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The Earliest Representation of a Potter's Kick-Wheel in Egypt

David Klotz

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“La modification de l’aspect d’un signe peut également nous informer sur les changements qui s’opèrent dans la perception de la réalité qu’ils représentent... Bien sûr, l’apparition de signes nouveaux peut manifester l’apparition de réalités nouvelles et leur disparition celle de réalités devenues désuètes.”

D. MEEKS *Les architraves du temple d’Esna, PalHier* 1, 2004, pp. xvi-xviii.

IN THE HISTORY OF ceramic technology, *communis opinio* holds that the fast-turning kick-wheel was first introduced into Egypt during the Saite-Persian period (c. 646-486 BCE), since its earliest depictions appear in the sanctuary of Hibis temple,¹ in relief decoration explicitly dated to the reign of Darius I [fig. 1a-b]. After the Twenty-seventh Dynasty, representations of this machine abound in Graeco-Roman temple reliefs, where it is usually operated by the demiurges Khnum and Ptah.

Prior to this innovation, potters would have turned the wheel by hand, leaving only one hand free to work the clay. The kick-wheel permitted significantly higher velocity as well as more control, enabling artisans to create more refined and standardized products, particularly when fashioning larger vessels.

Some scholars have interpreted the presence of more angular turn-marks and grooves on Saite pottery as further evidence that this groundbreaking innovation occurred during this period. As Dorothea Arnold remarked:²

In most examples this feature has been exploited to achieve a decorative effect. Thus the impression is conveyed that potters delighted in their new tool and its possibilities.

Nonetheless, others have emphasized that the Hibis reliefs only provide a *terminus ante quem* for the introduction of this technology in Egypt. For example, Colin Hope noted, “the study of pottery from the New Kingdom onwards indicates that some version [of the kick-wheel] may have existed much earlier.”³

¹ R. HOLTHOER, *New Kingdom Pharaonic Sites: The Pottery*, *SJE* 5:1, 1977, pp. 32-33; D. Arnold, J. Bourriau (eds.), *An Introduction to Ancient Egyptian Pottery*, *SDAIK* 17, 1993, pp. 79-83; P.R.S MOOREY, *Ancient Mesopotamian Materials and Industries: the archaeological evidence* (2nd edition), 1994, p. 147; J. BOURRIAU, P.T. NICHOLSON, P. ROSE, “Pottery,” in P.T. Nicholson, I. Shaw (eds.), *Ancient Egyptian Materials and Technology*, 2000, p. 126; C. DEFERNEZ, *La céramique d’époque perse à Tell El-Herr: étude chronotypologique et comparative*, *CRIPEL-Suppl* 5, 2001, I, p. 31, n. 17; P.T. NICHOLSON, “Pottery Production,” in W. Wendrich (ed.), *UCLA Encyclopedia of Egyptology*, 2009, p. 4 [<http://escholarship.org/uc/item/1nq7k84p>].

² D. Arnold, J. Bourriau (eds.), *An Introduction to Ancient Egyptian Pottery*, pp. 82-83, fig. 96 (quote on p. 83).

³ C.A. HOPE, *Egyptian Pottery* (2nd edition), *Shire Egyptology* 5, 2001, p. 15.

