTHERN ARABIA

The eastern Sinai merges into the Negev highlands and Arabah rift valley, which are considered here owing to their inextricable, albeit fluctuating and changing ties with both northern and southern Sinai, and neighboring regions and people. Numerous early travelers passed through this region, some of whom observed ancient copper workings, such as Petherick in 1845, Musil in 1902, Frank from 1932–33 and Glueck during 1934–39. One impetus for exploration included a desire to discover traces of the Israelites, King Solomon and Sheshonq I (Biblical Shishak). In 1914, Woolley and Lawrence found an Iron Age fort at Tell Qudeirat, equating it with Biblical Kadesh-Barnea. In 1933, Frank observed an Iron Age fort at Tell Kheleifeh, near

the Gulf of Elat. Glueck excavated Kheleifeh in 1938–40, dating the initial occupation to the 10<sup>th</sup> century B.C. He suggested it represented Solomon’s port of Ezion-Geber (I Kings 9:26),<sup>119</sup> and equated Kheleifeh’s period I destruction to Sheshonq I’s Negev campaign. These identifications were subsequently contested, however, especially owing to the loss of much of the excavated material evidence, the remaining lack of definitive 10<sup>th</sup> century B.C. artifacts,<sup>120</sup> and recent investigations in adjacent parts of the site that have failed to produce materials from this period (see further below). Insufficient evidence was published and/or survived to confirm 10<sup>th</sup> century B.C. links between Egypt and Kheleifeh; Glueck’s excavation of the later, 8<sup>th</sup> to 7<sup>th</sup> centuries B.C. fort levels, however, did find evidence for Egyptian artifacts and influence, consisting of calcite vessels, amethyst beads, scarabs, amulets (e.g., Bes; Bastet), “cartouche-like” clay sealing impressions, and some ostraca that may bear Egyptian-derived, hieratic numerals.<sup>121</sup>

Beginning in the late 1950s to 1960s, increased archaeological surveys and excavations in the Negev (and including the Sinai in 1967) have illuminated the significance and longevity of this region for cross-cultural relations and trade. Red Sea shells appear in the Negev and southern Levant during the Neolithic, reflecting early trade networks.<sup>122</sup> In the Chalcolithic (ca. 4300–3300 B.C.) various groups of semi-nomadic pastoralists (Bedu) apparently obtained Sinaitic hematite and presumably Red Sea shells to exchange for various products (including grain) with more sedentary populations in the southern Levant,<sup>123</sup> where hematite and other hard stones were used as mace heads, grinding stones, and other items.<sup>124</sup> The excavations at Wadi Faynan in southwest Jordan revealed a major source of copper for export to the Beer Sheba region, where it was smelted at Ghassulian sites and also shipped across the northern Negev and Sinai to Maadi and elsewhere in Egypt during the late Predynastic period.<sup>125</sup> Surveys located an influx of Early Bronze Age II seasonal campsites in several clusters from southeast Sinai to the Negev. These sites probably facilitated commerce in copper, turquoise, and other products between the indigenous Bedu and northern traders, presumably functioning partly as way-stations and containing exported pottery from, and further links with, Arad and other sites in the northern Negev.<sup>126</sup> Of note, Meshel reports finding an Egyptian alabaster (calcite) vessel fragment in an Early Bronze Age I–II(?) pottery scatter at Yotvada, 40 km to the north of the Gulf of Aqabah (Elat).<sup>127</sup> Wadi Faynan also continued to serve as a copper source for the Levant throughout the Early Bronze Age.<sup>128</sup> The same surveys also reveal a different pattern of seasonal campsites appearing in Early Bronze Age IV (2300–2000 B.C.), when most of Palestine becomes deurbanized and over a thousand seasonal campsites (e.g., Beer Resisim), including a few fortified ones, appear in mainly the central-northern Negev and northern Sinai.<sup>129</sup>

Rothenberg directed extensive investigations in the Negev between 1959 and 1983, but found little Egyptian influence prior to the New Kingdom. There appears to be a hiatus in copper mining in the Arabah and southern-central Negev during the

Middle Bronze Age IIA-C,<sup>130</sup> and much of the Late Bronze Age, perhaps owing in part to the felling of acacia trees in the Early Bronze Age and a dramatically depleted indigenous fuel source required in processing copper. Any such fuel loss was apparently sufficiently replenished or resolved by the Late Bronze Age IIB: Rothenberg located ten Ramesside copper mines, camps and furnaces, and a shrine (site 200) at the foot of a massive rock outcrop at Timna (previously called “the Pillars of Solomon”).<sup>131</sup> Amongst Rothenberg’s survey sites, site 212 yielded Egyptian(izing) potsherds and a graffito portraying oxen(?) pulled chariots. Site 2 contained scarab seals. Site 30 had some Egyptian pottery and vertebrae from Nile Catfish. Some Iron Age I(A) sites lie near the copper mining region, including a 50 x 76 m casemate “fort” to the northeast at Yotvata.<sup>132</sup>

At Timna, site 200 encompasses a small shrine to Hathor with votives and texts mentioning Sety I–II, Merenptah, Tawosret, and Ramesses II–V. The shrine’s Egyptian items (27%) included a nearby rock-cut stela of Ramesses III, other stelae, architecture (e.g., Hathor head columns; architraves; a naos shrine; an altar; libation basins), sculpture, pottery, vessels of stone, faience and glass (e.g., bowls; jars; flasks), jewelry (e.g., beads; menat necklace counterpoises), amulets (Horus-the-child; Khonsu; Sekhmet/Mut), seals, sistra, throw sticks, cat figurines, an ushabti, pieces of linen, Nile mollusks, and other items. The shrine also produced evidence for the presence of other participants and prospectors, including numerous and more generic, regional votive offerings (51%), such as many copper artifacts (e.g., jewelry; utensils), a Red Sea shark vertebra, some Mediterranean fish bones, and floral remains (e.g., pistachio nuts; cultivated grape pits),<sup>133</sup> and pottery from many Canaanite types (12%), roughly made indigenous Negevite wares (5%), and some “Midianite” containers (5%) (later re-labelled Qurraya ware from Northwest Arabia).<sup>134</sup>

