Intelligence in Ancient Egypt: Be Smart and Feel Your Identity

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Abstract

The ancient Egyptians believed that each individual came into the world with a unique gift. that is known as the innate good trait. This is emphasized in their texts, particularly the autobiographies and teachings. One of these innate good traits, which significantly contribute to shaping an individual's intellectual and behavioral identity since the moment he is born, is being smart/intelligent. This research explores how the ancient Egyptians perceived and integrated intelligence into various aspects of their society, emphasizing its moral, practical, and innovative dimensions. The study employs a historical-analytical methodology, combining literary analysis of texts like the Instructions of Ptahhotep with contextual interpretation of myths to illustrate the role of intelligence in society. The heart was regarded as the seat of emotion and intellect, crucial for spiritual judgment and personal identity, a belief that aligns in part with modern cardiac research. The research explores the symbolism of deities such as Thoth and Ptah, who represented multifaceted intelligence connecting thought, speech, and creation. It also highlights architectural innovations, like wetting sand to transport stones, thermal comfort designs, and solar-aligned temples, showcasing practical applications of intelligence. Additionally, the ancient educational system emphasized the development of multiple intelligences, fostering holistic personal growth and societal contributions.

Keywords: Intelligence; Heart; Ancient Egypt; Thoth; Moral; Intellect

I. Introduction

The Ancient Egyptians believed intelligence was evident through traits like moral integrity, practical knowledge, and innovation. The traits of the knowledgeable man and the ignorant man are best described by the terms smart/intelligent and stupid/fool.[1] This is indicated in the ancient Egyptian literature, for example, the instruction of Ptahhotep (Papyrus Prisse, 16, 13-17, 4-5):[2]

[1] Frankfort, H., Frankfort, H. A., Jacobsen, T., & Irwin, W. A. 2013. *The intellectual adventure of ancient man: an essay of speculative thought in the ancient Near East*. University of Chicago Press. 99; Poe, W. C., 2008. *The writing of a skillful scribe: an introduction to Hieratic Middle Egyptian through the text of The Shipwrecked Sailor*. Santa Rosa, CA. 141.

[2] Merzeban, R. Y. 2010. "The virtue of listening in ancient Egypt". *Journal of the Faculty of Arts-Alexandria University* (*BFALEX*). Volume 60. Issue 63, 1-28.

ir ***wḫ3*** *iwt*(*y*) *sḏm.f nn ir.n.f ḫt nbt m3.f rḫ m ḫm*

"*The fool who does not hear, he can do nothing at all; he will see knowledge as ignorance*".

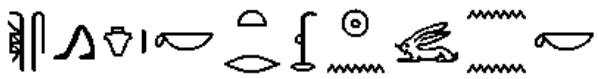
dw3 rḫ r smnt.f iw ***wḫ3*** *mḏd.f*

"*The knowledgeable man wakes early to his lasting gain, while the fool is hard pressed*".

It is possible to learn to be smart. Thus, guidelines for a man's career are given. If he pays attention, he will be smart; this intelligence will help him make the proper decisions in all aspects of life; this smart attitude will help him succeed in what he does.[3]

Ancient cultures held profound beliefs regarding the intelligence of the heart, viewing it as a central organ not only for physical life but also for emotional and spiritual existence. In ancient Egyptian culture, the heart was viewed as the dwelling place of the soul and the core of intellect and feelings. The heart was believed to record all good and evil deeds throughout a person's life, playing a crucial role in the judgment of the deceased, where it was balanced with the feather of (*M3ʿt*).[4] This indicates that the heart was seen as a moral compass, integral to one's identity and spiritual journey, as is shown in many maxims in the teachings of Ptahhotep (Papyrus Prisse):[5]

Column 7, lines 9



šms ib.k tr n wnn.k

"*Follow your heart as long as you live*".

Column 7, line 10

[3] Frankfort, H., Frankfort, H. A., Jacobsen, T., & Irwin, W. A. 2013, 99.

[4] Alabdulgader, A. 2021."The Ancient Wisdom at Intersection with Modern Cardiac Sciences". *Cardiol Vasc Res*. 5(1): 1-13.