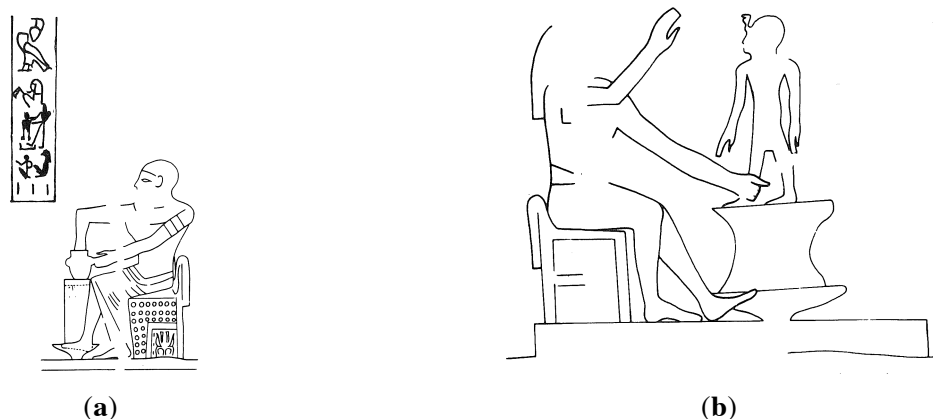


Fig. 1. Representations of kick-wheels from Hibis temple (Dynasty 27)⁴ (from R. Holthoer, *New Kingdom Pharaonic Sites*, p. 23).

The present consensus is based on the extensive typology that Ratislov Holthoer assembled in 1977, incorporating most ancient Egyptian texts and representations related to pottery production known at that time.⁵ Incidentally, a slightly earlier example may occur on a private statue (BM 29478) from the Twenty-sixth Dynasty, first published after Holthoer's book.⁶ This hieroglyph of a potter occurs in the regionally specific title *qd-h'w* (lit. "he who models the body"), which designated priests of Khnum in Semen-Hor, near Kafr Ammar [figs. 2-3].⁷

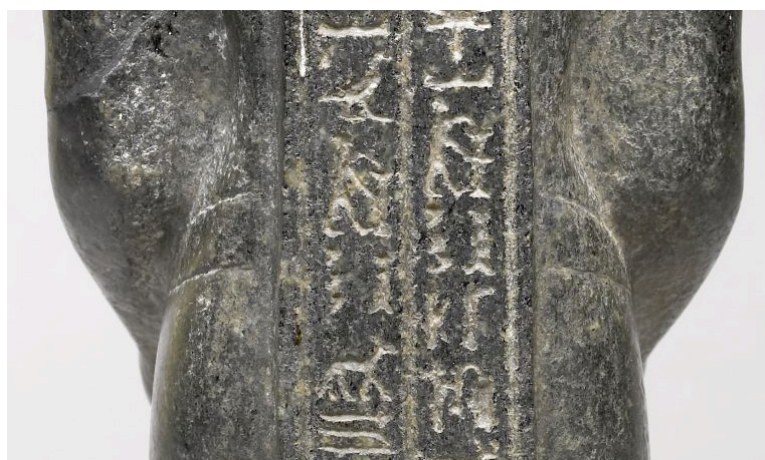


Fig. 2. BM 29478: Detail of back pillar, with the sacerdotal title *qd-h'w* (© Trustees of the British Museum).

⁴ (a): *Hibis III*, Pls. 4, I, and 73B = R. HOLTHOER, *New Kingdom Pharaonic Sites*, p. 23, fig. 31; D. Arnold, J. Bourriau (eds.), *An Introduction to Ancient Egyptian Pottery*, pp. 79-80, figs. 93A-B; (b): *Hibis III*, pl. 5, North Reveil, I = R. HOLTHOER, *op. cit.*, p. 24, fig. 32.

⁵ R. HOLTHOER, *New Kingdom Pharaonic Sites*.

⁶ Fr. VON KÄNEL, *Les prêtres-ouâb de Sekhmet et les conjurateurs de Serket*, *BEHE* 87, 1984, pp. 81-83, Pls. XII-XIII.


⁷ For this title, see Fr. VON KÄNEL, *Les prêtres-ouâb de Sekhmet*, p. 84, n. c; N. RODRÍGUEZ I CORCOLL, *Sacerdoci i cultes del nord de l'Egipte Mitjà durant la baixa època (segles VII-IV aC)*. *Del nomus 14 al 22 de l'Alt Egipte*, *Nova Studia Aegyptiaca* 7, 2008, p. 399; to which one can add S. PERNIGOTTI, "Saitica. 1," *EVO* 7, 1984, pp. 31-32; K. JANSEN-WINKELN, *Inscripfen der Spätzeit III*, p. 392 (Vienna, ÄS 8573).

