

Seamlessly from Karnak to Amarna? Thoughts on Akhenaten's Great Aten Temple Design

David Brügger, The University of Manchester

What if Amarna's Great Aten Temple was not as innovative as often thought? An architectural comparison with Amun Ra's temple in Luxor and Akhenaten's first religious complex in East Karnak reveals structural similarities beneath the claims of disruption.

The infamous transition only began to be understood through the examination of Akhenaten's works at Karnak by Redford (1984) and pioneering digital research by Vergnienx and Gondran (1997). Indeed, even if a more complete—albeit debated—picture of both Karnak and Amarna at that pivotal moment has now emerged (Laboury 2010; Kemp 2012; Redford 2013; Gabolde 2018), the evolutionary chain from the Amun-Ra temple to the Great Aten Temple is still missing links.

Repurposing for the King's Benefit

Amun-Ra Temple: From Solar Origins to Popular Display

By the mid-18th Dynasty, Amun-Ra's temple in Karnak (Fig.1) had certainly scaled up to a "Mature Formal" type (Kemp 2018, 115). Probably founded by Senusret I and oriented towards sunrise on the winter solstice (Gabolde 2018, 497), its initial solar character had been preserved along the east-west axis by successive enlargements (Sullivan 2010, 2). Thutmose III insisted on the cosmic aspect of the cult by adding significantly to the east (Barguet 1962, 334), imitated by Thutmose IV with his sole obelisk (Sullivan 2010, 6). At the end of Amenhotep III's reign, when the cult of gods and king was already increasingly solarised (Van Dijk 2003, 266), was his successor really about to reach for a 'clean break'—as many scholars perceive the move to Amarna? Far from it.

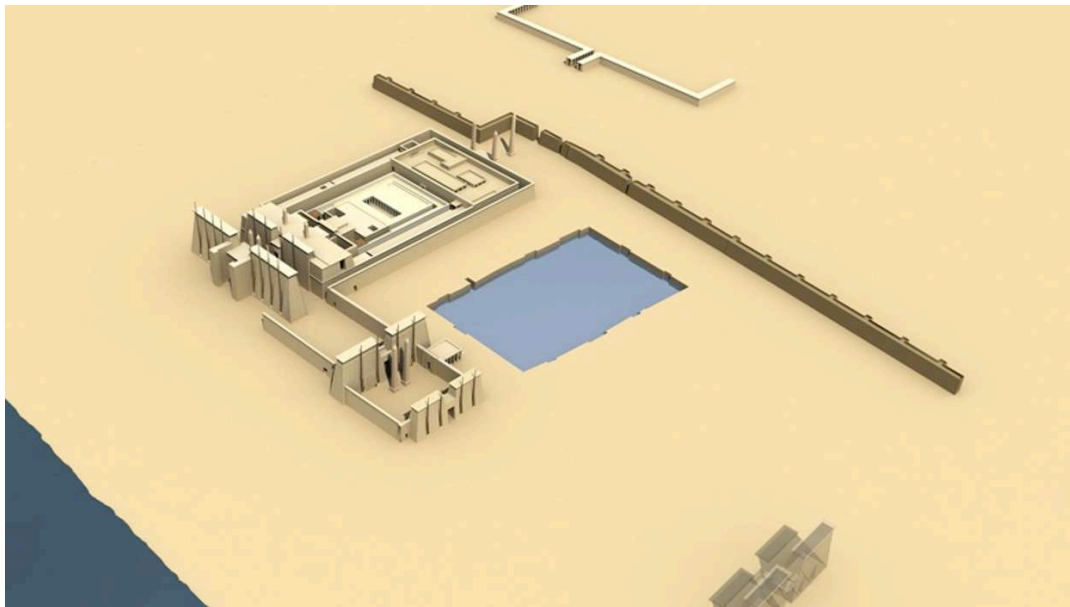


Fig.1: Model rendering of ‘pre-Amarna’ Karnak (Digital Karnak 2008a).