[5] https://www.ucl.ac.uk/museums-static/digitalegypt/literature/ptahhotep.html, last accessed on 1 December 2024 at 10:26 pm; Zába, Z. 1956. *Les Maximes de Ptahhotep*. Éditions de l'Academie Tchécoslovaque des Sciences. Prague.15-65.

ḫpr ḫt šms ib

"*As things happen, follow (your) heart*".

Column 15, Line 13

sȝ.tw rḫ ḥr rḫt.n.f ỉn sr ḥr sp.f nfr m-ᶜ n ỉb.f nst.f

"*The wise man is famed for what he has learned, it is the official who is after good conduct. from the action of his heart and his tongue*".

Column 16, line 7, 8

ỉn ỉb sḫpr nb.f

"*The heart is the creator of its master*".

Column 16, line 8

ᶜnḫ wḏȝ snb n s ỉb.f

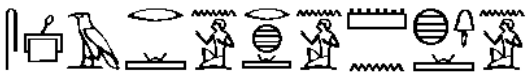
"*A man's heart is his life, prosperity and health*".

The ancient wisdom regarding the heart's role in intelligence and emotion has persisted through time, influencing modern cardiac sciences. The recognition of the heart's involvement in emotional regulation and cognitive processes is gaining traction in contemporary research, validating ancient beliefs about heart intelligence.[6]

As a moral control, intelligence must be accompanied by truth or right dealing (*Mȝᶜt*). It is one of the three main attributes of rule; intelligence, justice or truth, and authority.[7] It comes

[6] Alabdulgader 2021, 1-13.
[7] Frankfort, H., Frankfort, H. A., Jacobsen, T., & Irwin, W. A. 2013, 84-85.

at the head of the intellectual virtues that were mentioned in the autobiographic self-praises, for example the New Kingdom self-praises of the royal treasurer Sennefer:[8]



s3r.n.i rḫ.n.i mnḫ.n.i

"*I was intelligent, I was knowing, I was competent*", and of Ineni:[9]

nb s3rt iḳr nḏwt-r iḳr ḏd ḥr-ib n nswt skm-ns rḫ sw m ḏdt

"*intelligent, excellent in counsel, whom the king deemed excellent in speech, hoary-tongued, who knows what to say*".

The term *s3r*(*t*)  here represented "intelligence-understanding-discernment", which ultimately led to the acquisition of knowledge (*rḫ* ). Knowledge was truly seen as the result of being intelligent and understanding. Likewise, skills were seen as the result of understanding and knowledge.[10]

Some officials from the 18th Dynasty believed they could confidently prepare for the future because of their intelligence and foresight, as the royal butler Djehuty described himself in his tomb TT 110:[11]

"*I planned the time, foretold the coming, skilled in espying the future, versed in yesterday, planning tomorrow, expert in what will be*".

II. Objectives of the study

1) To demonstrate how the Ancient Egyptians perceived intelligence and its relationship with moral integrity, practical knowledge, and innovation.
2) To identify the main terms of intelligence in the ancient Egyptian texts and its contexts.
3) To indicate the significant role of the heart in shaping the ancient Egyptian views on intelligence.

[8] *Urk*. IV, 530, 7-9.
[9] *Urk*. IV, 67, 10-14.
[10] Lichtheim, M., 1997. "Moral values in ancient Egypt". *Orbis biblicus et orientalis* 155. 84-86.
[11] Djehuty was a significant figure in the palace administration, serving under Hatshepsut and her successor Thutmose III. (Shirley, J. J. 2020. "Theban Tomb 110: Continuing the Field School Tradition". In *Guardian of Ancient Egypt. Studies in Honor of Zahi Hawass*. Prague: Charles University Faculty of Arts. Volume III, 1477-1484; Lichtheim 1997, 43).

4) To discuss the concept of intelligence and its symbolism in the ancient Egyptian mythology.
5) To analyze the integration of intelligence in architecture and innovation.
6) To assess the educational system and its emphasis on multiple intelligences.

III. Methodology

The research employs a historical-analytical approach, analyzing ancient texts and architectural evidence, along with literary analysis of wisdom literature and contextual interpretation of myths. It also uses comparative methods to connect ancient practices with modern concepts, such as cardiac science and sustainable architecture.