Based on Fr. von Känel's hand copies of the text, the sign represents a potter standing at a tall wheel, throwing a small vessel atop a tall shaft that he apparently operates with one foot. While a standing posture would be unusual for a true kick-wheel, a similar hieroglyph occurs in the caption from Hibis temple [fig. 1a]. As mentioned above, fast-turned pottery is generally recognized for the Saite-Persian period, so this new example from the Twenty-sixth Dynasty would not dramatically alter the history of this technology in Egypt.



Fig. 3. Copies of the title *qd-h'w* from BM 29478 (from Fr. von Känel, *Les prêtres-ouâb de Sekhmet*, pp. 82-83).

In 2007, a new inscription – more precisely, a new portion of a well-known inscription – was uncovered for the first time in centuries, attesting the use of a true kick-wheel already in the New Kingdom. The text in question is the building inscription of Ramesses II on the eastern architrave of his courtyard at Luxor temple, composed entirely in “monumental cryptography”: a procession of over-sized divinities, people, and animals which transform a conventional text into a lengthy and enigmatic relief.⁸ Although Karl Richard Lepsius published some of this text over a century ago,⁹ much of it lay hidden within the walls of the Abu el-Haggag mosque. When a fire damaged this edifice in 2007, the necessary restoration work provided the first opportunity for the SCA to document the important Pharaonic reliefs. Mansour Boraik published the newly discovered portions of the enigmatic inscription in 2008,¹⁰ and the present author is preparing a detailed commentary on the entire text. Yet rather than bury this significant detail in a textual note to a New Kingdom cryptographic text, it seemed preferable to devote a full article to this particular hieroglyph, in order to inform a broader audience of ceramicists and ancient historians about this significant representation.

The cryptographic inscription duplicates, almost exactly, the symmetric text written in standard hieroglyphs (*Klarschrift*) carved on the western architrave (*KRI* II, 612). In terms of content, the enigmatic text is a fairly standard building inscription, commemorating Ramesses II's additions to the Eighteenth Dynasty temple at Luxor: namely the festival courtyard containing a triple bark-shrine, the first pylon, numerous colossal statues, and two obelisks. As in many comparable texts, Ramesses II mentions that Seshat and Ptah supervised the ground plan and foundations. In this passage, Seshat receives a common epithet “Lady of Builders (*nb.t-iqd.w*)”; the western architrave spells this moniker as  (*KRI* II, 612, 6), but the enigmatic text writes it as follows [fig. 4]:¹¹

⁸ É. DRIOTON, “Recueil de cryptographie monumentale,” *ASAE* 40, 1940, pp. 305-429.

⁹ *LD* IV, 149b; *LD Text* iii, 78; translated by É. DRIOTON, *ASAE* 40, 1940, pp. 319-328. See also M. ABD EL-RAZIK, “The Dedicatory and Building Texts of Ramesses II in Luxor Temple,” *JEA* 60, 1974, §9; *JEA* 61, 1975, pp. 132-133; *KRI* II, 612-613; K. KITCHEN, *RITA* II, p. 405, §232B; *RITANC* II, pp. 411-412, §775-777; J.C. DARNELL, *The Enigmatic Netherworld Books*, pp. 8-21, pl. 1A; L.D. MORENZ, *Sinn und Spiel der Zeichen: Visuelle Poesie im Alten Ägypten, Pictura & Poësis* 21, 2008, pp. 220-222. The conclusion of the inscription, missed by Drioton, was published in *KRI* II, 613, 1-2.

¹⁰ M. BORAİK, “Inside the mosque of Abu el-Haggag: rediscovering long lost parts of Luxor Temple. A preliminary report,” *Memnonia* 19, 2008, pp. 132-136, pls. XX-XXI.