Aten Temples at Karnak: More than an Experiment

At his accession, Amenhotep IV not only completed his father’s works in traditional manner, but he also embraced Thebes as his residence, let himself be depicted worshipping numerous gods, and did not show Amun any hostility (Redford 2013, 13). On the contrary, the king tried to accommodate his new ideas in the given setting, seeking to repurpose Amun-Ra’s temple by framing it (Loeben 2010, 280) with a colonnaded courtyard in front of the 3rd Pylon in the west and a revived solar cult around the sole obelisk in the east—possibly the *Hwt-bnbn* (Laboury 2010, 120). Furthermore, looking for virgin ground, he may have filled an eastern Nile branch to create new land (Graham and Bunbury 2005; Gabolde 2018, 83) for his grander design, the *gm-pA-iten*. Further structures would follow: the *Tni-mnw* and the *rwd-mnw*, and possibly a *Hwt-iten* (Redford 1999, 392).

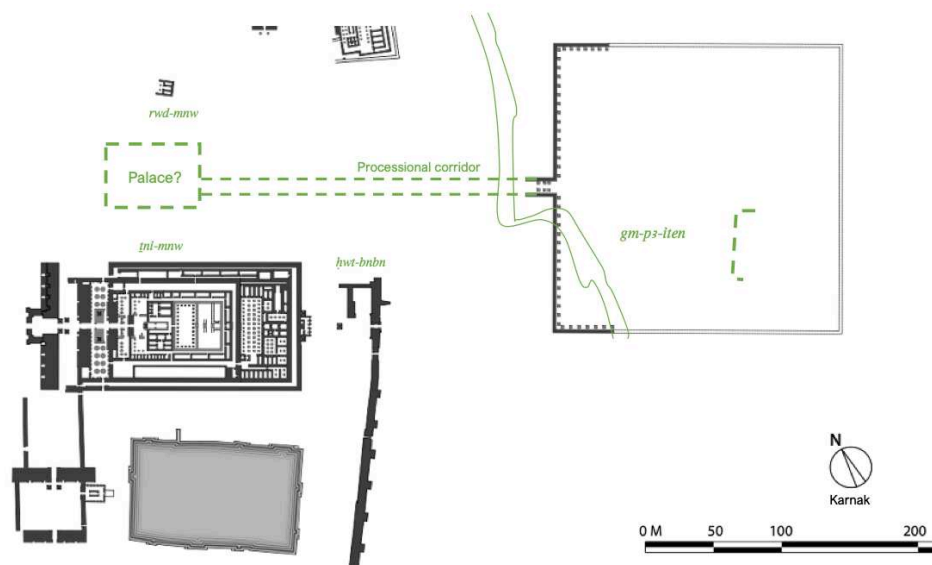


Fig.2: Plan of Karnak (Digital Karnak 2008b) with putative Aten temple locations (in green, after Redford 2013, Fig.1).

While the chronology and the temple locations of Akhenaten's *pr-iten* complex in Karnak are still debated (see Redford's reconstruction, Fig.2), its relevance to understanding the design of Amarna's temples cannot be overstated. First, because it gradually introduced almost all Amarna's characteristic features: the stone *talatat* inspired by mud bricks (Wilkinson 2000, 40), needed for speed and decorated in sunken relief; their consequent vertical architecture made possible by roofless sacred space; the sole adoration of a sun disk with rays and hands by a high-priest king (Laboury 2010, 134); intimate settings but also popular contact through chariot parade and appearance window, replacing the god's barque procession (Chappaz 2008, 43); and last but not least, Amarna's 'style' in its most extreme form. Second, because the cult complex prefigured with troubling accuracy Amarna's layout: not only would most building names reappear in the new capital, their essential architecture and spatial disposition might well be based on the Karnak development.

Indeed, a superimposition of the Great Aten Temple's plan on Akhenaten's Karnak complex reveals fascinating similarities (Fig.3). Was it a coincidence that the Long Temple had the same length as the contemporary Amun-Ra temple? At a similar distance behind, Karnak's *gm-pA-iten* would encompass the Amarna's rear structures with an enclosure almost as generous as the one of the Great Aten Temple. Could both Karnak's and Amarna's layouts be

complemented by the speculative comparison? In Karnak, the missing *Hwt-iten* might have been located like its Amarna counterpart (the Small Aten Temple?), correspondingly south, near the Mut precinct. In Amarna, a processional corridor might have linked the Long Temple to the Sanctuary.

