


# Graphetic Compounding in the First Intermediate Period<sup>1</sup>

## The Micro-history of *ḥtr.wy* “span” and the Process of Sign Decomposition<sup>2</sup>

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**Abstract.** This paper details the circumstances by which ‘composite hieroglyphs’ developed and the factors that may have influenced their subsequent evolution. It is organized into two complementary sections. In the first section, I offer a fine-grained contextual analysis of the sign  *ḥtr.wy* “span (of one pair of oxen)” and its variants in the First Intermediate Period. This analysis suggests two possible scenarios for the development of this sign, an inductive local one (SCENARIO A) and a deductive global one (SCENARIO B). In the second section, I describe the process by which composite signs decomposed within the same period and propose distinguishing ‘compound splitting’ from ‘component merging.’ The results of this systemic approach are used to assess the probabilities of the two scenarios envisioned for the case-study and to plead in favour of the inductive local position.








**Keywords.** Composite signs, monograms, compound splitting, component merging, First Intermediate Period, 11th Dynasty, Dendera, *ḥtr*.

1 I am indebted to Stéphane Polis and Anna Lisa Beck for valuable methodological discussions and for their feedback on this paper. I also thank Philippe Collombert and Lilian Postel who reviewed this paper for their precious remarks, Gaëlle Chantraine and Jelena Gvozdenović for their comments on an earlier version of this paper, as well as Renaud Pietri for the bibliographical references he suggested. In addition, I am grateful to Susan Allison and Marc Maillot for providing me with information about and photographs of Text A, and Campbell Price for photographs of Texts B and D. Finally, I would like to extend my thanks to Daniel J. Waller for his diligent proofreading of this paper.

2 All occurrences of signs and sign groups cited throughout this paper can be accessed in the Thot Sign List (<https://thotsignlist.org/>, last accessed 26.06.2023). I excluded those signs that are published in facsimiles only if I did not have my own photographs thereof.

## 1. Introduction

Compounding signs into groups is a common feature of complex scripts that employ graphetic blocks.<sup>3</sup> In Egyptology, such blocks are traditionally referred to as ‘quadrates.’ A quadrate is defined as the smallest unit of a graphetic sequence inside of which signs can (theoretically) be organized freely.<sup>4</sup> In practice, the evolution of epigraphic visual culture in ancient Egypt is reflected in the process of block compounding: the quadrates in Ramesside monumental inscriptions, for instance, generally appear to be much denser than those of earlier periods.<sup>5</sup> Two visual parameters are of paramount importance when it comes to the systematic investigation of the principles behind graphetic compounding: (1) the quantity of signs within one block and (2) their graphic interaction. With respect to the latter, St. Polis (2018: 315–330) has outlined a set of five basic operations that allow us to specify the “degree of visual fusion (and semiotic interaction)” displayed by the signs (Polis 2018: 316).

Operation	Example	Graphemes
(a) tabulating		$\square + \triangle + \text{—}$
(b) inserting		 + $\triangle$
(c) stacking		 + $\text{—}$
(d) connecting		$\text{—}$ + $\triangle$
(e) combining		$\square + \triangle + \text{—}$

Tab. 1: Classification of sign compounding operations (Polis 2018: 326, tab 1).


The common feature of types (c)–(e) above is that the contours of the compounded signs are connected or merged. As such, they are traditionally termed ‘signes-joints’ (Lacau 1954: 105), ‘composite

- 3 Klinkenberg & Polis (in press) use the term ‘blocs grammémiques.’ For the difference between graphetics and graphematics, see Meletis & Dürscheid 2022.
- 4 The notion of quadrates is discussed briefly in many grammars (e.g., Schenkel 2012: 45; Werning 2015: 4–6; Beylage 2018: 29–31: ‘graphic squares’) but has never been explored in detail (an exception is Polotsky 1929: 16–18). Explicit borderlines between quadrates are found in some preliminary drawings of inscriptions (e.g., the hieroglyphic frieze-band in the corridor of TT 12; personal observation) and the so-called crossword texts of the New Kingdom (Clère 1938; Zandee 1966; Stewart 1971; Fischer 1986: 126–127; cf. Delvaux 2016). Another interesting example of such borderlines can be found in the painted inscriptions on the coffin Uppsala, Museum Gustavianum, VM 348 from First Intermediate Period–early Middle Kingdom Sedment. There, the separating lines between the quadrates were contoured in black and painted in blue like the hieroglyphic signs (Petrie & Brunton 1924: 5, no. 11 & 10–11, no. 22, pl. XXIII, no. 2106 inner coffin; Jørgensen 2002: 42–44, no. 8). Finally, one also might compare the quadrates of the preliminary drawing on the coffin Cambridge, Fitzwilliam Museum E.71.1903 (Dawson & Strudwick 2016: 138–140). These examples, which could certainly be added too, demonstrate that the Egyptological ‘quadrate’ was indeed not alien to those responsible for the ‘ordinatio’ of hieroglyphs (Vernus 1990: 39).
- 5 Loprieno 1995: 21–22; Junge 2008: 27; cf. Jansen-Winkel 1996: 20, § 21.





## 2. Case Study: The Sign in the First Intermediate Period

### 2.1. Dendera


The sign  is known to us in the first place from the frieze inscription of the tomb of *Mri-Pth* A (Petrie 1900: 49, pl. X.A, t6r).<sup>11</sup> This tomb is located in the eastern part of the First Intermediate Period necropolis at Dendera. According to the reconstructed ordering of its blocks, which were found scattered,<sup>12</sup> the text reads as follows (fig. 1.a):

#### Text A

*jw*  $\overline{d}^3(=j)$  *n jwty* [*mhn.t=f*                    “I crossed over for the one who had no boat;  
<sup>?</sup>*jw*<sup>?</sup> *sk*<sup>3</sup>(=*j*) *n jwty*  [<sup>?</sup>*=f*<sup>?</sup> -]            I ploughed for the one who had no **span** [-].”

A similar compound is found in the frieze of *Šn-st.j* (P) (Petrie 1900: pl. XI.C, r2t5).<sup>13</sup> It consists of two separate signs, namely  on top of two cattle dragging a plough, while the text of which it forms a part provides a direct parallel to the frieze of *Mri-Pth* A (fig. 1.b):<sup>14</sup>

#### Text B

*jw*  $\overline{d}^3(=j)$  *n jwty* (*m*)*hn.t=f*                    I crossed over for the one who had no boat;  
*jw* *sk*<sup>3</sup>(=*j*) *n jwty*  =*f*                    I ploughed for the one who had no **span**,  
*rdi.n(=j) pr.t n dbh m-*(=*j*)                    after I had given seed to the one who demanded (it) from me;  
*jw hw(=j) n jwty* [-]                    I harvested for the one who had no [-].”


These two texts are not only connected by their nearly identical phraseology<sup>15</sup> and their use of an unusual sign group: the tombs of *Mri-Pth* A and *Šn-st.j* (P) also lie in direct proximity, in the south-eastern angle of C. Fisher’s grid 15, and share the same orientation (Fischer 1968: plan).<sup>16</sup>

11 Chicago, ISAC Museum E5038 (Fischer 1968: 165–166). The documents published in Petrie 1900 are cited in the present paper following the system outlined in Fischer 1968: VII.

12 The frieze inscriptions in Denderite tombs from the late Old Kingdom and the First Intermediate Period consist of several rectangular limestone slabs with one line of hieroglyphic text. Because they most probably ran “along the top of the mastaba” (Fischer 1968: 65), no examples have been found in situ. The order of the two blocks that are translated here as Text A (Petrie 1900: 49, pl. X.A, t8r2 & t6r) follows Schenkel 1965: 136. Further phraseological parallels will be mentioned below.

13 Fischer 1968: 178 n. 751 remarks that the frieze is distributed over several plates of the editio princeps (Petrie 1900: pl. VII.A, b; XI.A, b & tr; XI.C, r2t5; cf. the discussion, as separate texts, by Schenkel 1965: 149–150, no. 139; 151, no. 141; 166, no. 211). The sign discussed here is also found on the block Manchester Museum, inv. no. 2901 and is mentioned by Polotsky 1929: 62 n. 1 and in *Wb* III, 199.

14 The reconstruction of the sequence follows Fischer 1968: 180–181.

15 Additional parallels are found in the frieze of *Jni-jt=f.j* (Text D below) and the fragment Philadelphia, UPMMA 29-66-618 = excav. no. D 842, l. 3:  $\overline{d}^3.n(=j)$  *m dp.t sk*<sup>3</sup>.*n(=j)* [*m* -] (Fischer 2006: 23–24, fig. 1). The similarity between the latter and Text A is further strengthened by the inversion of  in *sk*<sup>3</sup> (cf. JE 46050, l. 3 = Musacchio 2008: 56, 72 fig. 18; architrave of *Jni-jt=f.j*, l. 4 right part = Petrie 1900: pl. XII, tr). Compare further excav. no. D 628, l. 1:  $\overline{š}d.n(=j)$  *mhr.w sk*<sup>3</sup>[-] (Florès 2018), and a fragment from Petrie tomb 331, l. 5:  $\overline{š}[d.n(=j)]$  *mhr.w sk*<sup>3</sup>.*n(=j)* [-] (Petrie 1900: pl. XIII, b3r).

16 Cf. Petrie 1900: pl. XXVII.









This makes a direct relation between the two sign groups very plausible. At first glance, one might imagine that the sign group in the tomb of *Šn-st.j P* () inspired the more synthetic group  in the Tomb of *Mri-Pth A*, but this is contradicted by the relative chronology of the Denderite tombs. *Mri-Pth A*'s text exhibits close palaeographical similarities with the proximate frieze texts of *Mrr.j* and *Sn-nds.w.j*, which serve as reference point for the local relative chronology of tombs (Fischer 1968: 165–166), but that of *Šn-st.j P* belongs palaeographically to the following period, even though the north-south orientation of his tomb means that it still dates to before the 11th Dynasty (Fischer 1968: 179).<sup>17</sup> Accordingly,  is more likely to be a secondary interpretation of  than its conceptual antecedent. It may even have been influenced by a ploughing scene, like the scene found in the tomb of *Mri-Pth A* (fig. 4.b below). Indeed, if  did not originally feature a plough—the traces at the bottom rear of the sign do not allow for clarity on this point— may have been inspired by the figurative features of this depiction.






Fig. 1. (a) The frieze of *Mri-Pth A* = Text A (after Petrie 1900: pl. X.A, t8r2 & t6r);  
 (b) the frieze of *Šn-st.j (P)* = Text B (after Petrie 1900: pl. XIA b3r, b2r2, b3r2 & XI.C, r2t5);  
 (c) the frieze of *Jni-jt=f.j* = Text D (Petrie 1900: pl. XI.C, t3l & t4l).


Later, during the Theban struggles for reunification,<sup>18</sup>  resurfaces in the text on the architrave of *Hr.w-nht.j* (Cairo, JE 46048, l. 6; fig. 2 below).<sup>19</sup> The concluding line of this lavish self-representation contains two different variants of the sign:

- 17 This relative chronology remains unchanged even if one accepts the suggestion that *Šn-st.j P* is the  *Šn-st.j* (Fischer 1968: 169, 182).
- 18 Line 3 of the text mentions hostilities with the Thinite nome, which points to a date between the reign of Intef II and the unification (Fischer 1968: 132 n. 580). Quack 1992: 103–104 opts for the reign of Mentuhotep II due to the spelling of *hry.t* (<*hrw.t*>). Note, however, that the change of word final <*yt*> > <*wt*> is attested on occasion during Dynasty IX–X (Demidchik 2016: 102–103 n. 24; Brovarski 2018: 127 n. 231 & 473).
- 19 Excav. no. D 3128; on this stela, see also Schenkel 1965: 158, no. 177; Abdalla 1993: 249–253, pl. XXIV.1; Musacchio 2006: 77–81, fig. 2; Musacchio 2008: 55 & 70, fig. 16.