The Late Bronze Age to early Iron Age Negevite, Canaanite, and Northwest Arabian pottery also occur elsewhere in the Timna mining region, alongside Egyptian materials. The dramatic increase in early Ramesside copper mining implies a greater need to supply Egypt’s military machine, especially during Sety I and Ramesses II’s war with Hatti when the Hittite domination of Cyprus may have reduced or halted Cypriot copper exports to Egypt.<sup>135</sup> The 1972 discovery of rock-cut cartouches of Ramesses III at the wells of Borot Roded (site 582)<sup>136</sup> indicated additional Egyptian activity near the Gulf of Elat. This isolated find suggested either the presence of an undetected resource area, or more likely an earlier usage of the Darb el-Hajj (“Pilgrims Way”), a 220 km overland route between the Ramesside fort at Kom el-Qulzoum to Aqaba, and then northeast to Timna (Atika?) (see further below).<sup>137</sup>

The floruit of surveys and excavations during the 1960s through 1980s also greatly clarified the nature and scope of Iron Age activity in the Negev.<sup>138</sup> Regarding questions about the Hebrew Exodus from Egypt and Sojourn in Sinai, extensive investigations by Y. Aharoni and others, in such localities as Tell Qudeirat (often equated with Biblical Kadesh-Barnea) and the

Arad Valley, did not produce any potsherds from the Late Bronze Age through Iron Age I periods (ca. 1550–1000 B.C.) that are most frequently linked with the latter Biblical narrative.<sup>139</sup> Of note, at Rothenberg's site 30 near Timna, his initial report of late New Kingdom pottery (elsewhere dated to Dynasty 22) still awaits publication/confirmation. Otherwise, this period of archaeological exploration has had greater success in tracing a peak in 10<sup>th</sup> century B.C. activity in the central-northern Negev hill country, which contained around 50 fortified enclosures and forts (e.g., Kadesh-Barnea) with nearby small settlements, farmsteads, and regular water sources.<sup>140</sup>

However, the date, nature, and functions of these fortifications and associated settlements have been conjectured variously, ranging from theories about indigenous, semi-nomadic pastoralists settling in this region during the 11<sup>th</sup> versus 10<sup>th</sup> century B.C., to an influx of Israelite settlers establishing agricultural holdings in the Negev highlands in the 10<sup>th</sup> century B.C., or an Israelite securement of a key region facilitating long-distance commerce with the Red Sea;<sup>141</sup> Biblical accounts of King Solomon establishing a port at Ezion-Geber on the Red Sea, and maritime ventures along the Red Sea (I Kings 9:26–28; 10:1–13), have met with little confirmed physical evidence for 10<sup>th</sup> century B.C. activity at Tell el-Kheleifeh, Gezirat el-Fara'un, or elsewhere in the southern Negev.<sup>142</sup> However, the 1976–82 resumption of excavations at one of these hill forts, namely Tell Qudeirat (Kadesh-Barnea), did reveal a late tenth century BC level with some Egyptian items (i.e., two wadjet-eyes; an amulet, a faience figurine).<sup>143</sup> The destruction and abandonment of most of the Negev hill country forts and associated settlements have been generally ascribed to Sheshonq (Biblical Shishak) I's well-attested campaign against Israel and Judah.<sup>144</sup> The Negev portion of this campaign might have been aimed at neutralizing both any Judaeen military counterattack from the south and any Judaeen access to, or control over, the lucrative incense trade.

The initial survey and excavation findings for the Iron Age 2B-C period (925–586 B.C.) showed re-settlement in the northern Negev, and an expansion of activity into the central to southern Negev. A substantial succession of forts (50 x 50 m) and architectural modifications appear at Arad (strata XI–VI), which served as a military headquarters for this region. The Arad fort yields evidence for regional and international relations, including the presence of East Greek and Cypriot pottery, ostraca noting supplies for the Kittim (who may represent Cypriot auxiliaries, from Kition?), a letter noting an Egyptian king (perhaps alluding to a pending attack?), and the dispatch of troops from other Judaeen forts (e.g., Horvat Uza) to counter an Edomite threat.<sup>145</sup> During the 7<sup>th</sup> century B.C. Assyrian domination of this region, Assyrian and Edomite pottery are also found at Arad and many other forts and sites within the Negev. One of these Judaeen forts, situated to the south at 'En Haseva in the Arabah,<sup>146</sup> is accompanied by a smelting installation (Givat Haseva), a small, 2.5 x 6.5 m Edomite shrine, and an associated pit/favissa; this pit yielded stone altars and numerous ceramic incense burners.<sup>147</sup> This reveals that the complex served as a Judaeen way-station and

local Edomite shrine at the cross-roads between several incense caravan routes, probably catering to both indigenous nomadic pastoralists and caravan traffic, in addition to securing the region.<sup>148</sup>

The fortified settlement at Beer Sheba (Strata IV–II; Iron Age IIB-C)<sup>149</sup> lay 30 km to the west of Arad, and served as the main Judaeen administrative center in the Negev and a link to the fort at Qudeirat (Kadesh-Barnea), which is situated 67 km to the southwest in the central Negev hill country. The middle and upper forts at Kadesh-Barnea (40 x 60 m) span the 8<sup>th</sup> and 7<sup>th</sup> centuries B.C., and display broad cross-cultural relations like other Negev forts, including Judaeen and Negevite pottery, an incense burner, and Egyptian items and influence from the upper fort (e.g., an alabastron; an *ex-situ*, Dynasty 25 wadjet-eye amulet; a scarab; and ostraca with Egyptian-derived hieratic numerals).<sup>150</sup>

At Kuntillet 'Ajrud, an isolated, 15 x 25 m fortified hilltop shrine and way-station (ca. 850–750 B.C.) lay near a series of wells and a cross-roads that facilitated overland traffic between Kadesh-Barnea and the Red Sea port at Tell el-Kheleifeh, and an intersecting trail heading west across the Sinai desert. The structure produced a wide range of foreign products and influences, consisting of Red Sea shells, Hinjuk Pistacia wood (from southern Sinai), Judaeen and Israelite pottery types (most pottery originated from the region of Jerusalem), inscriptions noting the presence of Israelites, and materials, texts, and art motifs displaying Phoenician and Egyptian influences (e.g., cedar pieces; gazelles flanking a tree; linen?; depictions of a Bes-style figure and lotus blossoms).<sup>151</sup>