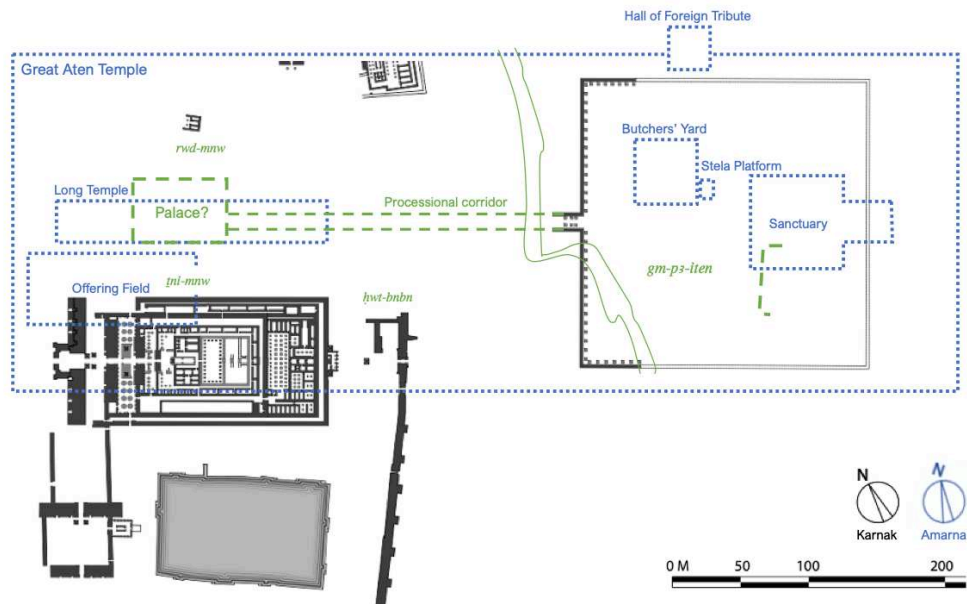


Fig.3: Superimposed Great Aten Temple plan (in blue, placed by the author, after Dodson 2014, Fig.90).

Then why did Amenhotep IV—after having invested so much and actually given life to his new theology in Thebes—leave for Amarna? Arguably not for practical or religious reasons, as he had already expanded into virgin land and set up his grand cultic design.

Great Aten Temple at Amarna: A (not so) New Cult Complex

In Amarna, Akhenaten did not have to start afresh anymore. Based on his Karnak experience, he came with a mature cultic building programme, as boundary stela proclaim: “I shall make the ‘House of the Orb’ [...] I shall make the ‘Mansion of the Orb’ [...] I shall make the Sunshade of the [Great King’s] Wife [...] I shall make the ‘House of Rejoicing’” (translated in Murnane and Van Siclen 1993). While the attribution of these names to individual buildings is still uncertain (Kemp 2012, 84), the Karnak planning seems to have been at least partly replicated in the new sacred landscape.



Fig.4: 3D visualisation of the Great Aten Temple complex (Courtesy of P.S. Docherty, 2021).

The Great Aten Temple (Fig.4), oriented parallel to the Small Aten Temple east-west axis defined by the sunrise on the date of Akhenaten's initial visit at Amarna (Gabolde 2018, 498; Rossi 2020, 234), went through (at least) two development phases and is thought to have been unfinished (Kemp 2018, 341; Golvin 2018, 50). As seen previously, its enclosure frames a cult complex mirroring some Karnak spatial relations: a Long Temple at its entrance, initially flanked by one (possibly two, symmetric) Offering Field(s), and a Sanctuary far behind, just preceded by a large Butchers' Yard and a Stela Platform on a possible secondary north-south axis from a building dubbed Hall of Foreign Tribute, the whole set in a free space inviting speculations.

But was this structural setup entirely new? A more complete comparison is needed.