Text C




<i>jw rd.n(=j)</i>  <i>n dbh</i> 	“I gave a <b>span</b> to the one who asked for a <b>span</b> ;
<i>rd.n(=j) sm.w n dbh sm.w</i>	I gave <i>sm</i> -donkeys to the one who asked for <i>sm</i> -donkeys; <sup>20</sup>
<i>rd.n(=j) dp.t n dbh dp.t</i>	I gave a boat to the one who asked for a boat.”




A newly added feature of the sign is the diagonal dual marker behind the palm risp in the sign’s first occurrence here ()<sup>21</sup>, though this addition appears to be absent from the second use of the sign.

The straight vertical variant of the dual marker also appears in the 11th Dynasty frieze of *Jni-jt=f:j* (Petrie 1900: pl. XI.C, t3l).<sup>22</sup> In this text (Text D), the front part of the cattle sign has broken off ()<sup>23</sup>, so that we can only hypothesize as to whether it represents a similar compound. Text D (fig. 1.c) appears to cite the same phrase that appears in Texts A and B, though it comes from a mastaba in the south-west of the Denderite necropolis (Petrie 1900: pl. XXVII & XXXV):

Text D

<i>[- dʒ](=j) n jwty mhn.t=f</i>	“I [crossed over] for the one who had no boat;
<i>[jw skʒ=j n jwty]</i>  <i>=f</i>	[I ploughed for the one who had no] <b>span</b>
<i>jw s[-]</i>	I s[-]

Similarly, Text C re-uses phrases from older Denderite autobiographies from tombs located next to those of Texts A and B, e.g., *gm.n=f sw<sup>(pr jt=f)</sup> m h.w* “after he found it<sup>(the house of his father)</sup> in ruins” (l. 1)<sup>23</sup> and *rht.y hr rht* “the washerman was washing” (l. 3).<sup>24</sup> This makes a strong argument for the hypothesis that  was a deliberate copy of  or the like, and that  (Text D) might also be an intentional copy. This hypothesis would be even stronger if we knew the precise location of *Hr.w-nht.j*’s tomb.<sup>25</sup> In this regard, the fact that all of the Denderite texts that contain the name *Hr.w-nht.j*<sup>26</sup> also come from the southern part of C. Fisher’s grid 15 might point to its location in the vicinity of the tombs of *Mri-Pth* A and *Šn-st.j* (P) (Texts A & B).

20 Abdalla 1993: 252 n. q explains  as (1) unknown designation for “donkey” or (2) erroneous transcription of a cursive spelling of ‘*ʒ.w*’ “donkeys.” The second option, which he favours, is indeed seducing but I am not aware of any contemporaneous spellings of ‘*ʒ.w*’ with a bird sign below . Therefore, I propose that  metaphorically designates the donkey as “helper” (cf. *sm* “to help”; van der Molen 2000: 488–489).


21 Damage to the stone cuts the second occurrence of the sign into two halves and largely obscures the palm risp. The photograph in Abdalla 1993: pl. XXIV.1 suggests that it is highly unlikely that the damaged area also contained dual strokes.

22 Petrie 1900: pl. XI.C, t2–5l. Note that the order of the blocks proposed here—Petrie 1900: pl. XI.C, t3l before Petrie 1900: pl. XI.C, t2l—differs from that of Schenkel 1965: 146–147, no. 134.







23 See the architrave of *Sn-nds.w.j* (Fischer 1968: 158 n. b; Petrie 1900: pl. X, t2r).




24 See the frieze of *Htp.j* (Fischer 1968: 156, pl. XVII.a).








25 Abdalla 1993: 249 states that: “Their exact find spots are not known (...).”

26 Rectangular stela fragment Philadelphia, UPMAA 29-66-647 (= excav. no. D 3494) from 15:421 B/x7:  (https://www.penn.museum/collections/object/84454, last accessed 11.05.2023); fragment of self-presentation




The sign  is not the only ‘innovative’ compound sign in the epigraphic material that survives from First Intermediate Period Dendera, though it is certainly one of the earliest. In fact, Text A, Text B, and contemporaneous monuments (Fischer 1968: 128–176) do not contain any other new compounds except for the merged sedges  *nn* “this.”<sup>27</sup> Eleventh Dynasty texts are only slightly richer, the sole examples being  from the stela Edinburgh NMS 1898.382.3, l. 2 (logogram for *jt-šm* “small barley”; Petrie 1900: pl. XI, tr)<sup>28</sup> and  from the architrave of *Bb.j* (II), l. 2 (classifier of *šnd.t* “acacia-wood”; Petrie 1900: pl. VII.A, bl).<sup>29</sup> In this respect, Text C stands out because it contains three ‘new’ compounds,<sup>30</sup> namely  (l. 2; classifier of *wh* “column”),<sup>31</sup>  (l. 3; logogram




Philadelphia, UPMAA 29-66-804 from 15: 11 Dx:  (https://www.penn.museum/collections/object/264429, last accessed 11.05.2023); lintel Philadelphia, UPMAA 29-66-581 from 15:331 A/x2:  (https://www.penn.museum/collections/object/336544, last accessed 11.05.2023); lintel Philadelphia, UPMAA 29-66-700 (= excav. no. D 6129) from 15:631 C/x17 (Pillon 2022: 474–475 fig. 4a): . Additionally, it is unclear whether the architrave of *Hr.w-nht.j* is connected to the owner of Petrie’s Tomb of Hornekhta (Petrie 1900: pl. XXVII, XXXII); this tomb is also located in the southern part of grid 15, and Petrie 1900: 19 dates it to ‘Class D: IX–Xth(?) Dynasties.’


27 While the two sedges are kept apart in the 6th Dynasty frieze of *Snn.j* (Petrie 1900: pl. VII.A, tr2), the leaves of the sedges are fused in the three unquestionable First Intermediate Period attestations of *nn* “this”: Text B (Petrie 1900: pl. XI.A, bl); lintel of *Sn-nds.w.j* (CG 1658, l. 3; clearly visible on the photo in Musacchio 2008: 62, fig. 4); Cairo, CG 20805 = excav. no. D 1542, l. 6 (Musacchio 2010: 2 fig. 1 draws separate plants, but they appear to merge in the photograph in Pitkin 2017: pl. LXXIV); cf. also the examples from the burial chamber of *Bb.j* (e.g., Petrie 1900: pl. XXXVII col. 18; pl. XXXVII.H col. 714 & 716). In comparison, the sedges are separated in six out of nine attestations of  *nn* “this” on contemporaneous stelae from the Fifth Nome (Fischer 1964: 55, pl. XIX, no. 21; pl. XXX, no. 33) and in most occurrences from other regions (Clère 1941: 457 n. 10; exception: Callender 2019: 203, § 294). Like the exchange  ~ , this is evidently due to the corresponding hieratic grapheme  (Graphem ID 1439, AKU-PAL 2023: https://aku-pal.uni-mainz.de/graphemes/1439, last accessed 11.05.2023). A similar phenomenon occurs in the 5th Dynasty tomb of *Ny-nh-Hnm.w* and *Hnm.w-htp* in  *nn* “this” (Moussa & Altenmüller 1977: 83, fig. 10), which clearly derives from the cursive . Compare  *h’b’* “to winnow” from the same tomb (Moussa & Altenmüller 1977: 126, pl. 54.b, fig. 24; other examples are found in Wild 1966: pl. 155; Murray 1905: pl. XI), which might be linked to the cursive writing of numerals (Goedicke 1988: 54a–b, no. 642).

28 For the translation, see Müller-Wollermann 1987; Florès 2015: 299–301. See also n. 33 below.

29 Cf. Fischer 1977a: 11 & 12, fig. 6.b. Compare another attestation in the burial chamber of *Bb.j* (Petrie 1900: pl. XXXVII.H, col. 720).

30 According to the drawing in Abdalla 1993: 250 fig. 2, the group  in line 2 is a compound; Musacchio (2008: 70, fig. 16) separates its two components.

31 Cf. Fischer 1977a: 11 & 12 fig. 6.f. Note that the sign does not appear as a compound in the drawing in Musacchio 2008: 70, fig. 16, even if the elements are clearly fused in the above-mentioned photograph. On the 11th Dynasty architrave UPMAA 29-66-618 = excav. no. D 842, l. 2, both signs are separated:  (cf. Fischer 1968: 158, who does not indicate this difference in his hieroglyphic transcription). As classifier of *wh* “column,” this sign also appears on the door jamb CG 20502, l. 2 from Abydos, which is only available to me as a hieroglyphic transcription (Mariette 1880: 97, no. 545: ; Lange & Schäfer 1908: 94: .

for *rht.y* “washerman”),<sup>32</sup> and  (l. 4; logogram for *jt-šm* “small barley”).<sup>33</sup> This unexpected abundance of compounds, as well as the nature of these compounds, clearly link the text to the Theban 11th Dynasty in terms of palaeography.<sup>34</sup>

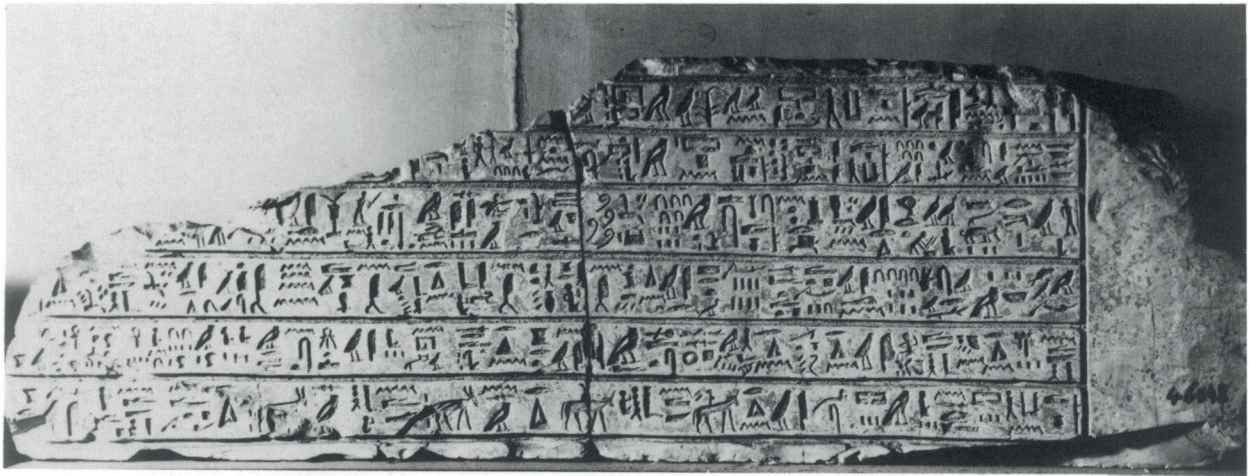

















Fig. 2. The architrave of *Hr-nht.j*, JE 46048 = Text C (after Abdalla 1993, pl. XXIV.1)



Against this background, the position of the sign  in the lowest line of the architrave of *Hr.w-nht.j* (Text C) appears particularly significant (fig. 2): first, this was certainly the most visible part of the text in its original setting, at the top of the entrance, and second, the graphetic sequence that contains  is composed of especially spacious graphetic blocks that contrast significantly with the high density of the rest of the inscription. This *mise en scène* would certainly have attracted the attention of ancient visitors; as such, it may be seen as an explicit and purposeful reference to local palaeographic traditions.