IV. Discussion and results

Intelligence as one of the innate good traits

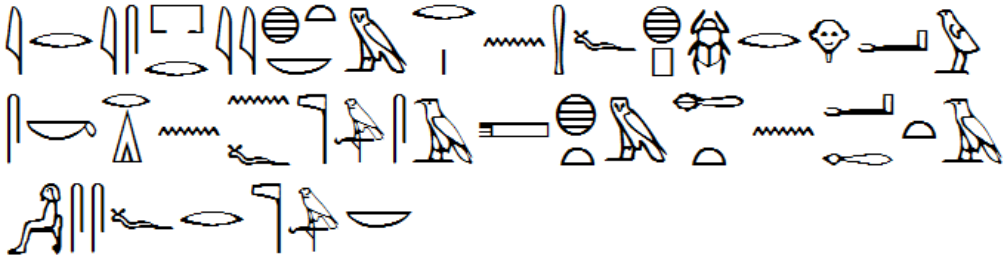
Intelligence as one of the innate good traits was mentioned in the Old Kingdom private autobiographies to describe the individual self.[12] The Middle Kingdom texts emphasized the innate good traits rather than deeds, as exemplified by the nomarch Sarenput referring to himself:[13]

prỉ m ḫt ỉw.f m rḏ wḥᶜ-ib

"*One who comes from the womb knowing and skilled*".

The royal and private innate intelligence was referred to in texts by the expression (*knowledge in/from the womb*), as in the following examples:[14]

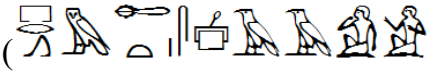
- The praise of Niankh-sekhmet, a 5th Dynasty chief physician, to king Sahure for granting him a false door for his tomb:



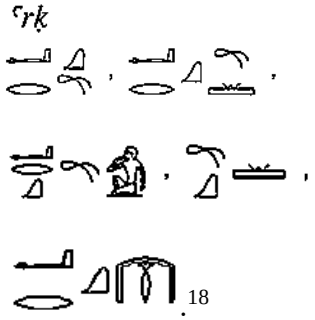
ỉr ỉs prỉ ḫt nb m r n ḥm.f ḫpr ḥr-ᶜwy skr dỉ n n.f nṯr sỉ3 ḫt m ḫt n ᶜ3 t3 šps.f r nṯr nb

[12] Lichtheim 1997, 13.
[13] *Urk*. VII, 6, 6.
[14] Lichtheim 1997, 14-15.

"*Whatever comes forth from his majesty's mouth comes about immediately, for the god gave him knowledge in the womb and esteem above other gods*".[15]

- The Instructions given to King Merikare (line 115); "*The Lord of the two banks is intelligent, the king, the lord of courtiers, will not act foolishly. He was wise even at his coming forth from the womb…*".[16]
- King Senwesert III entrusted Ikher-nefret with overseeing the festival of God Osiris at Abydos, expressing trust in him (Middle Kingdom Stela Berlin 1204.8); "*My majesty made you a Companion when you were a youth of twenty-six years. My Majesty did this because I saw you as one of excellent conduct, keen of tongue, who had* ***come from the womb as one intelligent*** ( *pri m ḫt sꜣꜣ*)".

The term "go/be smart/intelligent" in ancient Egyptian texts

The term in Hieroglyphs	*sbḳ*  [17]	*ʿrḳ*  [18]	*sꜣr*  [19]
The Object	Ostraca	Free-standing round-arched stela in sunken relief.	A writing board preserved on Turin CGT 58004 (Cat. 6238), formerly listed as inventory number 16355, is part of the Drovetti

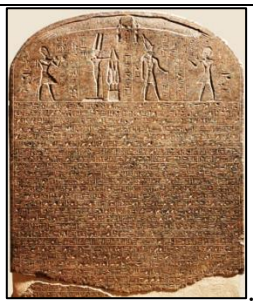
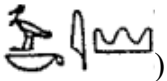
[15] *Urk*. I, 39, 13-16.