Temple Comparison

Features in approximate order of appearance from the entrance

Architectural Features	Pre-Amarna Karnak Amen-Ra Temple	Amarna Great Aten Temple
Fundamentals		
Situation	towards Nile, on an island, within a city(?), packed terrain	towards Nile, centred between cliffs, within a city, virgin terrain
Orientation	E-W at sunrise on winter solstice, secondary axis N-S, oriented inwards	E-W at sunrise on first visit date, possible secondary axis N-S from HFT, oriented upwards
Plan	main temple: 210x100m gm-pa-iten: 210x210m	E: 760x275m LT: 32x210m S: 110x70m
Elevation	gradually lowering, floor raising	uncertain, floor flat, soil raising towards cliffs
Material	stone, mud-brick	stone talatat, mud-brick
Access	gradually restricted	gradually restricted?
Circulation	cult/king W-E, god coming out E-W side corridors	cult/king W-E, going in to the god, sun rising E-W, side passages circulation within E unclear
Nature	organically grown temple	designed cult complex, unfinished?
Growth	from the MK core	quite immediate, 2 phases attested
Purpose	house of the god, cult of Amun and other deities	offering structure, sole cult of Aten and royal family, funerary
Exterior		
Enclosure	? 18th-Dynasty mud-brick wall	mud-brick
Offering tables		Front of LT: funerary ritual altars? E: >920 south field
Slaughterhouse		BY
Obelisks	obelisks	SP
Subsidiary buildings	offering storerooms, priest housing, palace?	palace, HFT, wooden constructions, priest housing?
Dromos	from Palace to gm-pa-iten?, to Luxor, to Mut-precinct	from LT to S?
Sacred lake	yes	
Entrance		
Kiosks	roofed	S: "wings"
Porticos		pillared, semi-open roof, passage not roofed
Flagpoles	yes, in recesses	? free-standing
Pylons	battered	vertical
Gateway	lintel, flat	broken lintel, raised thresholds/ramps
Doors	yes	rare?
Platforms	?	LT: Solar Observation and Offering Platform
Outer courts		
Courts	colonnaded, obelisks, roofed or not	open-sky
Offering tables	some	LT: >750 S: >150
Walls	filled stone/mud-brick, battered	talatat, vertical
Inner halls		
Roof	roofed, gradually lower	open-sky
Floor	Stone-paved, gradually rising	LT: stone-paved, gypsum concrete foundation
Colonnade	MK court, breadth>length	pillared porticos, semi-open roof, length>breadth
Columns	various forms	papyrus bud-form
Side rooms	roofed chapels for various deities	open offering chapels
Sanctuary		
Barque chapel	yes	offering platforms/altars?
Screen walls	protection from sight	S
Access	left turn to naos	LT: straight S: left turn to rear part
Naos	shrine	open-sky, offering table
Cult image	statue	sun
Solar cult	rear, 2 contra-temples (on the roof of the Akhmenu, sole obelisk)	everywhere, two contra-temples(?) behind S
Decoration		
Wall scenes	war, many deities, in interaction with kings	royal family offering and other activities, depictions of buildings, no dialog with gods
Relief	sunk, raised	sunk, gold leafs, inlays
Statues	godly, royal and private(?) statues	S: only royal statues

Source: aggregated from the essay's references, especially Arnold (1996; 2003), Kemp et al (2012; 2014; 2015; 2020), Kemp and Bertram (2019)

☐ similarity
☐ some resemblance
☐ difference

E=Enclosure
 LT=Long Temple
 S=Sanctuary
 BY=Butchers' Yard
 SP=Stela Platform
 HTB=Hall of Foreign Tribute
 S=Sanctuary

Table 1: Temple comparison.

Contrastive Analysis: Structural Repurposing

Caution is advised when comparing an organically grown and traditional house of the gods with a possibly unfinished, previously unseen sun offering complex. Nevertheless, a con-

Academia Letters, April 2022

©2022 by the author — Open Access — Distributed under CC BY 4.0

Corresponding Author: David Brügger, david.bruegger@postgrad.manchester.ac.uk

Citation: Brügger, D. (2022). Seamlessly from Karnak to Amarna? Thoughts on Akhenaten's Great Aten Temple Design. *Academia Letters*, Article 5206.

trastive analysis (Table 1) reveals that even if a small majority of features in the Great Aten Temple had been contrasted to differentiate its new purpose (in red), a significant portion of elements were translations of existing concepts (in orange and green). On one hand, it appears that the key changes had been made simultaneously for speed (technique) and to reorient the cult towards sun offerings (platforms, altars, open-sky architecture) while, on the other hand, known structural concepts (spatial disposition, partition rhythm, processional logic) were just repurposed, as a layout comparison between Amun-Ra's core temple and both the Long Temple and the Sanctuary shows (Fig.5).

