

Mechanical Engineering in Ancient Egypt, Part 71: Labels and Tags Inscription

Galal Ali Hassaan

Emeritus Professor, Department of Mechanical design & Production,
Faculty of Engineering, Cairo University, Egypt

galalhassaan@gmail.com

Abstract— The use of labels and tags as writing media in ancient Egypt is investigated as activity in the study of evolution of mechanical engineering in ancient Egypt. Different type of labels and tags and their use in the ancient Egyptian society is outlined emphasizing their use to register documentation. Material, dimension, shape, inscription script and present location are outlined for each label or tag (if known). The study covers a time span from Predynastic to Third Intermediate Period.

Index Terms— Mechanical engineering history, ancient Egypt, labels and tags inscription, Predynastic to Third Intermediate Period.

I. INTRODUCTION

The ancient Egyptians used different types of scripts for the writing process required to preserve their knowledge and history. Among the media types they used for their writing process comes the labels used extensively during Naqada III era and above.

Pahor (2006) in his Thesis about Oto-Rhino-Laryngology in ancient Egypt presented an ebony label for King Den from the 1st Dynasty [1]. Piquette (2013) while investigating the early writing in the Lower Nile Valley of Egypt presented inscribed bone labels from the era of Naqada III, two ivory labels from the era of Naqada, fragment of wooden label from the tomb of Djer of the 1st Dynasty, labels for King Djet from the 1st Dynasty, wooden label of King Den from the 1st Dynasty, ivory and wooden label fragments of King Den and a wooden label for King Narmer' tomb (1st Dynasty) [2]. Willy and Worp (2014) in their study of mummy labels from Graeco-Roman Egypt in the National Museums Scotland presented mummy labels inscribed with texts in Demotic and Greek. They analysed ten mummy labels: material, dimensions and translation [3]. Wood (2015) in his book about fisible language presented a wooden label from the 1st Dynasty, reign of King Djer, ivory tag from the 1st Dynasty, reign of King Ka [4].

Lesuer (2016) in his Ph. D. Thesis presented a year-label from the 1st Dynasty showing King Den trapping birds with a net [5]. Hassaan (2017) investigated the symbols industry during the New Kingdom era and showed how the ancient Egyptians used symbols in conjunction with hieroglyphic text to authorize their knowledge, history and Royal activities [6]. Hassaan (2018) investigated the writing process in the ancient Egyptian society through the study of the stelae industry during the Early Dynastic to Middle Kingdom Periods [7].

II. PREDYNASTIC LABELS AND TAGS

The ancient Egyptians used writing scripts from as early as more than 5300 years ago during its Predynastic historical era. This fact is authorized through the number of examples presented here depicted from tags and labels produced during this period:

- The first example is a 20 x 15 mm bone and ivory tags from Naqada II – Naqada III (3320-3150 BC) shown in Fig.1 [8]. The tags were inscribed to give the quantity of goods and their origin. The inscription was through using symbols indicating words and sound [8]. The location of the hanging hole is unified in its place near the the top right corner.
- The second example is a tag of King Elephant from Early Naqada III (3200- BC) shown in Fig.2 [9]. The dimensions, present location and translation of its text are not available.



Fig.1 Tags from Naqada II- Fig.2 Tag of King Elephant Naqada III [8].

- The third example is bone tags from Early Naqada III (3200-3000 BC) shown in Fig.3 [10]. Each tag has a hanging hole near the top right corner and inscribed by symbols carved on the tag surface indicating some words. Most of the relevant data are missing.



Fig.3 Tags from Naqada III [10].

- The fourth example is a label for Queen Neith-Hotep from Naqada III (3100 BC) in display in the British Museum at London and shown in Fig.4 [11]. Most of the relevant data are not available.
- The fifth example is an ivory label from tomb of Queen Neith-Hotep from Naqada III (3050 BC) in the British Museum and shown in Fig.5 [12]. It was probably attached to goods container indicating the quantities and origin of the goods.



Fig.4 Label for Queen Neith-Hotep from Naqada III [11].

Fig.5 Label from tomb of Neith-Hotep from Naqada III [12].