Pratico re-dated periods II–IV (for the 60 x 60 m fort) at Tell el-Kheleifeh to the late 8<sup>th</sup> through early 6<sup>th</sup> centuries B.C.,<sup>152</sup> during which it contained a broad range of foreign materials and influence: Judaeen and Negevite pottery (periods II–IV), a Judaeen royal seal (King Uzziah [period III]), Egyptian artifacts (e.g., calcite vessels; cartouche-type seals; amethyst and scaraboid beads; Wadjet-Eye, Bes, and Bastet amulets), Edomite pottery, and Assyrian pottery (periods III–IV), and Arabian(?) resins and sherds from a large storage jar (from period IV) bearing a possible, albeit debated, Minean script: perhaps it originally contained Arabian incense.<sup>153</sup> The Negev forts apparently both secured the trade routes between the Red Sea to southern Levant, and facilitated the passage of materials, products, and influence from Arabia, Egypt, Philistia, Judah, Israel, Phoenicia, and Assyria.

During the Persian domination of the Near East and variously in Egypt (ca. 540–332 B.C.), several sites continue to be occupied in the northern Negev, and adjacent areas,<sup>154</sup> probably facilitating some Red Sea trade.<sup>155</sup> Both the Negev and southern Transjordan have yielded sites and trade routes to the Red Sea during this period,<sup>156</sup> including key places such as an unfortified outpost at Kadesh-Barnea in the central Negev, the period V seaport at Tell el-Kheleifeh in the southern Arabah, and elsewhere at Tawilan, Busayra, and other sites in southern Transjordan. Although Persia lost control of Egypt by 404 B.C., and its occupation or domination of Tayma and Dedan in northwest Arabia appears to have ceased by the early 4<sup>th</sup> century B.C.,<sup>157</sup>

Persia seems to have retained some control of, or access to, the Negev: Gaza continued serving as the main terminus for Arabian aromatics entering the Levant,<sup>158</sup> while other caravan routes branched off to el-‘Arish to the west, and through Transjordan to Damascus to the northeast.<sup>159</sup> According to Herodotus (ca. 450 B.C.), it is mainly Arabian tribes that actually facilitated the aromatics trade across the Negev to Gaza during this period.<sup>160</sup>

In the past two decades, more investigations, publications, and changes in our perceptions have emerged on the Negev and its environs.<sup>161</sup> For instance, a few late Chalcolithic sites at the Gulf of Aqaba, especially Tell Hujayrat al-Ghuzlan, have revealed early contact with Egypt, including some beads and other items.<sup>162</sup> Hauptmann asserts that it is less certain whether Wadi Feynan actually exported copper ore across the North Sinai to the Nile Delta during the 4<sup>th</sup> millennium B.C., versus Egypt obtaining copper ore from Southwest Sinai.<sup>163</sup> Some evidence supports EB I–II and later third millennium B.C. copper exports from Wadi Faynan to Egypt across the Negev. The continuation of some Early Bronze Age III international contact with southern Transjordan is also emphasized by copper exports to the Levant and Egypt from Wadi Fidan 4 and Khirbet Hamra Ifdan (in Wadi Faynan).<sup>164</sup> More recent evidence has also emerged regarding a Late Bronze Age Bedouin presence and foreign influence at localities several km to the north of the Timna Valley. For example, Avner reports that an open-air cultic site near Har Shani held a “Late (New?) Kingdom” Egyptian ushabti figurine and some Midianite potsherds (i.e., Quarraya ware).<sup>165</sup> In the last few years, the discovery of Egyptian and Canaanite artifacts from a structure (shrine?) in Tayma‘ Oasis, and the occurrence of Ramesses III’s cartouches in a rock-cut inscription near Tayma‘ Oasis, now

demonstrate that one or more Egyptian expeditions were visiting this region.<sup>166</sup> The dispersal of northwest Arabian, Egyptian, and Canaanite artifacts and influence in the Negev and adjacent regions during late LB IIB and the early Iron Age also suggest some Egypto-Levantine commerce with Northwest Arabia, the latter of which played an increasingly important role in the aromatics trade during the Iron Age.<sup>167</sup> Regarding evidence for New Kingdom Egyptian overland and Red Sea contact with or influence in southern Arabia, to-date only a few sporadic and mostly *ex-situ* Egyptian amulets and seals appear in this region.<sup>168</sup>

#### ONGOING AND FUTURE WORK

Although extensive surveys and excavations have occurred throughout Sinai, this peninsula covers 60,000 square km and still retains many secrets. Incomplete excavations or publications (e.g., artifacts from Kharig await publication), new discoveries (e.g., rock-texts of Den and Rameses III in Southern Sinai; forts at Ras Budran and Tell el-Borg), and evolving methodologies and scientific techniques for locating and recovering archaeological data, emphasize how much work remains to be done, and can be done more effectively, to further our interpretations and reconstructions of Sinai’s heritage. However, increasing construction (e.g., towns; resorts; roads), irrigation projects (e.g., in North Sinai), and other factors threaten both known and unidentified archaeological sites, making further surveys, excavation, and the conservation of Sinai’s rich heritage a key component in preserving and developing Sinai’s resources.