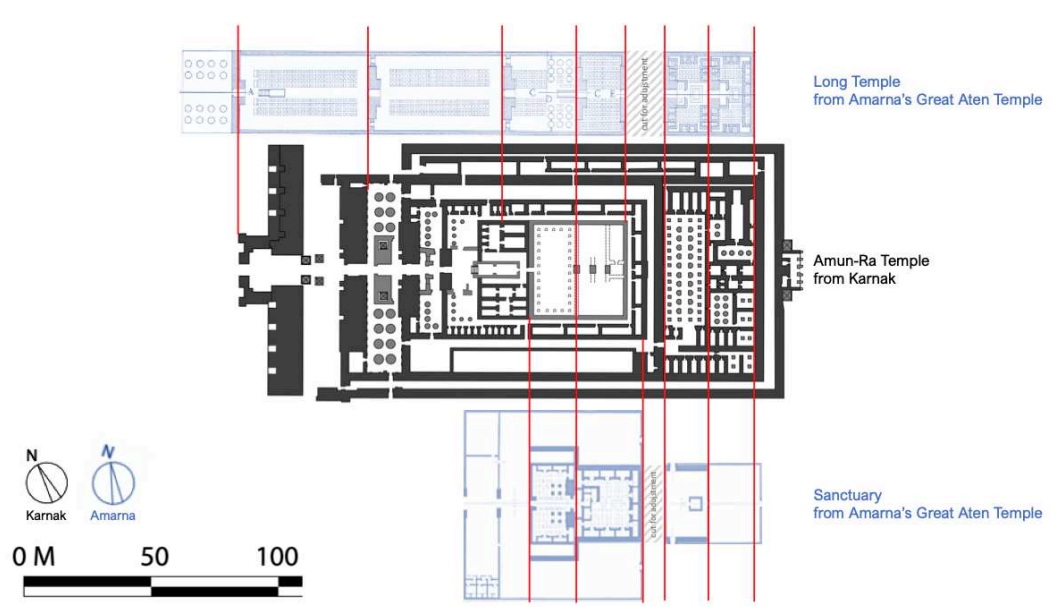


Fig.5: Temple layout comparison (red lines and placement by the author, plans Digital Karnak 2008b; Kemp 2012).

The Amarna partitions in the length come in a rhythm analogue to Karnak, usual multiples of 10 cubits (Rossi 2020, 332). The narrower breadth of the new temples corresponds to the breadth of Amun-Ra's Middle Kingdom core, possibly sufficient for the cult of a single god. But while only speculations can be made about the number and relative length of the courts—ceremonial phases or geographic symbolism around Amarna as Egypt's centre (hinted at in Traunecker 2018, 190)—it is interesting to note that their length diminishes and corresponds to an increasing privacy of the spaces in Karnak. The rear pair of courts in the Amarna temples might also mirror the *Ax-mnw* appendix. A logic of access transpires (Fig.6).

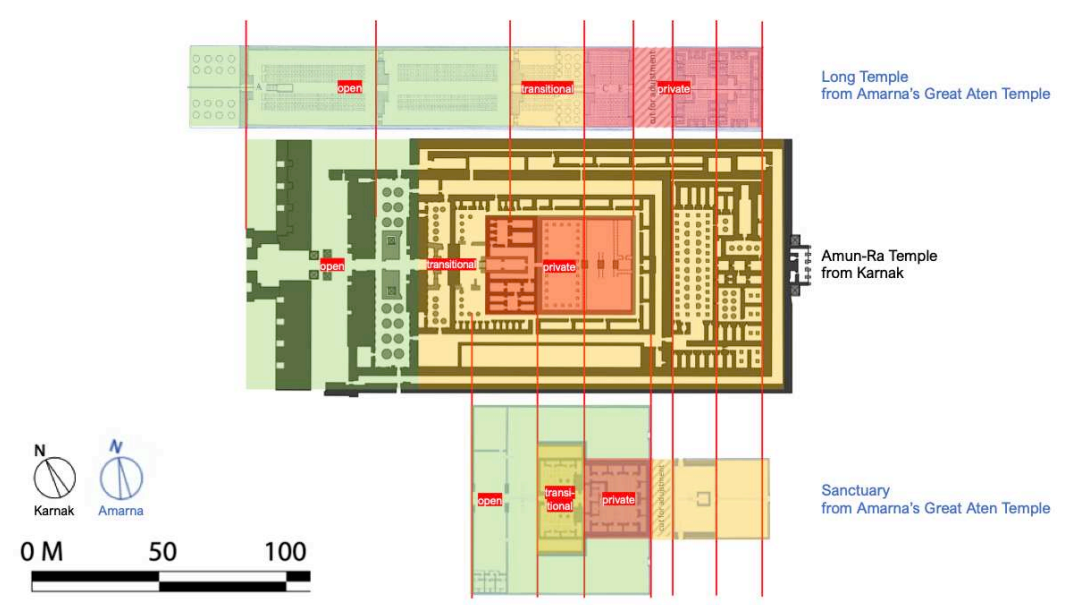


Fig.6: Possible temple access (colour-coding by the author, *ibid.*).