[16] Simpson, W. K. 2003. *The Literature of Ancient Egypt: An Anthology of Stories. Instructions, Stelae, Autobiography and Poetry*. Third Edition. Yale University Press.Yale.163; The "Instruction of King Khety" is a politically focused text attributed to a king from the First Intermediate Period, written as advice to his successor, King Merikare. The text is found in various papyri, including Papyrus Hermitage 1116A, Papyrus Moscow Pushkin Museum of Fine Arts 4658, and Papyrus Carlsberg 6, all from the 18th Dynasty. However, the exact identity of King Khety is unclear due to the ambiguous succession of rulers named Khety during this period. Some scholars propose that Nebkaure Khety, the ruler during the setting of the fictional *Tale of the Eloquent Peasant*, may have been its author. Others believe it was Wahkaure Khety, also known as Khety III. The attribution remains debated, with no consensus on the true authorship of the instruction (Shoaib, W. M. 2004. "Literary Sources for Ancient Egyptian History". المجلة *العلمية للاتحاد العام للآثاريين العرب*. Volume 5. 26).

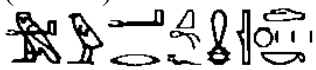
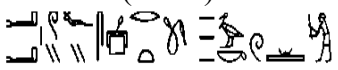
[17] *Wb* IV, 94, 2-12.

[18] *Wb* I, 212, 10-15.

[19] *Wb* IV, 18, 11-12.

			collection housed in the Museo Egizio in Turin.[20]
The Figure		 .[21]	 .[22]
The Material	Stone shard limestone	Red granite	Wood with a stucco coating
The Provenance	Deir el-Madina	Quban (Baki ) in Nubia.[23]	Unspecified
The Date	New Kingdom, 18th Dynasty	New Kingdom, 19th Dynasty, the 3rd year of the reign of king Ramesses II.	New Kingdom, end of 20th Dynasty and evidently belongs to the area of scribe training, where such tablets were used.[24]
The Context	Wisdom literature: the teaching of a man for his son.	A depiction of King Ramesses II presenting offerings to gods Min and Horus of Baki, with inscriptions from the third ruling year detailing water supply for the desert route to the gold mines of Wadi el'Allaqi.[25]	The dispute between head and body. In the composition, head and body compete to determine whose role is more important.[26] The dispute between head and body is an ancient Egyptian literary work addressing the conflict of rank. It illustrates a metaphorical struggle between body parts to

[20] Di Biase-Dyson, C. 2023. "The Scribe of The Contendings between the Body and the Head (Turin CGT 58004–Cat. 6238): Evidence for Innovative Pedagogical Techniques from Ancient Egypt". *The Journal of Egyptian Archaeology* 109(1-2). 232.
[21] Brand, P. J. 2023. *Ramesses II, Egypt's Ultimate Pharaoh*. Lockwood Press. 48, fig. 3.1.
[22] Di Biase-Dyson 2023, 239, fig. 3.
[23] PM VII-2, 83.
[24] Burkard, G., and Thissen, H. J. 2008. *Einführung in die altägyptische Literaturgeschichte*. II. Neues Reich. Einführungen und Quellentexte zur Ägyptologie 6. Münster. 137-138.
[25] Davies, B. G. 1997. *Egyptian historical inscriptions of the Nineteenth Dynasty*. Volume 2. Åström. 233-243.
[26] Stauder, A. 2020. "Opposing voices in Ancient Egyptian literature. Disputation literature in the Near East and beyond". *Studies in Ancient Near Eastern Records (SANER).* Volume 25. Berlin, Boston: De Gruyter. 121.

			highlight the tension between individual interests and the common good in society. The body symbolizes a community, encompassing individuals and institutions, with each part representing their roles and functions.[27]
The script	Hieratic	Hieroglyphic	Hieratic written in black ink.
The text	§ (7,5)  *s{w}bꜣḳꜣ* [*tw*] *Be Smart!*[28]	(line 15)[29]  *m ᶜrḳ.f mi-ḳd.k* Who can be as smart as you?	(line 5)  *ᶜwy.*(*i*) (*ḥr*) ***sꜣr****.t* (*ḥr*) *bꜣk* *(my) arms are intelligent/ efficient and working.*[30]

The concept of intelligence in the ancient Egyptian mythology

Ancient cultures viewed the heart as a vital organ of intelligence, deeply intertwined with moral, emotional, and spiritual dimensions, a perspective that is increasingly being acknowledged in modern cardiac sciences. Ancient philosophers, including those from Greek traditions, recognized the heart as a source of intelligence. For instance, Hippocrates suggested that intelligence resided in the heart, particularly in its left ventricle. This reflects a historical view that linked cognitive functions and emotional intelligence directly to the heart, rather than the brain, as is commonly accepted today.[31]

The ancient Egyptians thought that the heart is the center of intelligence and personality. It was kept intact in the mummified body and protected with heart scarabs and spells to guarantee survival in the afterlife:

[27] Kammerzell, F. 1995. "Vom Streit zwischen Leib und Kopf". *TUAT* III 5: Mythen und Epen. 951-954.