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NOTES

- 1 Bagatti 1945, 98–117; Geck 1961, 35; Kraack 2001, 93; Stone 1982; Wilkinson 1977; Wilkinson 1999.
- 2 To-date, little archaeological evidence exists for the Hebrew Exodus or sojourn in Sinai (Dever 1997, 71–3); in contrast, see Hoffmeier 2005.
- 3 Barron 1907; Fontaine 1955; Wilson 1880.
- 4 This paper had originally been prepared and formatted during 2005, 2006, and 2009 in its specific and perhaps somewhat awkward outline and coverage of the “Sinai Peninsula” for a Handbook of Egyptology (i.e., following the chronological exploration rather than time periods in the Sinai), which did not materialize, and has been resurrected and updated here, as best as possible, to form the opening paper and set the stage for the various following papers that provide more detailed aspects of the Sinai Peninsula and its environs. Unfortunately, the very busy schedules did not permit several invited authors to submit their invaluable contributions on past through current projects in the Sinai, while the late withdrawal of a couple of other intended papers has created a somewhat lighter issue than intended. In any case, the editor is very grateful to all of the Sinai expeditions and contributors, both past, present, and absent, for their tremendous efforts in exploring and clarifying a most fascinating and important corner of our world and past heritage. The bibliography in this paper has tried to acknowledge some of them, but many more exist.
- 5 Niebuhr 1774, 200–7.
- 6 Giveon 1978b, 59.
- 7 Weill 1908, 304–5.
- 8 Gardiner et. al. 1952, 22; Lepsius 1853; Weill 1908, 316.
- 9 Cooney 1972, 281.
- 10 Weill 1904, 72–7; Wilson 1880.
- 11 Weill 1904, 153–4.
- 12 Baedeker 1885, 491–3, 522–4.
- 13 Weill 1904, 82–3.
- 14 Borchartd 1897, 112–13.
- 15 Weill 1904, 95–232.
- 16 These tombs occur in various clusters in southeastern Sinai, representing circular, rough stone-built tombs that nomadic populations used continuously as family burial places over hundreds of years during the Chalcolithic through EB I (Currelly in Petrie 1905, 229–44; Mazar 1990, 82, 100). The contents of the nawami tombs display some contact with Egypt, including flint tools and other items (Mazar 1990, 100); in a personal communication, Steven Shubert recently relayed to this writer that the Royal Ontario Museum collections contain some Egyptian materials from Currelly’s collection of artifacts from his investigations of the nawamis). Of interest, various scholars have already suggested that an inverted, V-shaped glyph placed beside a foreigner portrayed on the base of the Narmer Palette may represent the persons associated with the hundreds of similarly shaped desert kites found in the southern Negev and southeast Sinai.
- 17 Petrie 1906, 34–54, maps 1–2.
- 18 Hayes reread ‘Semerkhet’ (of ‘Dynasty 1’) as Sekhemkhet (Third Dynasty) (Gardiner et. al. 1955, 53 postscript).
- 19 Petrie 1906, 27.
- 20 Petrie 1906, 55–71, 154–62, 159–60, map 3; see Debono 1947.
- 21 Petrie 1906, figs. 93–4, map 4.
- 22 Leeds 1922; Petrie 1906, 108, 136–53; Weill 1904, 224–5; see also Mumford 2006a.
- 23 Lake et. al. 1928; Lake et. al. 1932, 109–10, 189–97, map; Starr and Butin 1936.
- 24 Albright 1966, 25–30; Hinz 1991, 26–7.
- 25 Starr and Butin 1936, 21–4.
- 26 Albright 1948, 13–14; Field 1948a, 484–5; *idem* 1948b, 802.
- 27 Gardiner et. al. 1952; *idem* 1955; see also Mumford 2006a.
- 28 Beit-Arieh 1974; *idem* 1980; *idem* 1981; *idem* 1986; *idem* 2003, 273–6, 442–4.
- 29 Beit-Arieh 1974, 144–56; *idem* 2003, 224.
- 30 Mayer in Beit-Arieh 2003, 237–8.
- 31 For relations between Canaan and Egypt in the late 4<sup>th</sup> millennium B.C., see Beit-Arieh 1984, 20–23.
- 32 Amiran, Beit-Arieh, and Glass 1973, 193–7; Amiran 1978.
- 33 Rothenberg 1970, 25–7; see Giveon 1978b, 74–6.
- 34 Giveon 1974a; *idem* 1977; *idem* 1978a; *idem* 1978b, 74–6; *idem* 1983.
- 35 Giveon 1978b, 73.
- 36 Giveon 1978b, 61; Pinch 1993, 55.
- 37 Proto-Sinaitic spans the Middle Kingdom to early Eighteenth Dynasty (Beit-Arieh in Stern 1993, 1,337–8; Shaw 2003, 132). It is a Semitic language, alphabetically written using 27–29 pictographic signs, of which 23–26 forms derive largely from Egyptian hieroglyphs. This script has been translated variously by Gardiner (1916; 1962), Butin (in Lake et al. 1928; *idem* 1932), Cowley (1929), Leibovitch (1934), Albright (1966), Cross (1967), Rainey (1975), Sass (1988), Hinz (1991) and others. Its decipherment remains problematic.
- 38 See Ventura 1988, 128–38.
- 39 Cooney 1976, 54–7; Merrillces 1968, 4; Simpson 1990.
- 40 Beit-Arieh 1982; *idem* 1985, 113–15.
- 41 Giveon 1978b, 72–4; Leclant 1979; Rothenberg 1979, 165–6.
- 42 Rothenberg 1970, 27; *idem* 1979, 166.
- 43 Beit-Arieh 2003, 276, 344; Rothenberg 1970, 25–6; Stone 1982. For an assessment and summary of pharaonic mining and quarrying activities in both the Sinai and other marginal mining regions, see Shaw 1994, 108–19.
- 44 Bonnet et. al. 1994; Chartier-Raymond 1988; Valbelle and Bonnet 1996.
- 45 Chartier-Raymond et. al. 1994, 58–61.
- 46 Pinch 1993.
- 47 Mumford 1999b, 725; *idem* 2006a, 163.