III. EARLY DYNASTIC LABELS

The Early Dynastic Period comprises the ancient Egyptian 1st and 2nd Dynasties over a time span from 3150 to 2686 BC [13]. We have too many examples of the evolution of using labels and tags as a media for documentation different activities through inscription presented as follows:

- The first example is an ivory year label of King Narmer founder of the 1st Dynasty (3150-3125 BC) shown in Fig.6 [14]. The label shows the King defeating one of the Egypt's ancient enemies. The label was inscribed for another information including the Serekh of the King. It had a hanging hole in the top left side of the label.
- The second example is an ivory label of King Aha from the 1st Dynasty (3100 BC) in display in the British Museum at London and shown in Fig.7 [15]. The label was inscribed by the Serekh of the King and other symbols meaning a specific text. It had two hanging holes in the top right and left corners of the label.



Fig.6 Label for King Narmer from 1st Dynasty [14].

Fig.7 Label of King Aha from 1st Dynasty [15].

- The third example is an ivory label of King Aha from the 1st Dynasty (3100-3050 BC) shown in Fig.8 [16]. It was inscribed by the Serekh of the

King and symbols describing his victory over an enemy and a visit to one of his domains [16].



Fig.8 Label of King Aha from the 1st Dynasty [16].

- The fourth example is an ivory label of King Aha from the 1st Dynasty (3100-3050 BC) shown in Fig.9 [17]. The label had a hanging hole in the top-left side and inscribed to identify the quantity of a specific goods. Lot of data are missing. Most probably the label is recording a number of 123.
- The fifth example is a year label of King Djet from the 1st Dynasty (3000-2990 BC) shown in Fig.10 [18]. The designer showed the owner sitting on a chair with an offering table in front of him. The inscriptions presented the Serekh of the King and a symbolic text mentioning a visit of the King to the shrine of the two ladies [18].

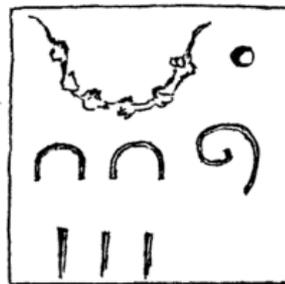


Fig.9 Label for King Aha from 1st Dynasty [17]. Fig.10 Label of King Djet from 1st Dynasty [18].

- The sixth example is an ivory label for King Djet from the 1st Dynasty (3000-2990 BC) in display in Ashmolean Museum at Oxford and shown in Fig.11 [19]. The hanging hole was in the top left corner of the label and it was inscribed by the Serekh of the King and the name of Estate Manager Sekhemka-Sedj. The label was a box label giving
- The seventh example is an ivory label for King Djer from the 1st Dynasty (3050-3000 BC) shown in Fig.12 [20]. The label was inscribed by the Serekh of the King and mentioned a fortress in the domain of the King.



Fig.11 Label for King Djet Fig.12 Label of King Djet from 1st Dynasty [19]. from 1st Dynasty [20].

- The eighth example is a 18 x 19 mm bone label for King Djer from the 1st Dynasty (3050-3000 BC) shown in Fig.13 [21]. Most probably this label is in display in the Manchester Museum at Manchester, UK. The design of this label didn't show any hanging hole and it was inscribed only by the Serekh of the King .
- The ninth example is a 305 x 246 mm ivory label for King Den's sandals from the 1st Dynasty (2990-2940 BC) in display in the British Museum and shown in Fig.14 [22]. The hanging hole was in the top left corner of the label it was inscribed by the Serekh of the King , a text and a scene for the King defeating of Egypt's enemies.



Fig.13 Label for King Djer Fig.14 Label of King Den's Sandals from 1st Dynasty [21]. Sandals from 1st Dynasty [22].

- The tenth example is an ebony label for King Den from the 1st Dynasty (2990-2940 BC) in display in the British Museum and shown in Fig.15 [23]. The label was inscribed by activities registering the King's jubilee festival (Sed) . It was carved within four bounded areas with scenes, King's Serekh and hieroglyphic script text.