[28] The scholarly debate centers around the meaning and grammatical use of *sbꜣḳ* in a particular context. Fischer-Elfert proposes interpreting *sbḳ* as "to be clever/smart", suggesting an intellectual or skillful connotation. Meanwhile, Vernus leans towards understanding *sbꜣḳ* as "to make bright" or "to make cheerful", which implies becoming pure or blameless, translating literally as "make yourself clear". in this case, the interpretation of *sbꜣḳ* remains contested with different emphasis depending on whether clarity, intellectual skill, or emotional brightness is prioritized (Fischer-Elfert, H. W. 1999. "Die Lehre eines Mannes für seinen Sohn". *ÄA* 60. Wiesbaden. Tafelband S. xviii (Nr. 83) und hieroglyphische Umschrift § 4,5-5,3 und 7,1-8,2; Vernus, P. 2001. *Sagesses de l'Égypte pharaonique*. La Salamandre. Paris. s. l. 217-228).

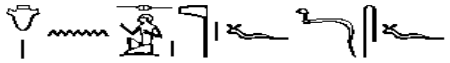
[29] *KRI* II-3, 355.

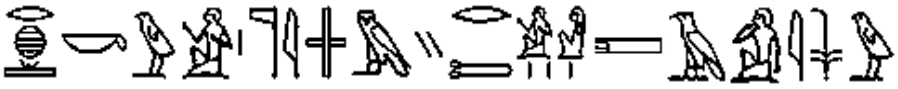
[30] Di Biase-Dyson 2023, 235, 237.

[31] Alabdulgader 2021, 1-13.

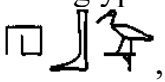
rdi ib.k r st.f m ḫrt-nṯr ḥr nḥḥ

"*Giving your heart to its place in the necropolis for eternity*".[32]

The heart is frequently referred to as "the god of the body" in the ancient Egyptian texts;  *nṯr imy.k* "*the god residing within you*", thus the seat of intelligence, emotions, and conscience. A text from the Late Period mentioned;  *ib n s nṯr.f ḏs.f* "*the heart of a man is his personal god*". Paheri's mortuary inscription from the 18th Dynasty (Line 32) is even clearer:[33]



rḫ.kwi nṯr imy rmṯ si3.i sw "*I know the god who is in men: I recognize him*".[34]

The ancient Egyptians observed that the body of the ibis bird looked like a heart, the center of intelligence, so they highlighted this likeness during the mummification process of the bird. The text "*Ra has sent his heart out to you in his name heby*" indicates a dual comparison. *Hby* is phonetically similar to *ib*, as there is also a visual analogy. The hieroglyphic script further clarifies this connection by representing the word *hby*  , meaning Ibis, with the symbol of Ibis on the shield, known as Ibis-Thoth. This symbolizes the association of Thoth with the heart, the intelligence of Ra. Furthermore, numerous texts support this interpretation and also indicate that Thoth gives the deceased the ability to regulate his bodily functions by returning his heart[35]; in Chapter 27 of the

[32] Cave, A. J. E. 1950. "Ancient Egypt and the Origin of Anatomical Science". *Proceedings of the Royal Society of Medicine*. 43(7).569; Lekov, T. 2004. "The Formula of the" Giving of the Heart" in Ancient Egyptian Texts". *The Journal of Egyptological Studies1*. 37.

[33] The inscription is inscribed on the back wall (that includes the niche with the statues of the tomb owner and his wife) of the main chamber of the tomb of Pahri at El Kab. In lines 22 to 35, Paheri speaks and praises his own merits. (https://www.osirisnet.net/tombes/el_kab/pahery/e_pahery_04.htm. Last Accessed on 4 November 2024 at 2:45 pm; Naville, E., Lewis, T. Hayter F.S.A., Tylor, J. J. F.S.A., and Griffith, F. LL. B.A., F.S.A. 1894. "Ahnas El Medineh: The Tomb of Paheri at El Kab". *Dr. Kent R. Weeks Book Collection*. 37. https://knowledge.e.southern.edu/kweeks_coll/37. Pl. IX. 28, 30)

[34] Black, J. R. 2002. *The instruction of Amenemope: A critical edition and commentary prolegomenon and prologue.* The University of Wisconsin-Madison. 459.