- 32 Cf. Fischer 1968: 156. The detail whereby the feet of the birds merge might simply be due to a slip of the chisel, but other contemporary stelae provide parallels for similar connections that seem to be significant:  *m-m* “among” on stela Strasbourg 344, l. 4 & 5 (Fischer 1964: pl. XVI top, no. 16) and in stela Cairo, JE 41437, l. 5 (Petrie & Walker 1909: pl. II right);  *m-s* “to see” on stela MMA 13.182.3, l. 8 (Winlock 1943: pl. XXXVI);  *s-s* “wise” on MMA 57.95, l. 2 (Fischer 1960: fig. 1, pl. VII); cf. the examples in Callender (2019: 146, § 218 & 158, § 237). In Middle Kingdom texts, the *rht.y*-birds are commonly superposed (e.g., Simpson 1995: 50, pl. 9.f: ) or written using a cursive ligature (e.g., CG 20160, section r, l. 6 = Lange & Schäfer 1902: 189, pl. XIV; Amer 1999: 22). By contrast, the rare Old Kingdom examples of this group mostly reflect two separate birds, e.g., the stela Leiden F1938/l.4 (Fischer 1968: 62, fig. 13) or the tomb of *Ny-nht-Ppy* at Saqqara (Hassan 1975: pl. 25–26).
- 33 The same group also appears in line 3 () though its components do not merge in that instance. The signs are linked on stela Edinburgh NMS 1898.382.3, l. 2 (see above), but separate on the architrave Manchester 2891  (Petrie 1900: pl. XI.B, tr). Note further that the merged compound is found in other 11th Dynasty documents, e.g., the graffito CM 114, l. 6 (Cuyat & Montet 1912: pl. XXXI) and the unprovenanced stela CG 20011, l. 7  (Lange & Schäfer 1902: 10–11, Pl. II; cf. el-Khodary 2012). These latter examples strongly suggest that the process of compounding was influenced by the cursive group  (Qaw bowl, inside, l. 5 = Gardiner & Sethe 1928: pl. II; cf. bowl from QH 30b, l. 4 = Edel 1987; the cursive signs are separated in Edel 1970: 139; Pantalacci 2005a: 84, fig. 1).
- 34 Cf., for example, the stela Copenhagen AIN 891 which is equally abundant in compounds (Mogensen 1930: 92–93, pl. XCVIII bottom).





## 2.2. Other Regions



The 11th Dynasty stela CG 20506 of unknown provenance contains the sign group  (l. 7; Lange & Schäfer 1908: 96–97, pl. XXXIV). This group is clearly related to the compounds discussed above. The offering formula in this text consists of two lines and one column of figurative hieroglyphs; it is followed by a self-presentation in six columns that consists of crudely incised signs, many of which display clear influences of cursive writing.<sup>35</sup> This observation also applies to the sign group  which is composed of ,<sup>36</sup> ,<sup>37</sup> and  (fig. 3.a):<sup>38</sup>



Text E	
( <i>jnk</i> ...)	“(I am one ...)
<i>skʷ m</i> 	who ploughs with a <b>span</b> ,
<i>pjs m</i> 	who transports (grain) with a donkey,
<i>sft m jh.w</i> <sup>39</sup> (...)	who slaughters from the oxen (...)

The signs here clearly correspond to the hieroglyphic group , which equals  (Text B), though  expresses the dual through the use of two strokes rather than two yoked oxen. Palaeographic<sup>40</sup>


35 This layout recalls the stela CG 20805 from Dendera, which also dates to the 11th Dynasty (Schenkel 1965: 167, no. 223.3; Musacchio 2010).



36  ~ ; cf. Goedicke 1988: 20a–b, M6/271; Backes 2020: 624, M6/271.

37  ~ ; cf. Goedicke 1988: 9a–b, E1/142; Backes 2020: 613, E1/141–142. The cursive variant of this sign also appears on the First Intermediate Period stela Chicago, ISAC Museum E12105, l. 7 (Fischer 1964: pl. XVI bottom), in a caption on the stela Louvre C15 from the mid-11th Dynasty (Delange 2015b; the caption is located to the right of the offering table, below the writing tablet of the little standing scribe), and on the somewhat later stela BM EA 1628, l. 10 (Franke 2007: 153, fig. 2). There is probably no direct relation between the use of this cursive sign variant in these different documents, because all of the text sections in question are characterized by a high frequency of cursive sign shapes.

38 Translations of this section are found in Polotsky 1929: 35, § 62; Schenkel 1965: 300; and Landgráfová 2011: 98–99, who mistakenly transcribes the hieratic spelling as  (as does the current version of the TLA:  = <https://thesaurus-linguae-aegyptiae.de/sentence/IBUBd86T6HWBDknwmxuUottEE10>, last accessed 11.05.2023). Only late Middle Kingdom stelae from Edfu provide phraseological parallels; see § 2.3 below.

39 For the introduction of the direct object of *sft* with *m* compare CG 1596, l. 5: *sft.n=j m w. (≠j)* Borchardt 1964: 74, pl. 79 = *Urk. I*: 151.2. A roughly contemporaneous parallel is found on the Theban stela CG 20007, l. 6: *skʷ m kʷ.w sft m jh.w* “[I am one who ...] ploughed with bulls, slaughtered from the oxen” (Saleh 1999: 112–115, no. 16; Schenkel 1965: 120, no. 91).

40 Brovanski 2018: 115 n. 96 & 138–139 n. 310 remarks that the shape of the sign  and the reference to the *hkr.t nzw w.tyt jkw* (l. 8–9) speak to the stela’s Theban origin. He dates it to the 11th Dynasty, perhaps to the reign of Mentuhotep II. In contrast, Ilin-Tomich attributes the stela to el-Salamiya (<https://pnm.uni-mainz.de/2/inscription/1895>, last accessed 11.05.2023), possibly based on its Journal d’Entrée number (JE 26911); cf. his discussion on later stelae from the Rizeikat area (Ilin-Tomich 2017: 113–120). Unfortunately, its closest stylistic parallel, CG 20006 (Lange & Schäfer 1902: 6, pl. I), is also without provenance. As Philippe Collombert suggested to me, an in-depth study of the two stelae might allow for precisions in terms of date and workshop.

and phraseological<sup>41</sup> features make it unlikely, however, that the stela derives from a Denderite scriptural tradition. In Text E, the palaeography of the classifier  of the verb *pjs* “to transport (grain) on a donkey’s back” (*Wb* I, 502.9; Meeks 1978: 134, no. 78.1431) is also noteworthy. The sign depicts a donkey with two lines emerging from its back. The somewhat clearer spelling in CT Spell 203 (= CT III, 138b, S1C:  = *prjs* ~ *pjs*) demonstrates that these two lines should be interpreted as the loops that hold the donkey’s load (hanging down on its sides) in place.<sup>42</sup> A comparable pictorial representation is to be found on a relief fragment from the tomb of *Mri-Pth* A (fig. 4.b below). There, the motif is located in the middle register, with a ploughing scene in the register directly below it.<sup>43</sup>

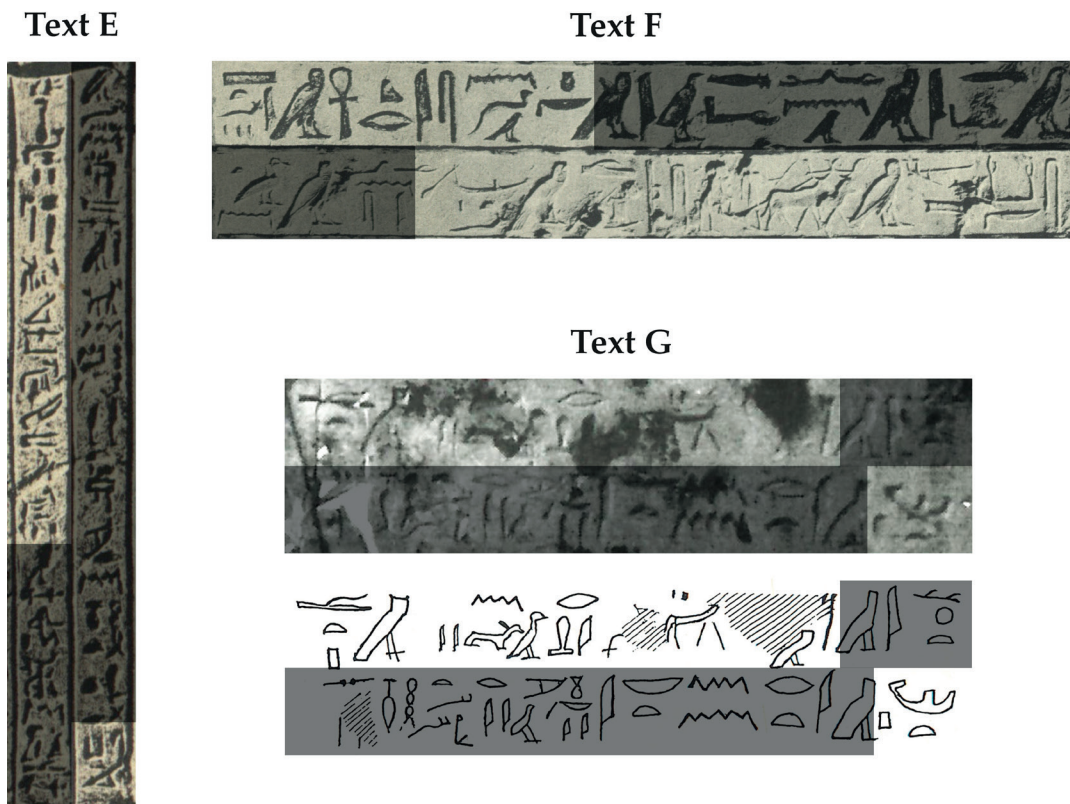






Fig. 3. (a) The stela CG 20506, l. 6–7 = Text E (after Lange & Schäfer 1908: pl. XXXIV);  
 (b) the stela Chicago, ISAC Museum E16956, l. 6–7 = Text F (after Dunham 1937: pl. XXXII);  
 (c) the stela of *Šdi-nfr-kꜣ*, l. 4–5 = Text G (after Fischer 2006: fig. 1–2).

- 41 In fact, the phraseology of the stela finds its closest parallels in the contemporaneous Abydene stela CG 20012, l. 4–5 and in a group of stelae from Second Intermediate Period Edfu (see § 2.3 below).
- 42 Cf. Borghouts 2010: 42, E7+. A similar sign, E221 = , depicts a donkey with a load on its back. It is found as the classifier of the verb *šdi* “to take away” in Old Kingdom harvesting scenes, e.g., in the tomb of *Iy* (Wild 1966: pl. CXLIX; cf. Montet 1925: 211). The early dynastic sign e13, where the donkey carries a rectangular load, might have the same value (Kahl 1994: 486; Regulski 2010: 390, e13). It is found in personal names in 1st Dynasty dipinti. Kaplony 1966: 199–200, n. 321 and Vandenbeusch 2020: 36 add two possible examples: CTII, 175a (the context of which does not allow for any certain identification); and CTV, 199a which more likely depicts a pig, cf. the variants of  collected in Volokhine 2014: 71–77.
- 43 Donkeys with sacks fixed to their bodies by similar loops also appear in QH 110 (Edel *et al.* 2008: pl. LXXII). In the Old Kingdom, the load is mostly depicted from above (Stoof 1987: 116–118).