¹¹ The goddess standing before Khnum is Hathor, writing *nb.t < nbw.t*, “the Golden.”

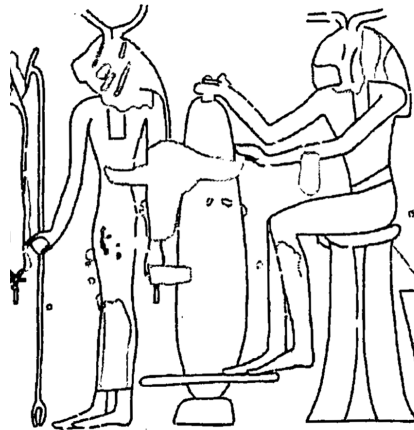


Fig. 4. Excerpt from Luxor inscription, writing: “Lady of Builders (*nb.t iqd.w*).”

I had recently cited this particular excerpt to support an interpretation of related cryptographic texts from Hibis temple, but limited my comments to the transliteration of the sportive hieroglyphs, not the epigraphic features of the individual signs.¹² Based on the parallel inscriptions from Luxor and Hibis, this relief of Khnum clearly writes the word *iqd.w*, “builders” in rebus fashion, being a direct representation of a potter (*iqd*) in action.



Fig. 5. Detail of hieroglyph (from M. Boraik, *Memnonia* 19, 2008, Pl. XXI, C).

While establishing the correct reading is certainly not without interest, the peculiar shape of this fascinating hieroglyph deserves closer attention. Similar hieroglyphs of Khnum operating

¹² D. KLOTZ, “Once Again, Min (𓆎): Acrophony or Phonetic Change?”, *GM* 233, 2012, pp. 25-26.

a potter's wheel are known from the New Kingdom.¹³ Due to the large scale and intricate details in the present frieze text, however, there can be little doubt that this Khnum is operating a kick-wheel with his feet [fig. 5].

Unlike in other New Kingdom depictions of potters, here Khnum sits on a very high stool allowing his feet to rest atop the wheel. In Graeco-Roman temple scenes, the extra legroom is sometimes achieved by placing his throne atop a tall socle.¹⁴ Unfortunately, a small lacuna obscures the upper right corner of the sign, preventing a definitive interpretation of the machinery and vessel under production. Based on the published photograph [fig. 5], the curvature of the tall vessel changes precisely at the area of damage near Khnum's right hand, so that the upper cap is slightly more concave than the bottom. If correct, Khnum would be throwing a small vessel with both hands on top of a tall shaft attached to the lower kick-wheel, similar to the device depicted in one of the reliefs from Hibis (cf. *supra*, fig. 1a), or even closer to two scenes from the rooftop Osiris chapel at Philae [figs. 6-7]:¹⁵



Fig. 6. Ptah using a kick-wheel at Philae (details from G. Bénédite, *Philae*, pl. XXXIX (sic!), and Berlin Photo 1156).

¹³ Dimitri Meeks noted that the earliest example occurs in the Eighteenth Dynasty at Deir el-Bahari: D. MEEKS, *Les architraves du temple d'Esna*, pp. 35, 254, §91 (citing É. NAVILLE, *Deir el-Bahari II*, pls. XLVII-XLVIII).

¹⁴ R. HOLTHOER, *New Kingdom Pharaonic Sites*, p. 33, fig. 46.5-7.

¹⁵ G. BÉNÉDITE, *Philae*, pls. XXXIX and XLI; Horst Beinlich and Ingelore Hafemann kindly provided the corresponding Berlin photographs of these scenes: Berlin-Brandenburgische Akademie der Wissenschaften Archiv „Strukturen und Transformationen des Wortschatzes der ägyptischen Sprache“ (vormals Altägyptisches Wörterbuch), Photo-Archiv (Philae), nos. 1156 and 1153.