[35] Scriabine, M. 1976. Writing, Myth and Creativity in Pharaonic Egypt. *Diogenes*, *24*(93), 52, 60-61.

Book of the Dead (From the Papyrus of Ani, British Museum No. 10,470, sheets 15 and 16):[36]

ḥ3b.f ib.f ḫntj ḫt.f...sḫm.f im.f...sḫm m ᶜt ḏs.f

"*He (Thoth) sends his heart to control his body… there is power in him… he has power in his organs (limbs)*".[37]

The baboon was specifically taken as a symbol of God Thoth because of its intelligence and precise imitation. It amazed the ancient Egyptians with its movement, which resembled that of a human being. They noticed that it would rush to the trees and high places surrounding them and stand waiting for the sunrise. So, the ancient Egyptians linked it to the sun.[38]

Thoth embodies a dynamic and multifaceted intelligence, serving as the (Heart of Ra) and representing the essence of wisdom among the gods. His role is not confined to a singular form; rather, he adapts to various contexts, appearing as a guide to Isis while simultaneously functioning as the heart of other deities. This flexibility underscores the imagistic nature of his intelligence, which is crucial for navigating the complexities of existence and the divine hierarchy. Thoth's knowledge of names and passwords facilitates safe passage through the *Dwat*, emphasizing his mediating role in the rites of passage that educate individuals into new realms of understanding. Through her connection with Thoth, Isis gains power and insight, illustrating the transformative potential of divine intelligence in Egyptian mythology.[39] In the myth of the name of Ra, goddess Isis is described as "*was intelligent above all others*".[40]

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[36] Budge, E. A.W. 1898. *The Chapters of Coming Forth by Day*. London. 91, Chapter XXVII, Chapter of Not Letting the Heart be Carried Away, lines 4-6.

[37] Lekov 2004, 40.

[38] Haulihan, P. F. 1996. *The Animal world of the Pharaohs*. Cairo, 95.

[39] Angelo, M. 1997. "When the Gods were Intelligent, and Education was Enchanting". *Self & Society*. 24(6). 12-17.

[40] Scriabine 1976, 61. Isis pursued the ultimate secret to perfect her wisdom; the hidden name of Ra, the mighty sun god. To extract this knowledge, she skillfully formed a venomous serpent from the earth mixed with Ra's saliva. As the aged Ra passed by, the serpent bit him, causing unbearable agony. Desperate and weakened, Ra cried out for help, but no one came to his aid until Isis appeared. She promised a cure, but only if he revealed his secret name. In his torment, Ra finally shared his divine lineage and reluctantly uttered the name. Empowered by this revelation, Isis healed him and became truly omnipotent. (Leeming, D. A., & Page, J. 1994. *Goddess: Myths of the female divine*. Oxford University Press, USA.78, 79)

Thus, Thoth's multifaceted nature not only enriches the spiritual journeys of gods and humans but also highlights the integral relationship between knowledge and power in ancient Egyptian culture.[41]

Goddess Seshat, who is believed to be the daughter of God Thoth, is an embodiment of wisdom and intelligence in ancient Egypt. Often depicted with a seven-pointed star above her head and a stylus in hand, Seshat symbolized the recording of knowledge, serving as a divine scribe. She played a vital role in documenting royal achievements, measuring time, and overseeing architecture and mathematics, linking her to science and governance.[42] She is a prominent figure in the *Demotic Book of Thoth*, holds a unique role as the "*Mistress of the Rope*" and is closely associated with the intellectual and creative aspects of knowledge. Seshat collaborates with Thoth in recording wisdom and participates in foundational rituals, underscoring her authority in intellectual and creative realms.[43]