- <sup>48</sup> Mumford 2008, 159–62.
- <sup>49</sup> Gayer and Rothenberg 1995, 147–52. Copper analysis from Wadi Feinan (Southwest Jordan) reveals that it was also exported to Egypt (Adams 2003, 18–19); Sinai remains another viable copper source (Ogden 2000, 149), sending turquoise to Egypt beginning in the Naqada period (Spencer 1993, 45–6).
- <sup>50</sup> Eddy and Wendorf 1999, xxi, 282–9.
- <sup>51</sup> Resk Ibrahim and Tallet 2009, 155–79; Tallet 2013, 6262.
- <sup>52</sup> The project ceramicist, Rexine Hummel, reports that the pottery from the anchorage (site 346) has good parallels with the Middle Kingdom pottery published from Ayn Sukhna.
- <sup>53</sup> Mumford 2003; *idem* 2005; *idem* 2006b, 13–67.
- <sup>54</sup> For a recent discourse on the pharaonic exploitation of turquoise, see A. M. A. Mansour, 2014, *Turquoise in Ancient Egypt: Concept and Role*.
- <sup>55</sup> This writer visited the site in June 2010, guided by Adel Farouk and officials from the SCA office in Suez, while these findings are also noted in recent reports elsewhere.
- <sup>56</sup> Cooper 2009, 37–40, summarizes the post-Persian periods in which the canal was dredged and re-activated, including during the reigns of Ptolemy Philadelphus (282–246 BC) and Trajan (AD 97–116), while he notes that other accounts suggest it remained at least partly active throughout the 3<sup>rd</sup> to 5<sup>th</sup> centuries AD, and perhaps into the 6<sup>th</sup> century AD; the canal was re-activated one more time in AD 643–4, and functioned into the early Abbasid period.
- <sup>57</sup> Bourdon 1925.
- <sup>58</sup> Petrie and Duncan 1906, 28–34.
- <sup>59</sup> Clédat 1916, 204–12.
- <sup>60</sup> Bruyère 1951, 72–73; *idem* 1966.
- <sup>61</sup> Bruyère 1950, 60–2.
- <sup>62</sup> See Mumford 1998, 537–45.
- <sup>63</sup> Editor 1962, 33; Léclant 1963, 85; *idem* 1964. The environs of Suez also produced an *ex-situ* door jamb of Ramesses II (Roeder 1913, 118, 236 no. 11164), which most likely originated from the Ramesside fort at Qulzoum.
- <sup>64</sup> Mumford 1998, 553–61, tables 3.26–8, fig. 3.1. The environs of this mound had previously yielded a granite door jamb of Ramesses II (Berlin Museum 11164) (Roeder 1924, 236 no. 11164; Porter and Moss 1934, 52; Kitchen 1996, 232 no. 153a), an *ex-situ* New Kingdom scarab (Bruyère 1966, 100, pl. 27:4), and a sandstone head stylistically re-dated to Thutmose I (initially ascribed to Psammetichus I) (Lindblad 1984, 53–4, no. 2, pl. 32).
- <sup>65</sup> Holladay 1982; *idem* 1987; *idem* 1999, 786–9; Naville 1888.
- <sup>66</sup> Abd el-Raziq, Castel and Tallet (2006, 3–5) have noted one expedition in year 2 of Amenemhet III that visited both Ayn Soukhna (AS stela text 6) and Wadi Maghara (inscriptions 23–24), while another mission in year 6 of Amenemhet III is attested at both Ayn Soukhna (AS texts 25 and 33) and Serabit el-Khadim (inscriptions 211–222); see also Abd el-Raziq 1999; see also Ward 2013, 46–53.
- <sup>67</sup> Abd el-Raziq, Castel, Tallet and Ghica 2002, 35, 125 index of royal names; Abd el-Raziq, Castel and Tallet 2006, 4; Abd el-Raziq, Castel and Tallet 2007a, 68; Abd el-Raziq et. al. 2007b, 48–9; Abd el-Raziq, Castel, Tallet and Fluzin 2011, 2, 31 text no.1, 31 note 21, 141 fig. 160, 33 possibly text nos.2–3, 141 figs.161–2; see also Fattovich et. al. 2005, 15, and Mumford 2005, 24; *idem* 2006b, 56.
- <sup>68</sup> Abd el-Raziq, Castel, Tallet and Ghica 2002, 35–59, figs. 7–29, 103–9, 125 index of royal names; Abd el-Raziq, Castel and Tallet 2004, 11–12; Abd el-Raziq, Castel and Tallet 2006, 3–6, figs. 2–5; Abd el-Raziq, Castel and Tallet 2007a, 61–62, 65, fig. 2; Abd el-Raziq et. al. 2007b, 49–50; Abd el-Raziq, Castel, Tallet and Fluzin 2011, 1. Regarding the Middle Kingdom pottery from Ayn Soukhna, see Defernez 2004, 59–89.
- <sup>69</sup> Abd el-Raziq, Castel, Tallet and Ghica 2002, 59 no. 24, 65 no. 36, 92 pl. 73 no. 24, 94 pl. 82 no. 36, 125 index.
- <sup>70</sup> Abd el-Raziq, Castel, Tallet and Ghica 2002, 66 no. 38, 67 fig. 42: 38, pl. 81: 38, 125 index; Abd el-Raziq, Castel, and Tallet 2004, 14; Abd el-Raziq, Castel and Tallet 2007a, 63.
- <sup>71</sup> Abd el-Raziq et. al. 2002, 125; *idem* 2004, 12–14.
- <sup>72</sup> Although Marouard and Tallet (2012, 40–41) initiated the first significant work here in 2011, they have noted the site’s first discovery in 1823 by Wilkinson and Burton, and its relocation in 1954 by François Bissey and René Chabot-Morisseau.
- <sup>73</sup> Marouard and Tallet 2012, 40–43; Tallet 2012, 147–68.
- <sup>74</sup> Gardiner et. al. 1955, 81.
- <sup>75</sup> Beit-Arieh 2003, 281–2; Mumford and Parcak 2003, 93–7.
- <sup>76</sup> Mumford and Parcak 2003, 86.
- <sup>77</sup> For arguments against Necho II dispatching a maritime expedition to circumnavigate Africa, see Lloyd 1977, 142–55.
- <sup>78</sup> Mayerson 1996; Redmount 1995. See Tulpin 1991, 237–83, for a more detailed discussion concerning Darius’ Suez Canal and Persian imperialism.
- <sup>79</sup> For recent studies on diverse aspects of Egyptian and other activity in the Red Sea, including interactions with the Sinai Peninsula, see Manzo 1999; Starkey 2005; Kitchen, 2007, 131–41; Starkey, Starkey, and Wilkinson 2007; and Sidebotham, Hense and Nouwens 2008.
- <sup>80</sup> Gardiner 1920, 114–5; Taschen 1994, 560, 573.
- <sup>81</sup> Faulkner 1969, 120, 308.
- <sup>82</sup> Breasted 1905, 233; Lichtheim 1973, 143, 222–4.
- <sup>83</sup> For instance, Papyrus Anastasi V, the so-called Exodus Papyrus, contains the copy of a report regarding the pursuit of two escaped fugitives who fled from the Ramesside residence at Per-Ramesses and were tracked traversing the Wadi Tumilat, passing Tjeku (Tell er-Retabeh) and a northern fortress (“Stronghold-of-Seti-Menepthah-(l.p.h.)-Beloved-like-Seth”), and heading eastwards into North Sinai (Caminos 1954, 254–58).
- <sup>84</sup> Budge 1892, 88; Gauthier 1923, 176–82; Petrie et. al. 1888, 103–7.