The first couple of courts (‘open’—green) may have welcomed a larger elite public, where intermediary parts (‘transitional’—orange) might have filtered out the participants with a possible shaded waiting area (intermediary colonnades in all three temples) before access was restricted to the utmost (‘private’—red). The same access logic can be applied at a macro level on the entire Great Aten Temple enclosure, revealing the possible cultic hierarchy of the various buildings (Fig.7).

This “structural communication” common to all Egyptian temples (Hundley 2013, 37) may have taken a new dimension in Amarna.

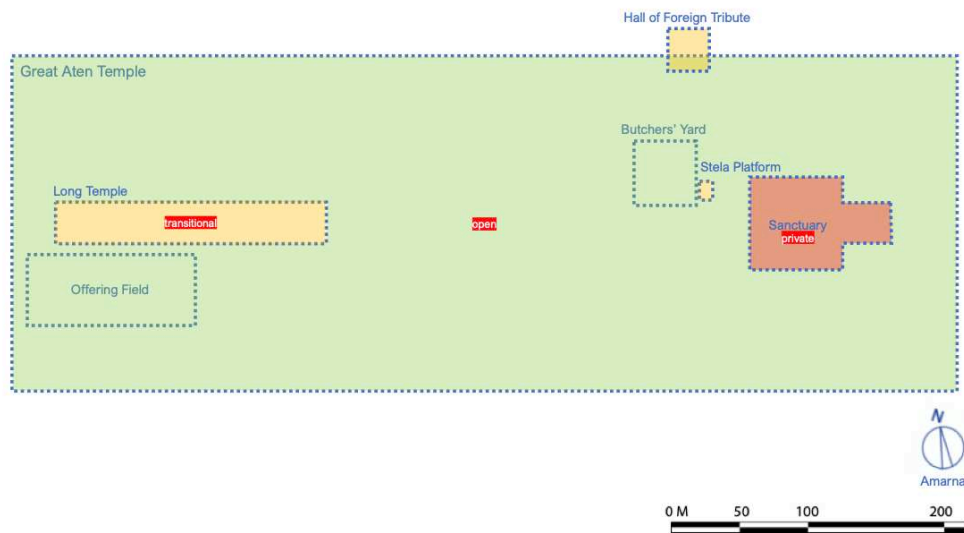


Fig.7: Possible Great Aten Temple access (colour-coding by the author, plan after Dodson 2014, Fig.90).

“Aware of your Plans and in your Strength”

By moving to Amarna, Akhenaten freed himself from the critics and imposed his design on a blank sheet, leaving his court and chosen people no possibility to make a comparison. But the king did not reinvent everything; he directly inverted half the existing elements to differentiate his god and himself from predecessors and repurposed the other half to suit his design. Amarna’s cultural landscape helped to cement Akhenaten’s power relations with the Aten, with his subjects, and even with foreigners (Christie 2016, 54).

In that sense, Akhenaten, repurposing architecture and urbanism to *in fine* assert his might, was very much his father’s son, less an ‘heretic’ or ‘innovator’ than a particularly strong-willed incarnation (“you have made him aware of your plans and in your strength”, *Hymn to the Aten* translated in Dodson 2014) of Hornung’s “Erweiterung des Bestehenden” (cited in Loeben 2010, 276).