Another sign that is both visually and semantically related appears on the stela Chicago, ISAC Museum E16956<sup>44</sup> from Nag ed-Dêr, which Brovarski (2018: 305–307) assigns to the *Polychrome Group* of the 9th Dynasty. Lines 6–7 of this text read as follows (fig. 3.b):

Text F

<i>jnk nḏs jkr</i>	‘ <i>nḥ m jš.wt=f</i>	“I am an excellent <i>nḏs</i> ,	who lives from his goods,
	<i>skʾ m</i> 		who plough with the <b>span</b> , <sup>45</sup>
	<i>skḏ mḥn.t</i>		who sails the boat.”

The logogram  depicts a yoke with two oxen followed by their driver and another man holding the plough in place. This is a common motif in the parietal decoration of contemporary tombs. At Nag ed-Dêr, this motif appears twice in the late Old Kingdom tomb N248 (fig. 4.a; cf. Peck 1959: 45, 47, pl. III); at Dendera, it appears on the limestone fragment from the tomb of *Mri-Pth* A (fig. 4.b; Petrie 1900: pl. X, br2; Fischer 1968: 166). Further parallels come from the tomb of Ankhtyfy at Moalla (Vandier 1950: pl. VIII & XXXII.3) and QH 110 (Edel *et al.* 2008: pl. LXXXIV). But all of these contemporaneous representations differ slightly from the sign discussed here; in all the other examples, the cattle-driver adopts the most common posture (for the Old Kingdom as well),<sup>46</sup> swinging his stick behind his head and stretching his other hand out towards the span. A rare occurrence of this motive with the driver in a similar posture is found in the late Old Kingdom tomb QH 34h (fig. 4.c; cf. Edel *et al.* 2008: 547).

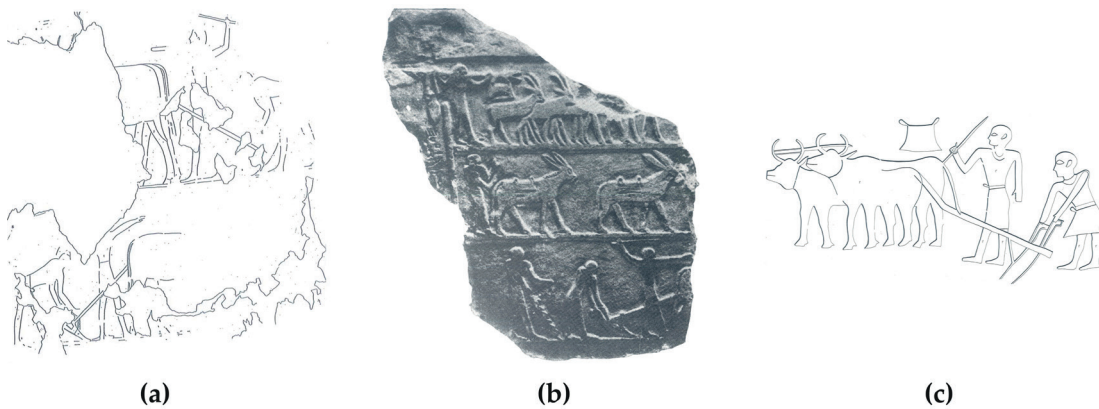



Fig. 4. Scenes of ploughing in later Old Kingdom and First Intermediate Period tombs: (a) N248, (after Brovarski 2018: 102, fig. 8.2); (b) tomb of *Mri-Pth* A, Dendera (after Nibbi 1978: pl. X); (c) QH 34h (after Edel *et al.* 2008: pl. XXI).

44 Dunham 1937: 102–104, no. 84, pl. xxxii; Schenkel 1965: 184–185, no. 263 [cited with wrong inv. no. 19956]; Teeter 2003: 33–34, no. 12; Brovarski 2018: 305–307, color pl. III; <https://oi-idb.uchicago.edu/id/b8dd6c8e-19db-47e8-886a-c6bf47d9a6a>, last accessed 11.05.2023; Stauder 2023, 70–71, fig. 3.1.

45 Note that Polis 2022: 45 proposed the ‘maximal’ reading *skʾ m ḥtr.wy (m) ḥb m tp rmt.w* “(j’)étais quelqu’un qui labourait à l’aide d’un attelage de bœufs et d’une charrue (agissant) comme premier des hommes” for the logogram , ascribing additional semographic values to the plough and to the two men accompanying the span. To the best of my knowledge, the only known phraseological parallel is from the tomb QH 35I (Edel *et al.* 2008: 915, pl. LIX). In view of the tomb’s date (time of Hatshepsut) and the lack of First Intermediate Period or Middle Kingdom parallels, I consider this hypothesis to be untenable.

46 Cf. Harpur 1987: 161–162.

The last sign to be discussed here is found on a stela that is purportedly from Akhmim (fig. 3.c; Fischer 2006: 34–35, fig. 1–2):



Text G

$s[k^3=j] m^3 \text{ 𓄏𓄏𓄏𓄏 } =j^{47}$



























“[I] pl[oughed] with my **span**,


$d^3(=j) n jwy^{48} m dp.t=j^{49}$

I crossed over for the stranded one with my boat.”

Unfortunately, the published photograph and drawing are of insufficient quality for a detailed palaeographic assessment.<sup>50</sup> Consequently, this example will (for the most part) be excluded from the following discussion. Note, however, that the photograph and drawing do seem to indicate (*contra* Fischer 2006: 36 n. f) that this document depicts a bull pulling a plough (and possibly its driver: ) with two strokes above the animal's back used to mark the dual. If this reading proves to be correct, the sign would resemble  in Text E (which is also the closest parallel from a geographical point of view). Finally, as in Text E, the motif [TRANSPORT OF THE STRANDED ONE] in this text appears after [PLOUGHING WITH SPAN] and not before it (as in the Denderite Texts A, B, and D).

### 2.3. Lexicographic Excursus: *tr.wy* or *htr.wy*

The phraseological relations apparent in the preceding discussion (§ 2.1–2) demonstrate that the different sign groups in question must refer to a single lexeme, namely, a device that is used for ploughing (*sk^3*). The most ‘intuitive’ reading is, of course, *htr.w* “span,” which appears in all dictionaries (e.g., *Wb* III, 199–200; Hannig 2003: 911; Hannig 2006: 1814). Indeed, the phrase *sk^3 m htr.w* “to plough with a span” (Text E; cf. also Text A & B) is spelled with mono-consonantal signs in the contemporaneous stela CG 20012, l. 4–5 (Lange & Schäfer 1902: 11–13, pl. II):<sup>51</sup> *pr.n(=j) r sh.t h^3.n(=j) r pr sk^3.n(=j) m htr.w* (                         ) “I came out to (my) field, I descended to (my) domain and I ploughed with (my) span”; as well as in a group of stelae from late Middle Kingdom Edfu that provide direct phraseological parallels to Text E:<sup>52</sup>

47 Note that the retention of the final *r* before the suffix pronoun is marked by the addition of .



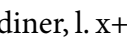
48 Cf. Rizzo 2005: 174.

49 The following statement, probably an adverbial phrase, is fraught with philological difficulties (Fischer 2006: 35–36).





50 I have been unable thus far to locate more recent photographs of the stela in sales catalogues.







51 A more recent photograph of the stela is to be found in Pitkin 2017: pl. CLXV, no. 322. Brovanski 2018: 418 n. 180 assigns it to the reign of Mentuhotep II.

52 Polotsky 1929: 35, § 62; Janssen 1946: II, 107–108 Fd; Moreno García 1999: 248; Kubisch 2008: 66–67, 210, 212, 226, 233. Note that the motif [TRANSPORT OF THE STRANDED ONE/BOATLESS] appears next to [PLOUGHING WITH SPAN] in the Denderite self-presentation of the First Intermediate Period discussed above, in similar texts from Second Intermediate Period Edfu, as well as in Text E, l. 5–7, where another phrase was inserted between both motifs: *jw d^3.n(=j) jw m mhn.t ds=s<sup>(sic)</sup> jnk jwjw sdr m hn tsm n hnsky.t mr n hnw.t=f sk^3 m htr.w pjs m ^3 sft m jh.w* “I transported the stranded one with my own boat. I am a dog who sleeps in the tent, a greyhound of the bed, beloved of his mistress, who ploughs with a span, who transports grain with a donkey, who slaughters from the oxen.”

- CG 20499, l. 8–9 (Lange & Schäfer 1908: 90–91, pl. XXXIV):  $d^3=j m jmw=j sk^3=j m \dot{h}tr.w$  (<sup>53</sup>)  $pjs(=j) m ^3.w$  “I travelled by my ship, I ploughed with (my) span, I transported grain with (my) donkeys”
- CG 20530, l. 13–14 (Lange & Schäfer 1908: 131–133):  $sd^3 m m\dot{h}n.wt=f sk^3 m \dot{h}t\{t\}<r>.w=f$  (<sup>54</sup>)  $pjs m ^3.w=f m h^3r.w=f$  “who travelled by his boat, who ploughed with his span, who transported grain with his donkeys”
- ex. coll. Gardiner, l. x+2–3 (Gardiner 1916: 100):  $d^3 m m\dot{h}n.wt=f sk^3 m \dot{h}tr=f$  ()  $pjs m ^3.w=f$  “who travelled by his boat, who ploughed with his span, who transported grain with his donkeys”

Finally, it should be noted that the earliest attestation of this lexeme, which is found in the tomb of *Jbj* at Deir el-Gebrawi, is spelled  $\dot{h}tr.w$  (Kanawati 2007: 55, pl. 75).<sup>55</sup>

The logographic spellings from Dendera (Text A and C) are not definitive proof, however, that *htr* was the lexeme’s common reading in Upper Egypt during the First Intermediate Period. If one were to infer its reading from the two spellings  (Text B) and  (Text E) which include the phonogram  $\dot{h} tr$ , one might indeed conclude that there existed a local variant *tr* “span,” and that the cattle merely served as its classifier. In fact, Fischer (1977a: 11) seems to have held this view, reading  *tr* “span.” In doing so, he was possibly influenced by the lexeme  in account V of the archive of *Hk^3-nht*. R<sup>o</sup> 24 of this document adds 15 *trw*-cattle (James 1962: 59–60; Allen 2002: 54–55, pl. 16 & 41: “team-bull”) to a list of the  $k^3.w swd.n Hk^3-nht n S^3-nb-n^3.t$  “cattle that Heqanakht entrusted [to Si]nebniut” (Allen 2002: 19).<sup>56</sup> In fact, the lexeme *trw* “team-bull” might somehow be connected to *htr.w* “span.” But I would argue that the relation is more likely derivative, as *trw* seemingly refers to a single bovine used for ploughing and not to the whole device.<sup>57</sup> As such, the spellings from Dendera should be understood rather as graphetic blocks within which  $\dot{h}$  expresses the phonetic complement *tr*.

At this point, it should be stated that the lexeme is evidently not *htr* or *htr.w* but the dual *htr.wy*.  (Text C),  (Text D),  (Text E), and  (Text G) indicate this morphological feature by means of two strokes //||, while  (Text B) and  (Text F) express it logographically by duplicating the oxen. This strongly suggests that the lexeme was perceived as *duale tantum*

53 McDonald 2002: 205–206; 2007: 36 n. I identifies the classifier of *htr.w* “span” as a donkey but the published photograph shows the sign to differ from the following classifier of  $^3.w$  “donkeys.” That said, its simplified head (with one ear and a long muzzle) does not correspond to the classifier of *mnmn.t* in l. 8 (characterized by a triangular ear and V-shaped horns).