- 85 Petrie and Ellis 1937; Mumford 1998, 1,443–603.  
 86 See Kitchen 1995.  
 87 Petrie 1937; Reich in Stern 1993, 15.  
 88 Herodotus Book II, 29, 154; Petrie 1888, 47–82.  
 89 Holladay 2004, 407–8.  
 90 Oren 1993a, 1,386–96; Beit-Arieh 2003.  
 91 Oren and Gilead 1981; Oren in Stern 1993, 1,387–8. Of note: In Naqada III (i.e., also named the Protodynastic and Dynasty 0 periods) and early Dynasty 1, Egyptian contact intensifies greatly at Early Bronze Age 1b sites in southwest Palestine, with 80% of the pottery representing Egyptian types.  
 92 Mumford 2001, 335–6.  
 93 Miroschedji in Van den Brink and Levy 2002, 47; Marcus in *idem* 2002.  
 94 Haiman 1996, 5; Oren in Stern 1993, 1,388.  
 95 Oren in Stern 1993, 1,388; Vitto and Edelstein in Stern 1993, 1,283.  
 96 Oren 1984, 35.  
 97 Oren in Stern 1993, 1,388–91.  
 98 Dothan 1979; *idem* 1985, 32–43; *idem* in Stern 1993, 343–6; see Mumford 1998, 1,604–1,750.  
 99 For the past through more recent publications of this site, see Dothan 1972, 65–72; 1979; 1981, 126–31; 1982, 739–69; 1985, 32–43; 2008; Dothan and Brandl, 2010a; 2010b; a detailed re-assessment and summary is provided by Mumford 1998, 1,604–750; *idem* 2014, 77–81.  
 100 Oren in Stern 1993, 1,391–2.  
 101 Oren 1993b, 1293–4; Petrie’s 1928–30 excavations nearby found foreign cremation burials with Phoenician pottery from the eighth–sixth centuries BC (Culican 1973, 66–8). Ory (1944) and Biran (1974) continued work here in 1939–40 and 1973.  
 102 Na’aman 1979; Oren 1993b, 1293–4.  
 103 Holladay 1982, 21–22; Oren 1984; *idem* in Stern 1993, 1,294.  
 104 Saite forts are further discussed by Smoláriková 2008.  
 105 Oren in Stern 1993, 1,393–4.  
 106 Barag 1973; *idem* 1974; Oren in Stern 1993, 1,394–6; Reich in Stern 1993, 15.  
 107 Shea 1977, 31–8; Sneh and Weissbrod 1973; Sneh et. al. 1975.  
 108 Abd el-Maksoud 1998.  
 109 See Mumford 1998, 602–3.  
 110 Hoffmeier and Maksoud 2003.  
 111 Hoffmeier, 2014.  
 112 Somaglino and Tallet 2011, 516, fig. 5 map, 517 addendum.  
 113 Raban and Galili 1985, 329–32.  
 114 Redford 1998.  
 115 This writer participated in Redford’s first excavation season at Qedwa, supervising and excavating part of the exterior fortifications, including the foundation trench and several earlier phases of occupation that had been scarped parallel to the foundation wall for the late Saite period fort.  
 116 Valbelle and el-Maksoud 2007.  
 117 Bagnall and Rathbone 2004, 85–6.  
 118 Stanley in Van den Brink and Levy 2002, 98–115.  
 119 Glueck in Stern 1993, 867.  
 120 Pratico 1993a, 870.  
 121 Glueck 1938, 7, 13; *idem* 1939, 20; *idem* 1977, 715, 717; Porter and Moss 1952, 382; Mazar 1990, 513; Herrmann 1994, 18, 42, 50, 58 nos. 458 and 883.  
 122 During the Neolithic, various types of Red Sea shells occur at Rosh Zin, Rosh Horesha, Abu Salem in the Negev (Reese 1988, 261–2, 262, 263, 265), and at (Reese 1986, 328 *Cypraea annulus* [cowries] from Pre-Pottery Neolithic Jericho). Mazar (1990, 43, 46–7, 54–6) noted Pre-Pottery Neolithic B plastered skulls from Jericho with Red Sea cowrie shells.  
 123 See Bourke (2008, 136) regarding the presence of mother-of-pearl and other types of Red Sea shells at Ghassul.  
 124 Mazar 1990, 72.  
 125 See Levy 2007.  
 126 Mazar 1990, 114–17, fig. 4.8.  
 127 Meshel 1993b, 1517–18.  
 128 Adams 2006, 135–42; Hauptmann 2006, 125–33; see Levy 2007.  
 129 Haiman 1996, 1–32.  
 130 Mazar (1990, 179) notes that the northern and central Negev lack Middle Bronze Age IIA sites; this is also asserted by MacDonald (1992, 71), Cohen (1993a, 1126), and Finkelstein (1995, 101), who also note that the Negev is devoid of sites during the Middle Bronze through Late Bronze Ages; see also Avner (2008, 1707); southern Transjordan also appears to lack sites to the south of the Dead Sea (Falconer 2008, 264 fig. 8.1; Bienkowski (2008b, 1853). Bienkowski (2006, 13, fig. 1.4) has noted that only 20 sites have been identified in the Wadi Arabah and its environs for the overall Middle to Late Bronze Age periods, a total that is likely even lower since a few published “Middle Bronze Age I” sites from this region actually reflect “Early Bronze Age IV” sites.  
 131 Rothenberg 1972, 63–4, 105, 119–24; *idem* 1988, 2–13, 243–4; *idem* 1993, 1482–4; Ventura 1974.  
 132 Bienkowski and van der Steen 2001, 24; perhaps this fort aided in protecting the Egyptian miners at Timna.  
 133 Reese 1993, 260–5.  
 134 Rothenberg 1988; Parr 1982, 127–33; *idem* 1992, 594–6.  
 135 Mumford 1998, 1,439; see also Hikade 1998, 43–52.  
 136 Rothenberg 1962, 20; *idem* 1972, 201 fig. 62; *idem* 1990, 44–5; *idem* in Stern 1993, 1,482.  
 137 See Muhammed 1981, 95–136; Mumford 1998, 1317–8, sections 5.2.2. and 5.2.3, table 5.1. The quite recent discoveries of rock-cut cartouches of Ramesses III along this north-central Sinai route, and over 400 km to the southeast of Aqaba, near Tayma Oasis in Northwest Arabia, have begun to reveal and confirm the emerging importance of late Ramesside, direct contact with Northwest Arabia, and presumably the incense trade (Hausleiter 2011, 111–13; Somaglino and Tallet 2013, 511–18). For a discussion on the potential earlier usage of camels and trade in Arabian aromatics, see Jasmin (2006, 143–50).