Fig.15 Label of King Den from the 1st Dynasty [23].

- The eleventh example is an ivory label fragment for King Den from the 1st Dynasty (2990-2940 BC) in display in the Egyptian Museum at Cairo and shown in Fig.16 [24]. The label was inscribed by the Serekh of the King , a hieroglyphic text and a scene for the King wearing the Double Crown of ancient Egypt.



Fig.16 Label fragment of King Den from the 1st Dynasty [24].

- The twelfth example is a jar ivory label for King Semerkhet from the 1st Dynasty (2930-2920 BC) in display in the British Museum at London and shown in Fig.17 [25]. The label was inscribed by the throne name of the King, blessings wish, feast of the Sokar-harls, content of the jar and name of the High Official Henuka responsible for the jar delivery [25]. The label had a hanging hole in its top left corner and the text was written using the hieroglyphic script.



Fig.17 Label of King Semerkhet from the 1st Dynasty [25].

- The thirteenth example is a jar ivory label for King Semerkhet from the 1st Dynasty (2930-2920 BC) in display in the British Museum at London and shown in Fig.18 [26]. The label was inscribed by the throne name of the King, blessings wish, feast of the Sokar-harls, content of the jar and name of the High Official Henuka responsible for the jar delivery

[25]. The label had a hanging hole in its top left corner and the text was written using the hieroglyphic script.

IV. OLD KINGDOM LABELS

The Old Kingdom comprises the ancient Egyptian Dynasties from the 3rd to the 6th over a time span from 2686 to 2181 BC [26]. We have two examples from the 3rd and 5th Dynasties describing the continuation of labels inscription during the Old Kingdom and presented as follows:

- The first example is an ivory cloth label of Queen Djeseretnebti (possibly wife of King Sekhemkhet) from the 3rd Dynasty (2648-2640 BC) shown in Fig.18 [27]. It was inscribed by the name of the Queen and (most probably) the quantity and type of the clothes in the cloth-box.
- The second example is a label for King Unas from the 5th Dynasty (2375-2345 BC) shown in Fig.19 [28]. The label was inscribed by the Serekh and Cartouche of the King, a scene showing the King wearing the Red Crown of Lower Egypt (Deshret) and a hieroglyphic script text inscribed in two rows.

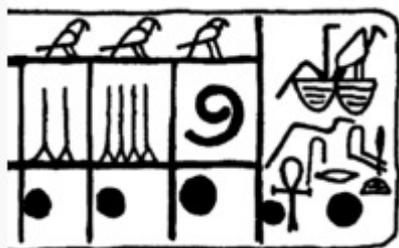


Fig.18 Label of Queen Djeseretnebti from the 3rd Dynasty [27].



Fig.19 Label of King Unas from the 5th Dynasty [28].

V. NEW KINGDOM LABELS

The New Kingdom comprises the ancient Egyptian Dynasties from the 18th to the 20th over a time span from 1570 to 1069 BC [29]. We have two examples from the 18th Dynasty describing the continuation of labels

inscription during the New Kingdom and presented as follows:

- The first example is a wooden mummy label of Princess Pi pui, daughter of Pharaoh Thutmose IV from the 18th Dynasty (1398-1388 BC) in display in the Royal Museum of Edinburgh, Scotland and shown in Fig.20 [30]. It was inscribed by the name of the Princess written in two lines using the hieratic script and a black ink.
- The second example is a wooden mummy label of one of the daughters of Pharaoh Thutmose IV from the 18th Dynasty (1398-1388 BC) in display in the Royal Museum of Edinburgh, Scotland and shown in Fig.21 [31]. It was inscribed by the name of the Princess written in four lines using the hieratic script and a black ink.