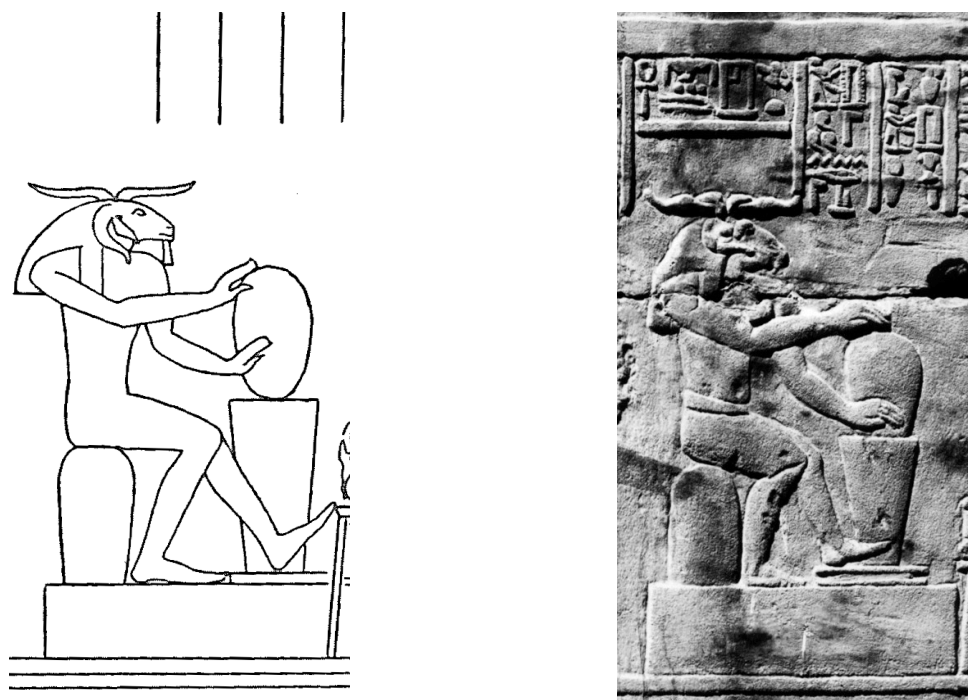


Fig. 7. Khnum using a kick-wheel at Philae (details from G. Bénédite, *Philae*, pl. XLI, and Berlin Photo 1153).

In both examples from Philae, the divine potters Ptah “who created the egg (*qmꜣ swḥ.t*),”¹⁶ and Khnum “who builds upon the potter’s wheel (*qd hr nḥp*),” fashion inverted, medium-sized vessels using kick-wheels featuring tall shafts.¹⁷ As at Luxor, the gods spin the wheels with their feet from above. The combination of the ceramic vessel and the tall shaft is represented in the caption to Khnum where it serves as an ideogram for *nḥp* [fig. 8a, lower left], just as on the stela of Tathotis,¹⁸ and possibly within the naos of statue JE 45390 from Dendera [fig. 8b], where it could be a symbol for Ptah or Khnum.¹⁹

¹⁶ Despite the unambiguous hieroglyph caption (Bénédite, *Philae*, 123, 13), Bénédite incorrectly copied the first figure with the head of Khnum. For this common epithet of Ptah, see D. MENDEL, *Die kosmogonischen Inschriften in der Barkenkappelle des Chonstemephs von Karnak*, MRE 9, 2003, pp. 44-51 (with variants).

¹⁷ Based on Bénédite’s inaccurate drawing, R. Holthoer remarked on the strange shape of Khnum’s vessel, and suggested it could be a divine egg or a lump of clay (*New Kingdom Pharaonic Sites*, p. 25, LPA 12, n. a), as mentioned in the caption to Ptah (cf. *supra*, n. 16). This explanation is unnecessary, since the Berlin photographs clearly demonstrate that both examples depict regular pots.

¹⁸ G. VITTMANN, “Die Autobiographie der Tathotis (Stele Wien 5857),” *SAK* 22, 1995, pp. 286, 290, line 2, in the phrase: “begotten of the Potter (*wṯt n nḥp*).”