- <sup>138</sup> For instance, see MacDonald 1992.
- <sup>139</sup> Mazar 1990, 329–30 (Numbers 21:1-3, 33:40). One can also postulate that if such Biblical narratives do indeed reflect this time period and these locations, perhaps the occupants of these regions represent the otherwise rather elusive, semi-nomadic Bedouin and their tent encampments who are historically attested in, but are mostly invisible from the material record of the Sinai Peninsula. For instance, aside from some exceptional occurrences (e.g., EB II and EB IV seasonal campsites), the Sinai Peninsula has yet to yield material evidence for the presence of most of the seasonal campsites for the Bedouin who are attested residing in this region, particularly in the regions of Egyptian interactions in Southwest Sinai and northern Sinai.
- <sup>140</sup> See Mazar (1990, 373 table 7, 390–7, figs. 9.13–16), who also notes that the fortresses had casemate type walling systems and some housing similar to Iron Age 2A buildings in Judah; both the forts and settlements yielded handmade, Negevite pottery and pottery types from the southern Levant (i.e., the southern part and period of the Israelite United Monarchy), suggesting some sort of cross-cultural interactions and trade between these two groups.
- <sup>141</sup> See Cohen 1979, 61–79; *idem* 1993a, 1123-33; Mazar 1990, 390–7; Mumford 1998, 1396–1403.
- <sup>142</sup> See Mumford 1998, 1396–1403. Rothenberg reported finding traces of some 10<sup>th</sup> century B.C. sherds and a casemate wall on the island (Rothenberg 1961, 90–1, pl. 43, 186 fig. 6; *idem* 1970, 22 site 43; *idem* 1972, 203), but the 10<sup>th</sup> century B.C. date is contested (Hashimshoni in Rothenberg 1961, 187; Mumford 1998, 1397 note 337). Flinder explored the seabed around Gezirat el-Fara'un, finding a cluster of a late Roman/Byzantine pottery from a shipwreck to the immediate west of the island, and two large, undated stone quays on the mainland opposite the island (Flinder 1985, 51–2, 55, 57, 57–8). One stone quay measured 7.3 m wide by 13.7+ m in length, and presumably dates either to the shipwreck, or more probably from the period of the later Crusader castle on the island.
- <sup>143</sup> M. Dothan 1965, 134–51; *idem* 1977, 697–8; Cohen 1981a, 235–6; *idem* 1981b, 93–107; *idem* 1982, 266–7; *idem* 1983, xi; *idem* 1993b, 843–4; Herrmann 1994, 10, 42, 60 no. 1133.
- <sup>144</sup> Mazar 1990, 397–8; I Kings 14:25–29; Kitchen 1995, 293–300; Mumford 2007, 145, 151, 156, and 167–8; *idem* 2014, 82.
- <sup>145</sup> Mazar 1990, 440-41; Cohen and Yisrael 1995, 223–35; the Arad ostrakon mentioning an Egyptian king is assigned to Stratum VII, the end of which is ascribed to ca. 609 B.C., while the pharaoh in question is equated with Necho II: “I have come to reign in all ... Take strength and ... King of Egypt to ...” (Aharoni 1981, 103–4 inscription no. 88); Egyptian-derived hieratic numerals are also present on ostraca from Arad (Aharoni 1981, 55 inscription no. 29), as elsewhere in Judah. Of note, further to the east at Busayra (probably Biblical Bozrah) in Southwest Jordan, a 115-200 by 520 fortified Edomite settlement, dating to the late 8<sup>th</sup> to 7<sup>th</sup> centuries B.C., contained Edomite, Phoenician, and Assyrian-type pottery, some buildings exhibiting Assyrian influence, an ‘antique’ Egyptian faience bowl fragment with part of an inscription (ca. 9<sup>th</sup> century B.C.), and an incised *Tridacna* shell from the Red Sea (Reich, 1993, 264, 265–66; Bienkowski and van der Steen 2001, 24, 26, 35).
- <sup>146</sup> Cohen and Yisrael 1995, 224.
- <sup>147</sup> Cohen and Yisrael (1995, 224–25, 228) mention various types of stone and ceramic incense burners, and two incense shovels from the shrine’s adjacent pit (favissa), with parallels to the vessels from the “Edomite” shrine at Horvat Qitmit (Beit-Arieh, L, et. al. 1995); see also Bienkowski and van der Steen (2001, 27–28).
- <sup>148</sup> See Cohen and Yisrael 1995, 230, 232; Bienkowski and van der Steen (2001, 38) have interpreted the ‘en-Haseva roadside shrine as a probable “tribal league sanctuary,” catering to Negev tribal groups.
- <sup>149</sup> Aharoni 1973; Herzog, 1984; Mazar 1990, 441–2.
- <sup>150</sup> M. Dothan 1965, 134–51; *idem* 1977, 697–8; Cohen 1981a, 235–6; *idem* 1981b, 93–107; *idem* 1982, 266–7; *idem* 1983, xiv, xvi, xviii–xix; *idem* 1993b, 844–7; Mazar 1990, 444–6; Herrmann 1994, 10, 42, 43 no. 37, 60 no. 1133; Mumford 1998, 1437, table 5.43.
- <sup>151</sup> Meshel 1978, 14, 16, 18, 19; Mazar 1990, 446–50.
- <sup>152</sup> Pratico 1993b.
- <sup>153</sup> Mumford 1998, 1404 table 5.32, 1418–9 tables 5.34–35, 1422 table 5.36, and 1425 table 5.37; Gleuck (1993, 869) adds that the Minean script occurs in Southern Arabia during this period; Pratico (1993b, 62, N jar inscription Reg. No. 469, pl. 80B) notes that the script on this jar has been debated regarding being Minean; Edens and Bawden (1989, 89) accept the inscribed sherds from Tell el-Kheleifeh IV as being a South Arabian script; Groom (2002, 88) refers to sherds with South Arabian script found close to Aqaba, but places them in the late 6<sup>th</sup> to early 5<sup>th</sup> centuries B.C. (i.e., before Herodotus).
- <sup>154</sup> During previous surveys of the Negev, Glueck and Rothenberg did not find any Persian period sites in the Negev or the southern Negev, the Har Karkom survey also did not find anything in their survey region, while several recent surveys did find four Persian period sites in the Negev highlands (Avner 2006, 53–54). However, Avner (2006, 57) points out various problems with past survey coverage and dating of sites, and has asserted that more recent and comprehensive surveys in the southern Negev are yielding increasing numbers of sites revealing continuity, albeit with fluctuations, in the occupation of this region over the last 10,000 years.
- <sup>155</sup> Of note, Avraham Negev (1993, 1133) has observed that information is very limited regarding Persian period settlement in the Negev, and is concentrated mainly in the northern Negev. However, many Aramaic ostraca dating to the Persian period, and especially to the 4<sup>th</sup> century B.C., furnish evidence for Persia supplying wheat, barley, and other support to troops, donkey drivers, and donkeys stationed at Arad and elsewhere in the Negev (Kuhrt 2007, 748–51, section 15, notes 1 and 8, fig. 15.5).