54 This misspelling is evidently due to the fact that the groups  and  are homographic in certain cursive hands.

55 Cf. Davies 1902: pl. 23; Chioffi & Rigamonti 2012: 124.

56 A later list of cattle types that mentions *htr.w* is pUC 32179, VI.10 (Collier & Quirke 2006: 24).

57 From a phonological perspective, one might compare the elision in Coptic  $\alpha\tau\rho\epsilon^s \sim \alpha\tau\rho\epsilon/\alpha\epsilon\rho\epsilon^b$ , but this is probably a rather late development (Vycichl 1990: 135–136; Peust 1999: 158, § 3.14.7). I tentatively propose that *htr.w* derives from *trw* by way of the plural-extensive affix *h*; cf. Brose 2017.







in Southern Egypt during the First Intermediate Period, not least because a span usually involved two animals. Due to the gradual recession of the dual inflexion,<sup>58</sup> *ḥtr.wy* seems eventually to have developed into the abstract noun *ḥtr.w*, which appears in the above-mentioned 11th Dynasty stela CG 20012 and in the texts from Edfu. But the notion of duality or “binding together” (*ḥtr*) remained part of the lexeme’s semantic field in the long run (cf. Vernus 2009: 2–3).



## 2.4. Interpretative Scenarios



The seven surviving attestations of the group *ḥtr.wy* “span” allow for two different scenarios with respect to the diachronic development of the sign group. Firstly, looking solely at the Denderite sources and their topographical as well as phraseological links (§ 2.2), one might suggest two processes of local sign transmission:

### 2.4.1. Scenario A

a) Graphetic analysis:  (Text A) >  (Text B)

In addition to the chronological and topographical relations between the signs discussed in § 2.2, the lexicological observations in § 2.3 suggest that the ‘analytic’ group  is a secondary development. If  originates from  (or from a similar compound sign), the phonogram *tr*  may have been detached in order to clarify the reading of the logogram.

b) Copy (with morphographic enrichment):  (Text A) →  (Text C)

The fact that a rare ‘innovative’ sign group appears on two monuments, separated in time by several generations though linked spatially, suggests a degree of interdependence. This hypothesis is further strengthened by the visual enhancement of the sign in Text C, achieved through specific grapho-syntactic modifications (§ 2.2).<sup>59</sup> It is not possible on the basis of the available evidence to determine whether the individual(s) who composed Text C copied  directly from Text A, or whether the transmission occurred indirectly through a chain of now-lost sources. That said, the novelty of the compound sign  would certainly have increased its visual salience, as a consequence of which it may have been transmitted like other pictorial motifs in the decoration of tombs.<sup>60</sup> In fact, similar cases can be observed in the Memphite necropolis of the Old Kingdom (Thuault 2020: 220–224).

58 See, e.g., Loprieno 1995: 60.

59 Alternatively, one might posit the existence of phrasebooks containing this specific compound sign (Morenz 2010: 229–334). This is not a particularly economical explanation, however, as all of Morenz’s case studies can be explained by less mechanical processes, e.g., the practicalities of copying and adjusting texts on writing tablets or reproducing them from memory.

60 On the transmission of motifs in the decoration of tombs, see, e.g., Pieke 2017; 2018; 2022. Note that the transmission of our sign in this fashion would represent a direct consequence of the interplay between script and pictorial


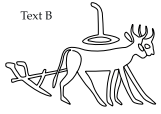









	Dendera			unknown	Naga ed-Dêr
	compound	sign-group	unclear		
Dyn. IX-X					
Dyn. XI					


Fig. 5. Chronological and geographical distribution of the group *ḥtr.wy* in Texts A–F.

The largely lost signs in Text D and UPMAA 29-66-618 (see n. 15 above) show that the reality of sign transmission in First Intermediate Period Dendera was certainly more complex than the other available sources might suggest.<sup>61</sup>

Estimates concerning the number of spellings of *ḥtr.wy* that may have been produced in First Intermediate Period Dendera are futile. It is nonetheless important to keep in mind that the surviving spellings are not necessarily a representative sample. It is, for instance, far from certain whether the available sources represent the initial deployment of their specific sign forms or whether they reflect only random stages in the evolution of the sign. And if one includes the spellings of *ḥtr.wy* from Texts E, F and G—regardless of possible regional differences—it is possible to suggest a more deductive global reading:

#### 2.4.2. Scenario B

[PLOWING SCENE] >  > \* >  >  +[dual] >  +[dual]

This scenario sees a purely logographic group like  (which fits comfortably within the Old Kingdom epigraphic culture where human activities were classified with specific depictions of those activities)<sup>62</sup> as a very plausible starting point for the development of our sign group. At some point, the complement *tr* ] would have been added to clarify the reading of the sign, eventually rendering the human actors and the plough obsolete. Indeed, as the evidence stands, the latter seem to

representations most recently described by Vernus 2022.

61 In addition, a large part of the material found by C. Fisher remains unpublished (p.c. Andrea Pillon).

62 Cf. Collombert 2007: 23–24. Examples are to be found in Fischer 1997: 178–179, 185 fig. 5; 2000: 27–30; 2001; 2002; Pantalacci 2005b: 275–278; and Collombert 2010: § 9, § 12–16, § 20–21.

have been replaced by the more abstract dual markers. As a final step, the fusion of the superposed group  $\overline{\text{K}} > \overline{\text{K}}$  may be explained as a simple compounding operation.

### 3. The Decomposition of Conventionalized Compounds

Once a sign group had come together, different processes might come into play that began to modify the visual interaction of its components within the graphetic quadrat. For example, Fischer (1977a: 11–13) observes that ‘connected’ groups (e.g.,  $\overline{\text{H}}$ )<sup>63</sup> tend to transform diachronically into ‘stacked’ groups (e.g.,  $\overline{\text{H}}$ ),<sup>64</sup> whereby the horizontal sign moved to the center of the vertical sign.<sup>65</sup> Less well known is the opposite phenomenon, namely, the process whereby conventionalized compound or composite signs began to decompose. From a systemic point of view, two chains of decomposition operations can be observed in inscriptions from the First Intermediate Period:

a) COMPOSITE SIGN > COMPOUND SIGN (> TABULATED QUADRAT)<sup>66</sup>

- examples:  $\overline{\text{K}} > \overline{\text{K}} > \overline{\text{K}}$  (§ 3.1.a);  $\overline{\text{K}} > \overline{\text{K}} > \overline{\text{K}}$  (§ 3.1.b)
- taxonomy: ‘compound splitting’
- graphetic process: analysis

b) COMPOSITE SIGN > SIGN VARIANT<sup>67</sup>

- example:  $\overline{\text{H}} > \overline{\text{H}} > \overline{\text{H}}$  (§ 3.3)
- taxonomy: ‘component merging’
- graphetic process: reanalysis

The taxonomic difference ‘splitting’/‘merging’ is based on the visual effect that results from the process of decomposition. In (a), the syntagmatic degree of visual interaction across the components of a sign is reduced by (partially or fully) disconnecting the elements of a compounded sign, which are *analyzed* as independent units of one graphetic block. This process not only affected compounds whose semantic value consisted of the sum of their components, but also those whose value applied only to the entire composite (e.g., § 3.1.a–c). Conversely, (b) *reanalyzes* the former graphetic block as a single grapheme, transforming one of the components into a palaeographic feature of the other component.

63 Stela ÆIN 891, l. 11 (Mogensen 1930: 92–93, pl. XCVIII bottom; Clère & Vandier 1948: 45–46, § 32); stela Louvre C252, l. 2 (Clère & Vandier 1948: 22–23, § 26; <https://collections.louvre.fr/en/ark:/53355/cl010022790>, last accessed 11.05.2023; cf. Fischer 1977a: 13, fig. 9a).

64 Examples of this compound are cited by Fischer 1977a: 13 n. 83.

65 ‘Stacked’ sign groups do not necessarily result from ‘compounded’ groups; they could also be used as purposeful ‘calligraphic’ devices, at least in cursive writing, e.g.,  $\overline{\text{H}}$  in *Hk<sup>3</sup>-nht* letter III, r<sup>o</sup> 2 (Allen 2002: 207, O36x19, pl. 12 & 34–35) or  $\overline{\text{H}}$  *Hk<sup>3</sup>-nht* letter III., r<sup>o</sup> 3 (Allen 2002: 195, D29\*, pl. 12 & 34–35).

66 This terminology follows Polis 2018: 327–330; see § 1 above.

67 For a description of sign variants (‘classes’) see Polis *et al.* (2021).

### 3.1. 'Compound Splitting'

The diachronic development of 'compound splitting' during the First Intermediate Period might be understood best by looking at the evidence of those composite signs formed with  $\text{𓀀}$ :

- a) In Old Kingdom examples, the logogram  $\text{𓀀}$  *jyi* "to come" generally presents a thorough fusion of  $\text{𓀀}$  and  $\text{𓀀}$ , as the front jamb is directly attached to the flower of the reed and its stalk is transformed into the rear jamb.<sup>68</sup> Towards the end of this period, the visual interaction of the logogram's components occasionally loosen such that the sign appears to be a mere compound sign, e.g.,  $\text{𓀀}$  in the architrave UPMAA 29-66-682, l. 4 (Fischer 1968, pl. XIV) from Dendera.<sup>69</sup> Interestingly, this is the dominant sign form in 11th Dynasty Dendera<sup>70</sup> and Thebes.<sup>71</sup> What is more, in contemporary expedition inscriptions, the two components are even neatly detached from one another, e.g., CM 114, l. 12 (Cuyat & Montet 1912: pl. XXXI) and Wadi el-Hudi 3, l. 3 (Fakhry 1952: fig. 16, pl. VII.A). Finally, some inscriptions from the 11th Dynasty even separate the sign vertically into  $\text{𓀀}$   $\text{𓀀}$ .<sup>72</sup>
- b) In the case of  $\text{𓀀}$ , the legs  $\text{𓀀}$  are traditionally attached to the two bulges of the door bolt  $\text{𓀀}$ .<sup>73</sup> However, all the examples from First Intermediate Period Dendera<sup>74</sup> and Naqada<sup>75</sup> split the group somewhat into  $\text{𓀀}$ . An even neater example of such splitting ( $\text{𓀀}$ ) occurs on stela CG 1598 from the Eighth Nome (Brovarski 2018: 387, pl. 12.17, l. x+2). The sign group was plainly perceived as two different signs in this region; this is demonstrated further by the fact that a

68 Collombert 2010: 38, § 59.

69 Cf. Collombert 2010: 38, § 59.

70 Text D, l. 4 (see § 2.1 above); UPMAA 29-66-585 (<https://www.penn.museum/collections/object/218>, last accessed 21.04.2022); Edinburgh A.1910.96, l. 7 (Fischer 1968: 210, fig. 43).