The Memphite Myth articulates a profound understanding of creation, where Ptah embodies the heart and tongue of the gods, symbolizing the rational principles of mind and speech. This duality reflects the Egyptian belief that the heart is the seat of mind, will, and emotion, crucial for conceiving the universe. Through the intelligence and thought of the heart and the expression of the tongue, Atum and other deities emerged, illustrating a process where abstract ideas are given concrete form. This emphasizes an articulate intelligence behind creation. The tongue serves as the medium through which the heart's ideas are manifested, highlighting the significance of utterance in bringing forth existence. Thus, the Memphite Theology represents a quest for the First Principle, the underlying intelligence of the universe.[44]

The color symbolizing intelligence in the ancient Egyptian methodology was yellow. Yellow, particularly in its golden hue, embodies warmth, positivity, and the promise of good fortune, symbolizing the true self and divine potential. This color is deeply connected to the sun, which represents life, energy, and divine wisdom, reinforcing the notions of enlightenment and growth. Yellow is also associated with joy, intellect, and mental clarity, highlighting its role in consciousness and awareness. The symbolism of gold in mythology further enhances this connection, as it signifies immortality and divine essence, often linked to celestial beings and the eternal nature of knowledge. Together, these elements illustrate how yellow, especially golden yellow, serves as a powerful representation of enlightenment, maturity, and the sacred journey toward understanding and wisdom. Thus,

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[41] Angelo 1997, 12-17.

[42] For further information on the goddess, see
بهى الدين، ايناس. 2003. *المعبودة سشات ودورها في العقائد المصرية القديمة " منذ بداية العصور التاريخية وحتى نهاية العصر اليوناني الروماني"* . رسالة لنيل درجة الدكتوراه. قسم الآثار المصرية. كلية الاثار. جامعة القاهرة.

[43] Rechholz, M. 2023. "Seshat and Lady Wisdom: Prov 8 in Light of the Demotic Book of Thoth". *Vetus Testamentum*, 74(2), 216-236.

[44] Wilson, J. A. 2013. *The culture of ancient Egypt*. University of Chicago Press.59-60; Bonanno, M. 2016. "Some remarks about the Egyptian Creator". *Revista Mundo Antigo*, *5*(9), 128.

the radiant qualities of yellow not only reflect the nurturing aspects of nature but also the divine truths that guide human existence.[45]

Smart Applications in Ancient Egypt

Outstanding architectural examples demonstrate how the ancient Egyptians' intelligence and creative spirit were manifested in practical ways:

- In order to facilitate the sledge transportation of large pyramid stones, the Ancient Egyptians devised a smart strategy. The sledge was driven across sand that the Egyptians had moist. They could employ as many workers as necessary if they used the appropriate amount of water (fig. 1).[46]

  The ancient pyramid builders had a highly organized logistics system, evidenced by recent research which indicates they achieved remarkable precision through the use of basic tools, intelligence, and a well-structured hierarchical society. However, their Mathematics and computational techniques demonstrate that they performed calculations similar to modern computers, utilizing the binary system, while their Arithmetic relied on a decimal framework. This is supported by the evidence that they mainly used unitary fractions, similar to how modern computers operate (about 99%).[47]

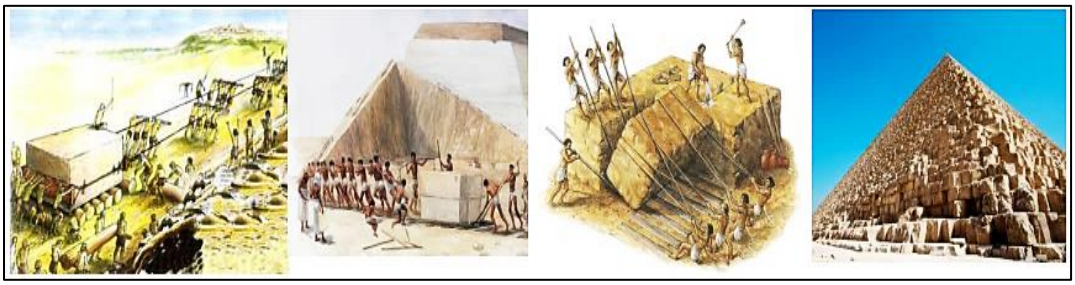

Fig. 1: Smart application in the construction of the ancient Egyptian pyramids (After Abo-elazm & Ali 2017, 4, fig. 2)

- The ancient Egyptians took care to ensure thermal comfort in their own dwellings through smart applications like using a wind catcher called (*Malqaf*) with two openings, one facing the wind and the other for vacuum-induced absorption.[48]

  The *Malqaf* (Uni-directional wind catcher) has ancient origins, dating back to early Egyptian times. It was employed in architectural designs at Tal Al-Amarna and was a notable feature in the 19th Dynasty private residences, such as the house of Nebamun. This innovation reflects the Egyptians' sophisticated approach to passive cooling

[45] Singer, G. G. 2010. "Color in ancient Egypt". *Terrae Antiqvae.* online: http://terraeantiqvae.com/profiles/blogs/color-in-ancient-egypt.12.