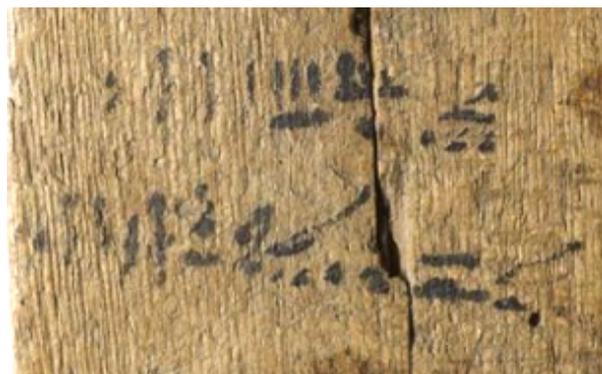


Fig.20 Mummy label of Princess Pi pui from the 18th Dynasty [30].



Fig.21 Mummy label of a daughter of Pharaoh Thutmose IV from the 18th Dynasty [31].

VI. THIRD INTERMEDIATE PERIOD LABELS

The Third Intermediate Period comprised from the 21st to the 25th Dynasties over a time span from 1070 to 656 BC [32]. During this period the ancient Egyptians continued to use the hieratic script in writing their mummy labels as will be illustrated by the following examples:

- The first example is a mummy label from the Third Intermediate Period (1080-711 BC) in display in the Los Angeles County Museum of Art at Los Angeles and shown in Fig.22 [33]. It was inscribed using the (probably) the hieratic script for a personal name and had a hanging hole in the top right corner of the label.
- The second example is a 54 x 52.4 mm wooden mummy label from the Third Intermediate Period (1080-711 BC) in display in the Los Angeles County Museum of Art at Los Angeles and shown in Fig.23 [34]. It was inscribed using black ink and the hieratic script in one row. The hanging hole was centered in the top side of the label.



Fig.22 Mummy label from 3rd Intermediate Period [33]. Fig.23 Mummy label from 3rd Intermediate Period [34].

- The third example is a wooden mummy label of a sistrum player from the 22nd Dynasty (945-730 BC) in display in the Los Angeles County Museum of Art at Los Angeles and shown in Fig.24 [35]. The label was inscribed using the demotic script with black ink. The text occupied four lines with high quality ink that could sustain the environmental effects for about 3000 years !.



Fig.24 Mummy label of a sistrum player from the 22nd Dynasty [35].

VII. CONCLUSION

- The inscription of labels and tags as writing media in ancient Egypt during the period from Predynastic to Third Intermediate Period was investigated.
- The ancient Egyptians produced labels and tags using bone, ivory, ebony and wood materials.
- They produced tags as small as 20 x 15 mm for identifying goods, goods type, quantity and location.
- They inscribed tags from more than 5300 years ago.
- Their early inscription was through using symbols meaning words and numbers.
- Royal tags appeared during the Early Naqada III Period (more than 5200 years ago).
- They used a hanging hole in the top of the tag or label oriented towards the right or left sides or centered.
- The use of tags and labels to designate goods containers was a brilliant idea indicating how they attained the top technology in management and economics.
- They registered historical events on small labels called 'year labels' appeared since the time of King Narmer of the 1st Dynasty.
- The labels were inscribed by the Serekh of the King during the 1st and 5th Dynasties.
- The hieroglyphic script appeared in labels from the 3rd and 5th Dynasties.
- The hieratic script appeared in labels from the 18th Dynasty and Third Intermediate Period.
- The demotic script appeared in labels from the 22nd Dynasty.

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BIOGRAPHY



Galal Ali Hassaan:

- Emeritus Professor of System Dynamics and Automatic Control.
- Has got his B.Sc. and M.Sc. from Cairo University in 1970 and 1974 respectively.
- Has got his Ph.D. in 1979 from Bradford University, UK under the supervision of Late Prof. John Parnaby.
- Now with the Faculty of Engineering, Cairo University, EGYPT.
- Research on Automatic Control, Mechanical Vibrations, Mechanism Synthesis and History of Mechanical Engineering.
- Published more than 240 research papers in international journals and conferences.
- Author of books on Experimental Systems Control, Experimental Vibrations and Evolution of Mechanical Engineering.
- Chief Justice of the International Journal of Computer Techniques.
- Member of the Editorial Board of a number of International Journals including IJARMATE.
- Reviewer in some international journals.
- Scholars interested in the author's publications can visit:

<http://scholar.cu.edu.eg/galal>