References

- Arnold, D. (1996). *Die Tempel Ägyptens: Götterwohnungen – Baudenkmäler – Kultstätten*. Augsburg: Bechtermünz.
- Arnold, D. (2003). *The Encyclopedia of Ancient Egyptian Architecture*. Translated by Gardiner, S. H. and Strudwick, H. from the German edition (1994). Princeton: Princeton University Press.
- Assmann, J. (1972). “Palast oder Tempel? Überlegungen zur Architektur und Topographie von Amarna”, *Journal of Near Eastern Studies*, Vol. 31, No. 3. July 1972. Chicago: The University of Chicago Press, pp. 143-155.
- Assmann, J. (2012). “Die neue Staatstheologie – Die Religion des Lichts”, in Seyfried, F. (ed.) *Im Licht von Amarna: 100 Jahre Fund der Nofretete*. Petersberg: Michael Imhof, Ägyptisches Museum und Papyrussammlung Staatliche Museen zu Berlin, pp. 79-83.
- Barguet, P. (1962). *Le temple d'Amon-Rê à Karnak: Essai d'exégèse*. Cairo: Institut Français d'Archéologie Orientale.
- Bell, L. (2005). “The New Kingdom “Divine” Temple: The Example of Luxor”, in Shafer, B.E. (ed.) *Temples of Ancient Egypt*. Paperback edn. New York: I.B. Tauris & Co, pp. 127-184.
- Blyth, E. (2006). *Karnak: Evolution of a temple*. New York: Routledge.
- Chappaz, J.-L. (2008). “Esquisse historique” in Cimorelli, D. (ed.) *Akhénaton et Néfertiti: Soleil et ombres des pharaons*. Milan - Geneva: Silvana Editoriale - Musée d'art et d'histoire, pp. 39-55.
- Christie, J.J. (2016). “Akhenaten’s Amarna in New Kingdom Egypt: Relations of Landscape and Ideology”, in Christie, J.J., Bogdanovic, J. and Guzman, E (eds.) *Political Landscapes of Capital Cities*. Boulder: University Press of Colorado, pp. 25-64.
- Davies, N. de G. (1903). *The Rock Tombs of El Amarna: Part I: The Tomb of Meryra*, Archaeological Survey of Egypt. London: Egypt Exploration Fund.
- Davies, N. de G. (1905). *The Rock Tombs of El Amarna: Part II: The Tombs of Panehesy and Meryra II*, Archaeological Survey of Egypt. London: Egypt Exploration Fund.
- Digital Karnak, UCLA (2008a). *Amenhotep IV/Akhenaten: Rendering of Overall Complex*.

- (Accessed: 19 January 2022).
- Digital Karnak, UCLA (2008b). *Amenhotep III & Amenhotep IV/Akhenaten Map*. (Accessed: 19 January 2022).
- Docherty, P.S. (2021). “3D Visualisation of The Great Aten Temple complex”, *The Amarna3D Project*. (Accessed: 19 January 2022).
- Dodson, A. (2014). *Amarna Sunrise: Egypt from Golden Age to Age of Heresy*. Cairo – New York: The American University in Cairo Press.
- Gabolde, L. (2018). *Karnak, Amon-Rê: La genèse d'un temple, la naissance d'un dieu*. Cairo: Institut Français d'Archéologie Orientale.
- Golvin, J.-C.. (2018). “Réflexion méthodologique à propos de la restitution du sanctuaire du Grand temple d'Amarna”, in Gabolde, M. and Vergnien, R. (eds.) *Les édifices du règne d'Amenhotep IV – Akhénoton: Urbanisme et révolution*, CENiM 20. Montpellier: ENiM, Université Paul-Valéry Montpellier 3, pp. 39-52.
- Graham, A. and Bunbury, J. (2005). “The ancient landscapes and waterscapes of Karnak”, *Egyptian Archaeology*, No. 27. London: Egypt Exploration Society, pp. 17-19.
- Hornung, E. (2010). “Die neue Religion”, in Tietze, Ch. (ed.) *Amarna: Lebensräume - Lebensbilder - Weltbilder*. 2nd edn. Weimar: Arcus, pp. 236-255.
- Hundley, M.B. (2013). *Gods in Dwellings: Temples and Divine Presence in the Ancient Near East*. Atlanta: Society of Biblical Literature.
- Kemp, B. (2012). *The City of Akhenaten and Nefertiti: Amarna and its People*. London: Thames & Hudson.
- Kemp, B. (2018). *Ancient Egypt: Anatomy of a Civilization*. 3rd ed. London – New York: Routledge.
- Kemp, B. and Bertram, M. (2019). “Great Aten Temple Report on Recent Work (October–November, 2019)”, *Amarna Project*. (Accessed: 19 January 2022).
- Kemp, B. et al. (2012). “Tell el-Amarna, 2011-2012”, *The Journal of Egyptian Archaeology*, Vol. 98. Thousand Oaks, CA: Sage, pp. 1-26.
- Kemp, B. et al. (2014). “Tell el-Amarna, 2014”, *The Journal of Egyptian Archaeology*, Vol. 100. Thousand Oaks, CA: Sage, pp. 1-33.