71 BM EA 614, l. 18 (Leprohon 2015); Louvre C14, l. 9 (Delange 2015a); Moscow I.1.a.5603, l. 8 (Hodjash & Berlev 1982: no. 26); TN 13.4.22.2, l. 4 (Selim 2001: 259, fig. 1, pl. 41); sanctuary of Mentuhotep II, Deir el-Bahari (Arnold 1974: 49). A skirt and a knife were added to the sign in Pittsburg, Carnegie Museum, Z9-497, l. 9 (Patch 1990: 22–23, no. 14), possibly under the influence of the composite sign  $\text{𓀀}$  — the cursive forms of the signs are nearly homographic! — which seems to appear in the reign of Mentuhotep II, e.g., Louvre C15, l. x+8 (Delange 2015b) and Turin Cat. 1513, l. 8 (Donadoni Roveri 1988, figs. 139–140). A notable exception is the stela MMA 57.95, l. 3 (Fischer 1960: fig. 1, pl. VII) where the presence of the traditional form  $\text{𓀀}$  might be due to the influence of northern models. In fact, Fischer 1959 demonstrates that several of the motifs on that stela reflect northern traditions, though he did not examine whether this influence also applies to its palaeography. Cf. the sign forms at Assiut in Kahl & Shafik 2021: 148.

72 CG 20796, l. 3 & 4 (Clère & Vandier 1948: 20, § 24; Pitkin 2017: pl. CCXXXII, no. 72); stela of *Jdw-dw-jkr*, Abydos, l. 14 (Wegner 2017–2018: 164, fig. 5 & pl. X).

73 Collombert 2010: 39, § 62; Callender 2019: 77, § 117.

74 UPMAA 29-66-608 (Fischer 1968: pl. XV, l. 3); architrave of *Htp.j* (Petrie 1900: pl. XI, t2r2; Fischer 1968: fig. 31, l. 2); Edinburgh A.1910.96, l. 7 (Fischer 1968: 210, fig. 43).

75 Swansea EC 148, l. 4 (Pitkin 2017: pl. CCXLVI, no. 398).

skirt is joined to this sign on the coffin Melbourne obj. reg. 23-12-179 (𓆎; Hope 1983–1984). Henceforth, the split group 𓆎 became characteristic of 11th Dynasty Theban palaeography.<sup>76</sup>

- c) A similar phenomenon affected the logogram 𓆎 *jtj* “to seize,”<sup>77</sup> which is spelled 𓆎 on Gebelein stela CG 20001, l. 5 (Lange & Schäfer 1902: pl. I). Note that, during the 11th Dynasty, the verb is regularly spelled 𓆎 at Dendera<sup>78</sup> and Thebes.<sup>79</sup>

The foregoing survey of the three composite signs 𓆎, 𓆎, and 𓆎 shows that the first split variants appeared at the end of the Old Kingdom (𓆎) or during the First Intermediate Period (𓆎, 𓆎)<sup>80</sup> at various provincial sites, and that their development followed a common evolutionary pattern. Interestingly, the process of compound splitting seems to have been especially common at Dendera,<sup>81</sup> where we also find 𓆎 > 𓆎<sup>82</sup> and optionally 𓆎 > 𓆎.<sup>83</sup> Eventually, 𓆎, 𓆎, and 𓆎 became the standard forms during the 11th Dynasty.

In comparison, the sign 𓆎 (W25), which was formed according to the same pattern, underwent a different development. During the early First Intermediate Period, the vase was either transformed into a skirt<sup>84</sup> or simply omitted<sup>85</sup> at Nag ed-Der, while at Gebelein it occasionally appears

76 Stela of *Htp.j* from el-Kab, caption (Gabra 1976: 48 fig. 2, pl. 14); stela Pittsburg, Carnegie Museum Z9-497, l. 10 (Patch 1990: 22–23, no. 14); stela CG 1759, l. 3 (Borchardt 1964: 181, pl. 100); stela Boston, MFA 25.680, l. 3 (Fischer 1964: pl. XXXVI); stela MMA 14.2.6, l. 7 (Winlock 1943: pl. XXIVb); stela of *Iḥw*, Edfu, l. 10: 𓆎 (Alliot 1935: pl. XIV.3).

77 For the Old Kingdom forms, see Collombert 2010: 39, § 63.

78 UPMAA 29-66-618, l. 4 (Fischer 2006: 23, fig. 1).

79 Turin S. 1310, l. 8 (Vandier 1964: pl. 1); ex Clandeboye Hall, l. 3 (Edwards 1965: pl. XI); BM EA 614, l. 10 (Leprohon 2015).

80 Note that a systematic survey of Old Kingdom sources may show that also these two composite signs were occasionally decomposed in this period.

81 The difference between Dendera and other regions is illustrated by the distribution of 𓆎. Its ‘regular’ composite form is not found at Dendera, whereas it was dominant in First Intermediate Period Gebelein (e.g., MMA 65.107, l. 3: Allen 1921–1922: 56), Naqada (Strasbourg, IE 344 = Fischer 1964: pl. XVI top, no. 16), Nag ed-Der (Brussels, MRAH E. 5864, l. 3 = Brovanski 2018: pl. 12.18: cursive spelling!), and Akhmim (Callender 2019: 76, § 115).




82 Frieze or *Mrr.j* (Petrie 1900: pl. VIIIc, tr2 & bl).






83 9th–10th Dynasty: frieze of *Šn-st.j* (Petrie 1900: pl. XI.A, b2l2); architrave of *Šn-st.j* Manchester 2891 (Petrie 1900: pl. XI.B, t2r); 11th Dynasty: architrave of *Htp.j* Chicago, ISAC Museum E5014, l. x+4 (Petrie 1900: pl. XI.B, t3l2); architrave Chicago, ISAC Museum E5017, l. 4 & 5 (Petrie 1900: pl. VII.A, bl, l. 2; bl2). This process of analysis also appears at other sites. Nag ed-Der: Stela Stockholm MM 11419, l. 4 (Wångstedt 1961: 48–49); Stela el-Sheikh Hamad 325, l. 2 (Madkour 2016: 220, fig. 1, pl. 41). 11th Dynasty Thebes: CG 20003, l. 6 (Lange & Schäfer 1902: 3–4; Clère & Vandier 1948: 2, § 2: 𓆎); stela of *Htp.j* from el-Kab, l. 6 (Gabra 1976: 48 fig. 2, pl. 14). Another composite sign that was only optionally decomposed is 𓆎 (Fischer 1987–1988: 18 n. 16).

84 Berkeley PAHMA 6-11468, l. 9 (Lutz 1927: 16, pl. 10, no. 18); Berkeley PAHMA 6-1655, l. 2 & 3 (Lutz 1927: 18, pl. 20, no. 39).

85 Cf. Brovanski 2018: 351, 369, 417.







as a skirt<sup>86</sup> or as a horizontal stroke.<sup>87</sup> The latter variant, which closely resembles the corresponding cursive grapheme,<sup>88</sup> is also found at 11th Dynasty Dendera ()<sup>89</sup> and in the inscriptions of the Wadi el-Hudi ().<sup>90</sup> In contrast, Theban palaeography retained mostly .<sup>91</sup>


Another instructive case of ‘splitting’ is to be found in the group  in the title *jmy-rʿ ʿw.w* “overseer of the interpreters.”<sup>92</sup> This group makes its first appearance as a compound sign during the 9th–10th Dynasty in the Gebelein-Moalla region (fig. 6.a–f).<sup>93</sup> The original fusion of the group (which has no evident grapho-semantic motivation) is perhaps best understood if one compares the hieroglyphic spelling of the group to hieratic spellings of *ʿw* from Qubbet el-Hawa, where groups of two signs  (Edel 1971: pl. 29, no. 520) and different ligatures like  (Edel 1967: pl. 104A, no. 281),  (Edel 1971: pl. 78, no. 568), or  (Edel 1971: pl. 30, no. 521) alternate.<sup>94</sup> The same hieroglyphic form continues to be found in later Theban epigraphy of the early 11th Dynasty








86 Berkeley PAHMA 6-19911 (Lutz 1927: 19, pl. 24, no. 47; on the Gebelein provenance, see Morenz 2010: 270); Turin S. 13115 (Donadoni Rovieri *et al.* 1995: 48–50, fig. 58).

87 Coffin Turin S. 13268 (Brovanski 1976: 32–33, fig. 9–10).

88 See James 2002: 214, W25. The cursive variant is found even on the stela Chicago, ISAC Museum E12195, l. 7 (Fischer 1964: 64–65, pl. XVI) and in the inscription G. 57, l. 4 & 6 (Goyon 1957: 79, pl. XIX), and the form appears to reflect a transposition of the corresponding cursive grapheme. As such, it is possible that the other three signs separated under the influence of the graphetic norms of cursive scripts. Indeed, the components of  are regularly separated in older and contemporary hieratic sign forms (Goedicke 1988: 29a–b, O35/367; Backes 2020: 635, O35/367), while the hieratograms of  fluctuate between split and linked forms (Goedicke 1988: 43a–b, V15/529; Backes 2020: 647, V15/529; cf.  in the Architrave Chicago, ISAC Museum E5017, l. 5: Petrie 1900: pl. VIIA, bl). Conversely,  is fraught with more difficulties as its hieratic correspondent regularly groups the signs in a more synthetic manner (Goedicke 1988: 22a–b, M18/284). Note, however, that some cursive texts from the 11th Dynasty superpose the signs (Roccati 1970: 50, M18/284; Backes 2020: 626, M18/284; cf. Petrie 1900: pl. XXXVII, top line, col. 263; pl. XXXVII.B, col. 385 & 398).

89 UPMAA 29.66.625, l. 2 (<https://www.penn.museum/collections/object/217660>, last accessed 11.05.2023).

90 Wadi el-Hudi 3, l. 3–4 (Fakhry 1952: 20–21, fig. 16, pl. VII.A); Wadi el-Hudi 4, text 2, l. 7 & 9 (Fakhry 1952: 21–22, fig. 17–18, pl. VII.B). Note that, in line 14 of the latter inscription, the traditional form  is used.

91 But note its trapezoidal shape in the fragment T. 1859 (Postel 2004: 14, 302, doc. 5 & 409, fig. 4) which Philippe Collombert pointed out to me. It is possible to offer three explanations for this unexpected adherence to the traditional composite shape : (1) The sign was perceived to be structurally different from other composites formed with  because its two components were not simply joined: its legs were also lengthened. (2) The vase was simplified to a horizontal stroke in the cursive form of , whereas the upper components of , , and  retained their distinctive shapes in this written norm (see n. 88 above). (3) The prominent use of  in the name *Jni-*jt=f** lent the vase a certain figurative value that was relevant to concepts of royal ideology.

92 For the lexeme *ʿw* “interpreter,” see Kraemer & Liszka 2016: 171–177.

93 For the group in general, see Polotsky 1929: 13, § 20; Fischer 1977a: 11 n. 68 & 12, fig. 6.c–d.

94 For all attestations of the sign at Qubbet el-Hawa, see Edel 1967: pl. 103–106, nos. 280–288; 1971: pl. 28–34, nos. 519–525, pl. 78–87, nos. 568–577; 1975: pl. 101, no. 249. For further cursive spellings, see Kraemer & Liszka 2016: 173–174.

(fig. 6.g–h), after which it apparently split (fig. 6.i–k).<sup>95</sup> It is even possible to trace this process in contemporaneous expedition inscriptions, where it seems to have occurred in slightly belated fashion: while CM 114, l. 12 from the time of Mentuhotep II exhibits the ligature (Couyat & Montet 1912: pl. XXXI), those from the reign of Mentuhotep IV in the Wadi el-Hudi split the signs.<sup>96</sup> In sum, the development of this group confirms the diachronic tendencies sketched above and shows that ‘splitting’ also affected less common compounds during the First Intermediate Period.