¹⁹ A.O.A. ABDALLA, “Graeco-Roman Statues Found in the Sebakh at Dendera,” in C.J. Eyre (ed.), *The Unbroken Reed: studies in the culture and heritage of Ancient Egypt in honour of A. F. Shore*, EES-OccPub 11, pp. 14-15, pls. VIa and VIIa, who alternatively suggested this unusual object could be “perhaps a poor representation of the ‘nḥ-mirror’” (p. 13), or “less likely it is a kind of libation jar and a loaf of bread or *šnw*-sign” (p. 22, n. 34). The statue’s inscriptions consist primarily of sacerdotal titles, and do not appear to refer to the object within the naos.

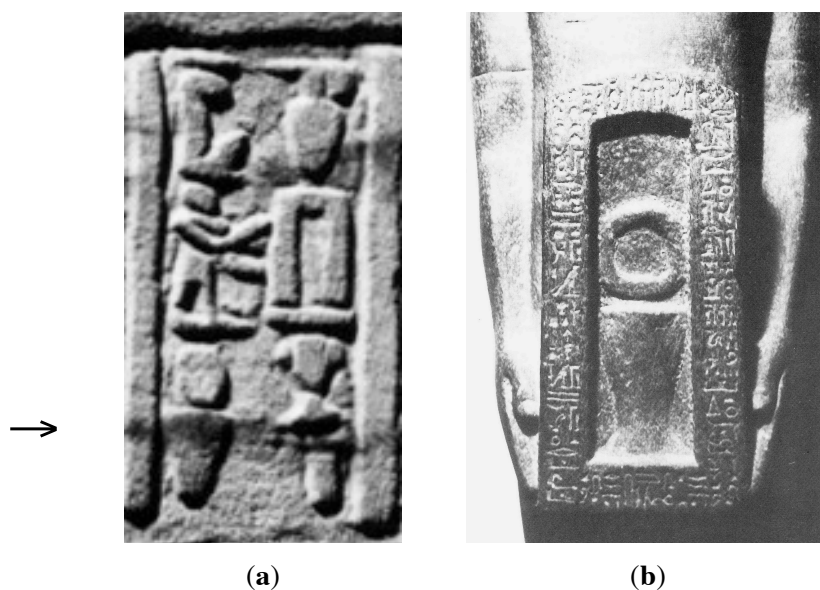


Fig. 8. Representations of the potter's wheel: (a) "Khnum who models on the potter's wheel" (detail from Berlin Photo 1153 = Bénédite, *Philae*, 126, 5), (b) Naos from the statue of Korax, JE 45390 (from A.O.A. Abdalla, in *The Unbroken Reed*, pl. VIIa).

However, the damage to the Luxor hieroglyph may be deceiving, and one could argue that Khnum is finishing a singular, tall, inverted vessel – such as an amphora – on top of a foot-operated turntable. In this case, the Luxor relief invites reconsideration of a scene depicting pottery production from the tomb of Qenamun, usually considered a precursor to the kick-wheel [fig. 9].²⁰



Fig. 9. Potter's wheel from the tomb of Qenamun (TT 43) (after R. Holthoer, *The New Kingdom Sites*, p. 33, fig. 47.1).

²⁰ R. HOLTHOER, *New Kingdom Pharaonic Sites*, pp. 19, fig. 24, NKA 3b, 33, fig. 41.1 ("low pivoted wheel"); P.R.S MOOREY, *Ancient Mesopotamian Materials and Industries*, p. 147, with fig. 10b: ("low-pivoted wheel"); D. Arnold, J. Bourriau (eds), *An Introduction to Ancient Egyptian Pottery*, p. 75, fig. 89 ("extra-low wheel").