- Kemp, B. et al. (2015). “Tell el-Amarna, 2014-2015”, *The Journal of Egyptian Archaeology*, Vol. 101. Thousand Oaks, CA: Sage, pp. 1-35.
- Kemp, B. et al. (2020). “Great Aten Temple Report on Recent Work (February–May, 2020)”, *Amarna Project*. (Accessed: 19 January 2022).
- Laboury, D. (2010). *Akhénaton*. Paris: Pygmalion.
- Loeben Ch.E. (2010). “Neuerungen in Architektur und Relief”, in Tietze, Ch. (ed.) *Amarna: Lebensräume – Lebensbilder – Weltbilder*. 2nd edn. Weimar: Arcus, pp. 274-285.
- Murnane, W.J. and Van Siclen, Ch.C. (1993). *The Boundary Stelae of Akhenaten*. London: Routledge.
- Redford, D.B. (1984). *Akhenaten: The Heretic King*. Princeton: Princeton University Press.
- Redford, D.B. (1999). “Karnak, Akhenaten temples”, in Bard, K.A. (ed.) *Encyclopedia of the Archeology of Ancient Egypt*. London – New York: Routledge, pp. 391-394.
- Redford, D.B. (2013). “New Theories and Old Facts”, *Bulletin of the American Schools of Oriental Research*, No. 369, May 2013. Alexandria, VA: The American Schools of Oriental Research, pp. 9-34.
- Rossi, C. (2020). “On Measuring Ancient Egyptian Architecture”, *The Journal of Egyptian Archaeology*, Vol. 106. Thousand Oaks, CA: Sage, pp. 229-238.
- Shafer, B.E. (2005). “Temples, Priests, and Rituals: An Overview”, in Shafer, B.E. (ed.) *Temples of Ancient Egypt*. Paperback edn. New York: I.B. Tauris & Co, pp. 1-30.
- Snape, S. (1996). *Egyptian Temples*. Princes Risborough: Shire Publications.
- Snape, S. (2014). *The Complete Cities of Ancient Egypt*. London: Thames & Hudson.
- Sullivan, E. (2010). “The Development of the Temple of Karnak”, *Digital Karnak*. (Accessed: 25 March 2021).
- Traunecker, C. (2018). “Le dromos perdu d’Amenhotep IV et de Néfertiti à Karnak: Espaces cultuels et économiques au service de l’atonisme”, in Gabolde, M. and Vergnien, R. (eds.) *Les édifices du règne d’Amenhotep IV – Akhénaton: Urbanisme et révolution*, CENiM 20. Montpellier: ENiM, Université Paul-Valéry Montpellier 3, pp. 175-192.
- Van Dijk, J. (2003). “The Amarna Period and the Later New Kingdom (c.1352-1069 BC)”, in

- Shaw, I. (ed.) *The Oxford History of Ancient Egypt*. 2nd paperback edn. Oxford: Oxford University Press, pp. 265-307.
- Vergnienx, R. (1999). *Recherches sur les monuments thébains d'Amenhotep IV à l'aide d'outils informatiques: Méthodes et résultats*. Cahiers de la Société d'Égyptologie, Vol. 4. Genève: Société d'Égyptologie.
- Vergnienx, R. (2008). "Karnak (règne d'Amenhotep IV)" in Cimorelli, D. (ed.) *Akhénaton et Néfertiti: Soleil et ombres des pharaons*. Milan - Geneva: Silvana Editoriale - Musée d'art et d'histoire, pp. 146-147.
- Vergnienx, R. (2012). "Eine aussergewöhnliche Sakralarchitektur: Achet-aton oder der Horizont des Aton", in Seyfried, F. (ed.) *Im Licht von Amarna: 100 Jahre Fund der Nofretete*. Petersberg: Michael Imhof, Ägyptisches Museum und Papyrussammlung Staatliche Museen zu Berlin, pp. 84-91.
- Vergnienx, R. and Gondran, M. (1997). *Aménophis IV et les pierres du soleil: Akhénaton retrouvé*. Paris: Arthaud.
- Vomberg, P. (2014). *Untersuchungen zum Kultgeschehen im Grossen Aton-Tempel von Amarna*. Göttinger Miszellen, Beihefte Nr. 16. Göttingen: Universität Göttingen.
- Wilkinson, R. (2000). *The Complete Temples of Ancient Egypt*. New York: Thames & Hudson.