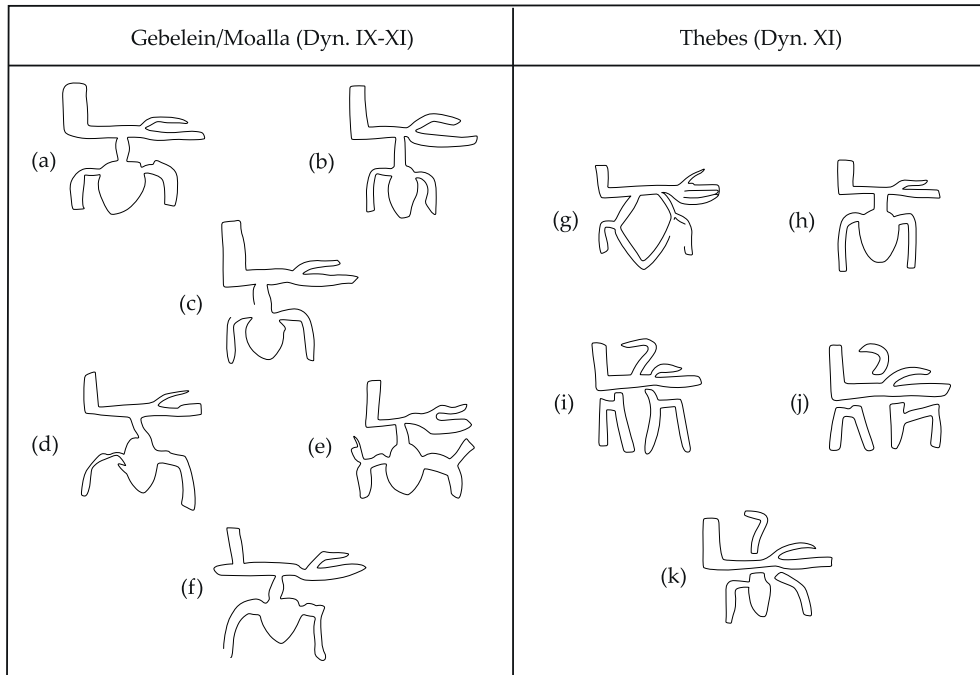



Fig. 6. Variants of the compound group  from the First Intermediate Period and the 11th Dynasty<sup>97</sup>

- |   |   |
|---|---|
| (a) Ankhtyfy I,a,1 (Vandier 1950: 162)*                             | (g) Cleveland 1914.543, l. 2 (Berman & Boháč 1999: 142–143, no. 82; Pitkin 2017: pl. CXLIII, no. 175) |
| (b) Ankhtyfy II,a,1 (Vandier 1950: 185)*                            | (h) Strasbourg IE 345, l. 1 (Fischer 1996: 90, pl. 10a).  |
| (c) Ankhtyfy VII,1 (Vandier 1950: 256)*                             | (i) Cairo, JE 41437, l. 2 (Petrie & Walker 1909: pl. II right)*                                       |
| (d) Hildesheim RPM 4590, caption (Sternberg 1978: 60–61, fig. 1–2)* | (j) Brussels MRAH E. 4985, l. 2 (Petrie & Walker 1909: pl. II left)*                                  |
| (e) Hildesheim RPM 4590, l. 1 (Sternberg 1978: 60–61, fig. 1–2)*    | (k) Cairo, JE 41437, caption l. 1 (Petrie & Walker 1909: pl. II right)*                               |
| (f) MMA 65.107, l. 1 (Allen 1921: 56)                               |   |










95 Cf. Morenz 1998c: 19 who proposes that this form might go back to “ein unverstandenes hieroglyphisches Vorbild, das benutzt wurde.”





96 Wadi el-Hudi 1, l. 3 (Fakhry 1952: 19–20 fig. 14, pl. VI.A; Wadi el-Hudi 3, l. 4 (Fakhry 1952: 20–21, fig. 16, pl. VII.A); Wadi el-Hudi 4, l. 7 (Fakhry 1952: 20–21, fig. 17–18, pl. VII.B); cf. Shaheen 1996: 92, 103 tab. 7.


97 In figs. 5–6, drawings made after my own photographs are marked with a \*; drawings to which I made significant changes on the basis of the published photographs are marked with a °.











### 3.2. 'Component Merging'

In comparison with the abundant examples of 'splitting' known to us, the reduction of sign groups to a single grapheme appears to have been a relatively rare phenomenon, and one that involved complex processes. In all cases known to me in this regard, the phonologically (or semantically) significant element absorbed the other sign (which merely served as complement).

A good first example is the sign , which can be described as composite from a *synchronic* perspective.<sup>98</sup> It is important to stress the synchronic dimension here, as the component  originates in a reinterpretation of the bird's wattle in cursive forms like ,<sup>99</sup> where it resembles the short variant of  ~ .<sup>100</sup> The composite sign  is first attested in 6th Dynasty (as well as later) royal decrees.<sup>101</sup> Currently, our evidence indicates that it became the regular form of the sign at Nag ed-Der,<sup>102</sup> Dendera,<sup>103</sup> and Akhmim<sup>104</sup> during the First Intermediate Period, while we find both  <sup>105</sup> and  at Gebelein/Moalla.<sup>106</sup> The subsequent merging process can be observed in inscriptions from the Theban 11th Dynasty: the monuments of the Intef kings use ,<sup>107</sup> but the length of the

- 98 Cf. Fischer 1977a: 9–10, fig. 4g. On the common Old Kingdom sign form, see Collombert 2010: 68 § 119; Beaux 2004: 24 fig. 3.
- 99 Hieratogram ID 18400, AKU-PAL 2023: <https://aku-pal.uni-mainz.de/signs/18400>, last accessed 11.05.2023; cf. Goedicke 1988: 15a–b, G21/229. In cursive writing, the excessively long wattle may have served as diacritic that helped to differentiate this bird from  ~  (Hieratogram ID 9618, AKU-PAL 2023: <https://aku-pal.uni-mainz.de/signs/9618>, last accessed 11.05.2023); cf. Goedicke 1988: 14a–b, G4/190.
- 100 Hieratogram ID 21238, AKU-PAL 2023: <https://aku-pal.uni-mainz.de/signs/21238>, last accessed 11.05.2023; cf. Goedicke 1988: 43a–b, V28/476. Further aspects of the sign's cursive origin are discussed by Morenz 2006: 396; 2010: 261; and Brovarski 2018: 370.
- 101 Decrees A II-1763 and A III-002 from the necropolis of Pepy I (Legros 2018: 287, pl. LXII.2; 288, pl. LXIII.3); Mycerinos decree of Merenra, frg. no. 3 ii-a, l. 4 (Reisner 1931: pl. A); Decree Coptos B = JE 43052, IV.2, IX, XI.4, XIII.1, XV.2 (Weill 1912: pl. V; sections cited after Goedicke 1967); Decree Coptos C = JE 41891, IV.2, IX, XI.4, XIII.1 & 3 (Weill 1912: pl. VI); Decree Coptos G = JE 41892, III.2 (Weill 1912: pl. XI); Decree for *Mr-s-nh* and *Nj.t* col. IV (Goedicke 1967: fig. 16).
- 102 Harvard, Semitic Museum 2354, l. 3 (Dunham 1937: 91–92, pl. XXVIII.1; Brovarski 2018: 370).
- 103 Burial chamber of *Mnj* (Petrie 1900: pl. IV, l. 4, no. 5).
- 104 Callender 2019: 152–153, § 228–229; cf. the Assiutian form in Kahl & Shafik 2021: 108.
- 105 BM EA 1671, l. 7 (Polotsky 1930: pl. XXIX); CG 20001, l. 3 (Lange & Schäfer 1902: pl. I). Interestingly, the same sign appears as  in line 5 of the latter stela. This alternation may be explained by the fact that the dimensions of the signs are considerably reduced in l. 4–9 of the stela, a circumstance which might have led to the use of a more cursive variant. An intermediary form between  and , with a line of dots replacing lappet (), is found on the cylinder seal Philadelphia E621. The dating of this seal to the 6th Dynasty is uncertain, despite the royal name (Kaplony 1981: 424–425, pl. 114, *Nfr-kʿ-rʿ* 12).
- 106 Ankhtyfy V,a,4 (Vandier 1950: 232).
- 107 CG 20512, l. 12 (Polz 2019, 44 fig. 26, 50 fig. 27); Turin S. 1310, l. 9 (Vandier 1964: pl. 1).




wattle was progressively reduced () during the reign of Mentuhotep II;<sup>108</sup> in the rock inscriptions of the Wadi Hammamat, however, the sign retained a long undulating wattle.<sup>109</sup>

A second, even more intriguing, case of ‘merging’ is represented by the group . From the end of the Old Kingdom, namely the time of the late Coptos Decrees, the foot of this bird was occasionally fused with the round sign in front of it (fig. 7.a–d).<sup>110</sup> As with  in the same documents,<sup>111</sup> this fusion appears to go back to a cursive ligature.<sup>112</sup> At some point, diacritic strokes were added to the sign  in cursive writing, e.g.,  (Michael C. Carlos Museum, Emory University, Atlanta, 2014.33.1, v<sup>o</sup> 3; Nyord 2021: 8, fig. 6).<sup>113</sup> If this change was instantiated in order to mark  as a separate cursive sign, it failed, as the fused group  eventually became a hieroglyphic sign in the 11th Dynasty as well (fig. 7.e–f).<sup>114</sup> In at least two cases, the circle with the diacritics was detached from the feet of the bird (fig. 7.g–h.1), but note that, in Louvre C14, l. 5, the junction is present in the preliminary drawing in red ink (fig. 7.h.2).<sup>115</sup> When /o was finally merged into the group, the strokes remained attached to the bird’s feet  (fig. 7.i–k)<sup>116</sup> so that the sign variant  and derived forms like  (Louvre C3, l. 13, 16 & 18; Vernus 1973: pl. 13) abound in later inscriptions.

108 BM EA 1164, l. 14 (Lange 1915, pl. IV); Copenhagen, ÅLN 891, l. 4 (Mogensen 1930: 92–93, pl. XCVIII bottom); ex Clandeboye Hall, l. 5 (Edwards 1965: pl. XI).



109 CM 110, l. 6 & 9 (Couyat & Montet 1917: pl. XXIX); CM 113, l. 13 (Couyat & Montet 1917: pl. XXIX); CM 191, l. 10 (Couyat & Montet 1917: pl. XXXVI); CM 192, l. 15 (Couyat & Montet 1917: pl. XXXVII).



110 Another 11th Dynasty example is Moscow I.1.a.5603, l. 3 & 7 (Hodjash & Berlev 1982: no. 26).

111 Decrees L, O, and R (Fischer 1961, 65–66; Fischer 1977a: 11 Fischer 1977b, 59–60). Fischer may be correct to assume that this is a visual clue designed “to clarify the reversal (Fischer 1977a: 11),” or to highlight that the sign , which is ambivalent in terms of orientation, marks the beginning of the reversed text. Indeed, the decrees preserved on papyrus from the funerary temple of Neferefra demonstrate that this combination might go back to real administrative documents: the foot of the bird is normal-sized in Decree A, r<sup>o</sup> 1 (Posener-Kriéger 1985: pl. I) and Decree B, r<sup>o</sup> 1 (Posener-Kriéger 1985: pl. III), nearly touches the bottom of the sceptre in Decree C, r<sup>o</sup> 1 , and then finally merges with it in Decree E, r<sup>o</sup> 1  (Posener-Kriéger 1985: pl. VI).

112 Cf. the nearly complete fusion of the signs in the Letter to the Dead from N3737, r<sup>o</sup> 2 (Simpson 1966: pl. IX).