Similar to Khnum at Luxor temple, here the potter sits on a taller stool, not on the ground or a chair as in other representations from the New Kingdom. While an assistant supports the vessel and wheel with his hands, the potter finishes a tall inverted vessel upon a low, wide wheel. Catherine Powell characterized this particular scene as follows:²¹

Whilst the activity, material of the wheel, and the bearing arrangement are unclear and confusing, it can be seen that a simple wheel is in use, perhaps requiring an assistant to turn it.

Nonetheless, the supposedly simple wheel depicted in the tomb of Qenamun is reminiscent of the more complex kick-wheel from Luxor temple, and the position of the potter's feet may imply that he recently removed them from the wheel. Perhaps the potter and his assistant are simply stopping the device after the initial process of throwing. Alternatively, the assistant might be steadying the wheel as the potter completes secondary formation (scraping, smoothing) on a thrown vessel; during that stage, the wheel might conceivably turn at lower velocity, and the lower centrifugal force would threaten to destabilize the entire mechanism. In any event, the apparatus depicted in the tomb of Qenamun may represent a prototype of the larger kick-wheel represented at Luxor temple, rather than an exclusively hand-operated turntable.

The elaborate hieroglyph from Luxor temple is not only the oldest Egyptian representation of a kick-wheel, but the earliest secure evidence for this technology in the ancient Near East in general, where iconographic depictions outside of Egypt are almost totally absent.²² Based on ceramic analysis, scholars have generally assumed that kick-wheels must have been used in Assyria already in the Bronze Age, but actual remains of such machines in Syro-Palestine are not attested until Iron Age I-II.²³

As mentioned in the introduction, certain features of pottery have indicated to some specialists that the ancient Egyptians used a type of kick-wheel already in the New Kingdom. The detailed representation of Khnum from Luxor definitively confirms this hypothesis, indicating that a fast wheel was in use already under Ramesses II, if not earlier. In light of this new, chronologically certain, iconographic evidence, one hopes that ceramicists will revisit long-held assumptions about pottery production during the New Kingdom and Third Intermediate Period.

²¹ C. POWELL, "The Nature and Use of Ancient Egyptian Potter's Wheels," *Amarna Reports* 6, 1995, p. 318.

²² However, note an apparently much earlier representation of a low, foot-operated turntable from Syria: "A recently discovered seal impression dating from the third millennium BC from Tell Mozan, Syria, depicts two potters at work in their workshop, seated on a low bench and using one of their feet to turn the low and narrow wheel (Heike Dohmann-Pfälzner, personal communication). They may be coiling pots on a slow-turning wheel." (K. DUISTERMAAT, *The Pots and Potters of Assyria: technology and organisation of production, ceramic sequence and vessel function at late Bronze Age, Tell Sabi Abyad, Syria*, PALMA 4, 2008, p. 377, n. 138).

²³ P.R.S MOOREY, *Ancient Mesopotamian Materials and Industries*, pp. 147-148; B.G. WOOD, *The Sociology of Pottery in Ancient Palestine: The Ceramic Industry and the Diffusion of Ceramic Style in the Bronze and Iron Ages*, *JSOT Supp* 103, 1990, pp. 21-22.

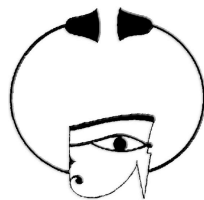
Résumé :

En se fondant sur deux représentations du temple Hibis, les céramologues ont longtemps supposé que le tour de potier à pied rapide n'est apparu en Égypte qu'à la période saïto-perse. Une figuration détaillée de Khnoum provenant d'une inscription de Ramsès II au temple de Louqsor récemment découverte indique, cependant, que cette technologie était déjà utilisée au Nouvel Empire.

Abstract :

Based on two representations from Hibis temple, ceramicists have long assumed that a fast kick wheel did not appear in Egypt until the Saite-Persian period. A detailed representation of Khnum from the recently uncovered building inscription of Ramesses II at Luxor temple, however, indicates that this technology was already in use during the New Kingdom.

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