- <sup>156</sup> See Bienkowski (2006, 14, fig. 1.5) for a distribution map of 121 broadly dated Iron Age I though Persian period sites identified in the Wadi Arabah and its immediate environs.
- <sup>157</sup> Ruzicka (2012, 43–44) adds that shortly after 400 B.C., the Persian Empire established an east-west series of forts between Tell Jemmeh to the Dead Sea, placing them 10–15 miles apart, with another set of forts leading south into the Negev, presumably to the Red Sea port at Tell el-Kheleifeh on the Gulf of Aqaba.
- <sup>158</sup> Ruzicka 2012, 23, note 39.
- <sup>159</sup> Wapnish 1981, 112, 113 fig. 2 map, 118.
- <sup>160</sup> Bienkowski and van der Steen 2001, 37.
- <sup>161</sup> For more recent studies, see Valbelle and Bonnet 1998; Mouton 2001; Van Neer et. al. 2004, 101–48; Jasmin 2006, 143–50; Sowada, 2009; Monnier, 2010; and Hoffmeier, 2012, 105–24.
- <sup>162</sup> Klimscha mentions that Tall Hujayrat al-Ghuzlan contained (1) 190 glazed steatite beads that parallel ones from Shiqmim, the Cave of the Treasure at Nahal Mishmar, the nawamis in South Sinai, and graves at Badari in Egypt, (2) three Nile shells (*Aspatharia rubens*), (3) a “Libyan” jar, similar to a Ma’adian “incense burner,” (4) a mace-head with a pear-shape derived from Egypt, (5) some flint tools with parallels in Egypt (e.g., twisted bladelets; small bladelets; cortex utensils), and (6) a fragmentary, terracotta female figurine (Klimscha 2011, 183 fig. 4, 189–91, 192, 193–94, 194, 195, 196–97, figs. 12, 15, 17, and 18–20); another potential Egyptian export consists of (7) a palette, which came from Tall al-Magass, 2 km west of Tall Hujayrat al-Ghuzlan (Klimscha 2011, 183 fig. 4, 192).
- <sup>163</sup> Hauptmann (2006, 130) does note, however, that an artifact of copper high in arsenic and nickel occurs at Maadi during the late Chalcolithic, while other such copper items appear at Nahal Mishmar during the same period in Canaan, thereby attesting to trade with eastern Anatolia; this long distance trade continues in the Early Bronze Age at Kfar Monash and Tall ash-Shuna, which yielded mace heads composed of this specific type of copper.
- <sup>164</sup> Philip 2008, 209; Hauptmann (2006, 131) notes that Khirbet Hamra Ifdan exported crescent-shaped ingots of copper to various sites in southern Canaan during Early Bronze Age III–IV, while Adams (2006, 137, 140) discusses potential copper exports from Wadi Feynan to the Negev, Canaan, and Egypt during EB II–III; for further discussion on the major copper production at Khirbet Hamra Ifdan in EB II–IV, see Levy (2007, 85).
- <sup>165</sup> Avner 2008, 1706; of interest, Rothenberg found a late New Kingdom shabti/ushabti near site 200 at Timna, while other New Kingdom shabits occur in the Levant: e.g., Deir el-Balah.
- <sup>166</sup> Hausleiter 2011, 105-6, 109-13; Somaglino and Tallet 2013.
- <sup>167</sup> Astour 1995, 1415; Breton 1999, 67-71; Hoyland 2001, 58-63; see also Gunter 2005.
- <sup>168</sup> Saleh 1972, 253, notes 5–6; Muhammed 1981, 125-6, fig. 8 row 1; Kitchen 2002, 383, 398; Meeks 2002, 288, notes 121-2.