113 Other examples are found in the coffin Berlin ÄS 13772 (Steindorff 1901: pl. VII, l. 2); G1T (Hornung 1973: pl. II); and the jar stand Chicago, ISAC Museum E13945, l. 4 (Gardiner 1930: pl. X.1–2); cf. Brovarski 2018: 392 n. 13, 472.

114 This form also appears in CM 114, l. 6 & 7 (Couyat & Montet 1912: pl. XXXI); on this sign in general, see also Polotsky 1929: 10, § 10; Meeks 2017: 6. On the stela CG 20543, two different variants of the group appear,  in l. 18 & l. 22 and  in l. 18 (Petrie 1900: pl. XV, l; personal observation). Note that the cited drawing of CG 20543, which was made by Davies, is imprecise.

115 A similar graphetic change is found on the sarcophagus of Queen K<sup>3</sup>wy.t (= JE 47397) where  is sketched in the preliminary drawing of the divine name Ws<sup>3</sup>jr “Osiris” before the sculptor went on to engrave  (personal observation).

116 Transitional cursive forms are found on the coffin of queen ‘šy.t (= JE 47335; Backes 2020: 620, G25/204).

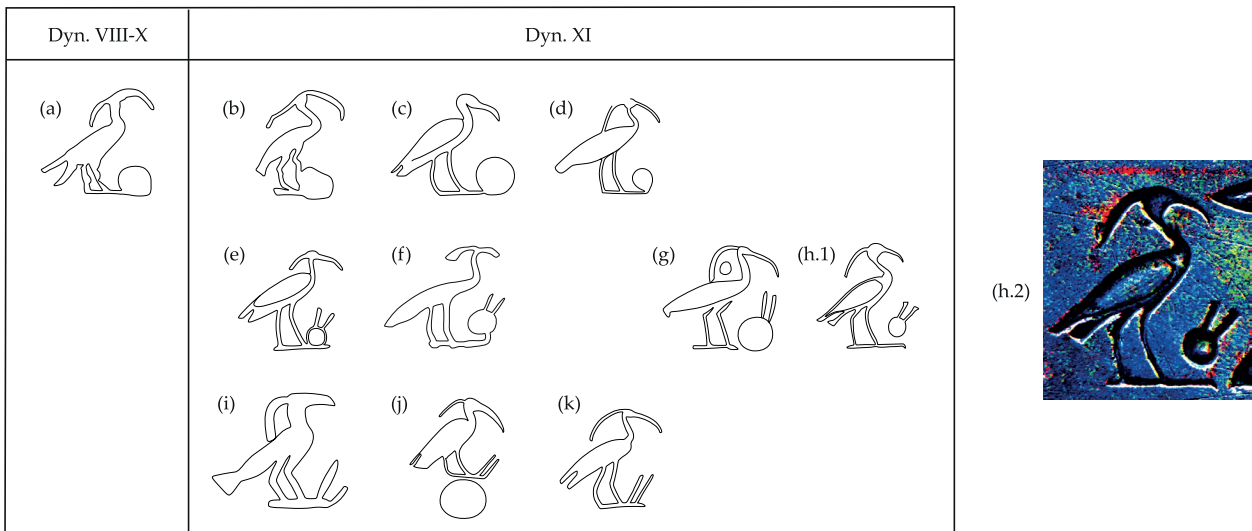


Fig. 7. Transformation of the group ⲛⲓ during the First Intermediate period and the 11th Dynasty.

- |  |   |
|--|---|
| (a) Decree Coptos R, III.14 (bottom left, col. 4; Weill 1912: pl. IX; Goedicke 1967, fig. 28)* | (g) MMA 14.2.7, l. 2 (Freed 2015: 44, no. 2)                                |
| (b) CG 20005, l. 5 (Clère & Vandier 1948: 3, § 3)*   | (h) Louvre C14, l. 5 (Delange 2015a)*; photo: Ph. Seyr; D-Stretch, mode lds |
| (c) Louvre C15, l. 9 (Delange 2015b)*  | (i) Chicago, ISAC Museum E16953, l. 4 (Dunham 1937: pl. XXX.1, no. 81)      |
| (d) CG 20512, l. 10 (Polz 2019, 44, fig. 26)*  | (j) Louvre C15, l. 6 (Delange 2015b)*                                       |
| (e) Copenhagen ÆIN 963, l. 3 (Mogensen 1930: pl. XCIX)*  | (k) MFA 25.680, l. 7 (Fischer 1964: pl. XXXVI, no. 43)                      |
| (f) Luxor Magazine no. 45, l. x+2 (Gabolde & El-Nubi 2000: 263) <sup>c</sup>                   |   |

## Conclusion

In § 2.4, I proposed two evolutionary scenarios for the development of the compound ⲛⲓ in the epigraphic material from Dendera during the First Intermediate Period:

*Scenario A*: inductive local

- a) graphetic analysis: ⲛⲓ (Text A) > ⲛⲓⲓ (Text B)
- b) copy (with morphographic enrichment): ⲛⲓ (Text A) → ⲛⲓⲓ/ⲛⲓⲓⲓ (Text C)




*Scenario B*: deductive global








[PLOUGHING SCENE] > ⲛⲓⲓⲓⲓⲓ > \*ⲛⲓⲓⲓⲓ > ⲛⲓⲓⲓ > ⲛⲓⲓ<sup>+</sup>[dual] > ⲛⲓ<sup>+</sup>[dual]





Because *Scenario B* contradicts the relative chronology of the Denderite sources, it is necessary to hypothesize that the systemic evolution under discussion had already taken place before the creation of ⲛⲓ (Text A) and that ⲛⲓⲓⲓⲓⲓ (Text B) testifies to a more ancient spelling that was retained in certain inscriptions. While this option is possible in theory, I have shown that ‘compound splitting’ was a regular graphetic process in early First Intermediate Period Dendera (§ 3.1), while



‘compounding’ was apparently much less common before the 11th Dynasty (§ 2.1). These systemic observations speak strongly in favour of *Scenario A*.

As such, if my interpretation of the sign in Text G above as  (§ 2.2) is correct, it is possible to propose that the sign group underwent a different process of development in the Eighth and Ninth Nome to the process at Dendera. That is, the group retained the plough and the driver while the pair of oxen were reduced to one with a dual mark:  (Text F) >  (Text G).

On the other hand, *Scenario A* does not satisfactorily explain the circumstances that led to the creation of . This is because no similarly ‘innovative’ compounds that merge two signs vertically are attested from 9th–10th Dynasty Dendera, while its logographic value *htr* cannot be explained by its phonographic component *tr* () only. Thus, if  did not refer only to *tr* “team-bull” (§ 2.3), it may be explained as an early and isolated case of “visual poetry” (Morenz 2008).<sup>117</sup> Following this line of thought, one might suggest that the values of both components were simply added together: *jh* () + *tr* () > *jhtr* (> *htr*). If one chooses to read *jhtr*, it is possible to argue that the spelling  may have been intended to account for the vocalic onset of the dual \**h̄t̄ʳw̄y*.<sup>118</sup> Alternatively, one might posit the reduction of  *jh* > *h*, which would follow a well-known mechanism of sign creation: the so-called consonantal principle.<sup>119</sup>

As evidenced by Text C, the sign  eventually succeeded in catching the attention of possible viewers to the point that it was reproduced. This is not surprising within the epigraphic culture of the 11th Dynasty, as other contemporaneous texts also exploit the principles of ‘visual poetry.’<sup>120</sup> In visio-semantic terms, the combination  may at first have evoked the seasonality ( *tr.w* “time”) of ploughing.<sup>121</sup> But it is also possible (though somehow speculative) that the resemblance to 

117 Only a few isolated examples of this scriptural practice are known from the Old Kingdom, e.g., CG 1696 (Capart 1929; Drioton 1935–1938; Weill 1936: 1–4; Morenz 2008: 77–78; 2020, 67–92); see also Morenz 2008: 23–25.

118 Cf. sg. \**h̄t̄ʳ* > Coptic ετο<sup>s</sup>; pl. \**h̄t̄ʳw̄* > Coptic (ε)ετωω<sup>s</sup> (CD 723; Khwb. 393; Osing 1976: 221; Quack 2007: 535). Note that the vocalization of the singular is based on the lexical equation to Coptic ετο<sup>s</sup> (Roquet 1976: 61). The reconstructed vocalization that I propose follows the pattern of *mnd.wy* > μπνοτε “two breasts”; cf. Sethe & Gardiner 1910: 43. In addition, this option seems to necessitate a reduction of \**h̄t̄ʳj/w* (if this is the antecedent of Coptic εεε<sup>s</sup>; Osing 1976: 413, modified according to Peust 2016) to simple \**h̄*, which is only rarely attested, e.g., in the composite nouns (\**p̄*)-*tp-jh.w* > Coptic πεπνηε “Atfih” (Peust 2010: 15) and *jmy-r̄ jh.w* > Coptic ελοιε (Peust 2016: 92), where *jh* is, however, a plural and in the position of the nomen rectum. If Coptic εεε<sup>s</sup> goes back to the feminine *jh.t*, which may have remained marginal in writing (Vernus 2017), the masculine form might simply have been \**h̄*.

119 This principle was used prolifically during the formative phases of Egyptian writing (Kahl 1994: 53–55; Morenz 2004a: 42–45) and in enigmatic writing in New Kingdom (and later) inscriptions (Roberson 2020: 5–6).


120 E.g., Morenz 1998b; 2003: 114–117; 2004b; 2011; Stauder 2023: 69–73.

121 Cf. Chantrain 2020: 159.






(phono. class. of *ʿms*)<sup>122</sup>—provided that this sign already existed at the time—reinforced the notion of caretaking (*ʿms*)<sup>123</sup> in this specific phraseological context.

To conclude, a short remark of a diachronic nature on the motivation for the logographic spelling of *ḥtr.wy* seems appropriate. Throughout this case study, I have noted that seven out of eight attestations of *ḥtr.wy* during the First Intermediate Period (exception: CG 20012, l. 5; § 2.3) spell the word by means of logograms, whereas later occurrences of this lexeme exhibit more analytic spellings with mono-consonantal signs. An explanation for this remarkable contrast may not necessarily lie in a change of ‘eugraphic’ norms. Indeed, *skʿ m ḥtr.wy* “ploughing with the span” seems to have superseded the Old Kingdom phrase *skʿ m hb* “ploughing with the plough” (Hannig 2003: 748) that was used, for example, as a caption for corresponding scenes.<sup>124</sup> In view of the elaborate phraseology of First Intermediate Period self-presentations, it is important to note that the possession of a span was certainly not a trivial matter at this time: it would have been fundamental to elite self-definitions, perhaps to such a degree<sup>125</sup> that it was highlighted in writing with the most visually salient spelling possible.

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122 Stela Louvre C167, l. 9 (Freed 1996: 322 fig. 8b; <https://collections.louvre.fr/ark:/53355/cl010010841>, last accessed 11.05.2023).

123 The sign  is evidently a functional variant of , which may have been influenced by spellings of the theonym *Ḥzʿ.t* “Hezat” with , e.g., Pittsburg, Carnegie Museum Z9-497, l. 5 (Patch 1990: 22–23, no. 14). For , see Goldwasser 2002: 17–18. Another similar compound with a cattle sign is  *kʿ hd* “white bull” in CT III, 263 (B2L).

124 Montet 1925: 185–190; Stooft 1984.

125 Moreno García 1999: 248–250; 2009.

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