[46] Abo-elazm, F. M., & Ali, Sh. M. 2017. "The concept of local smart architecture: An approach to appropriate local sustainable buildings". *International Journal of Cultural Heritage*. Volume 2. 3.

[47] Maravelia, A. 2017. "Smart informatics & Egyptology: A modern inter-disciplinary forum studying an ancient culture of pre- & proto-scientific logistics & intelligence". *Eighth International Conference on Intelligent Computing and Information Systems (ICICIS)*. Cairo. Egypt.11.

[48] Abo-elazm & Ali 2017, 3.

techniques, using the *malqaf* to capture and channel breezes into interior spaces, making homes more livable in the harsh desert climate.[49]

Ancient Egyptian identity is the optimal source for design inspiration, as it provides the best ideas for applying a methodology and technical trend.[50] It is remarkable to see how the University of Science and Technology in Ghana applies the same idea (*Malqaf*) in its modern architecture, employing a "Y"-shaped system of bridges to direct airflow (fig. 2).[51]

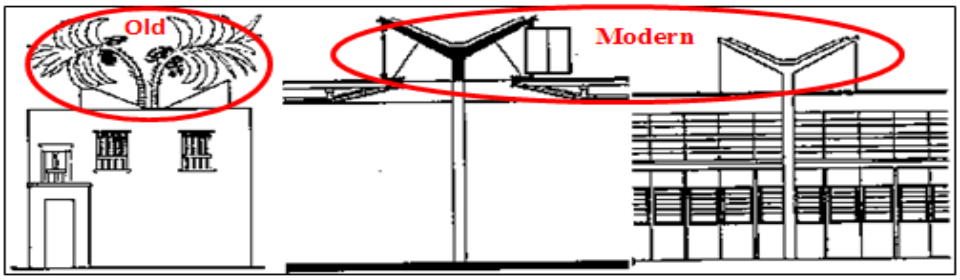

Fig. 2: The *Malqaf* in Old (ancient Egyptian house of Nebamun) and Modern (Ghana University of Science and Technology) constructions (After Abo-elazm & Ali 2017, 4, fig. 3)

- Solar radiation was used to create a symbolic impact in the architectural design of Abu Simbel temple, which is carved in the mountain (fig. 3).[52] The precise calculations of the sun's movement and angles of its rays were used to carry light beams 60 meters into the mountain to illuminate the face of King Ramesses II statue. This light then spread to illuminate the four statues over a span of two days, specifically chosen to coincide with the anniversary of his birthday on 21 February and the day he ascended to the throne on 21 October each year.[53]

[49] El-Borombaly, H., & Molina-Prieto, L. F. 2015. "Adaptation of Vernacular Designs for Contemporary Sustainable Architecture in Middle East and Neotropical Region". *International Journal of Computer Science and Information Technology Research*. Volume. 3. Issue 4. 15, fig. 1.

[50] Hussein, D. E. A. H., Agha, L. A. A. A. E., & Elsakka, A. S. R. 2024. "Employing interactive architecture techniques in architectural design methodologies to retrieve ancient Egyptian identity". *Journal of Engineering Research (ERJ)*. Tanta University, Faculty of Engineering. Vol. 8. Issue 2. Article 44. 5.

[51] Abo-elazm & Ali 2017, 3.

[52] Holliday, P. J. 2024. *Power, Image, and Memory: Historical Subjects in Art*. Oxford University Press. 32.

[53] Abo-elazm & Ali 2017, 4; Ramzy, N. 2015. "The genius loci at the great temple of Abu Simbel: Hermeneutic reading in the architectural language of ancient Egyptian temples of Ramses II in Nubia". *Journal of Ancient History and Archaeology*, *2*(2).47.

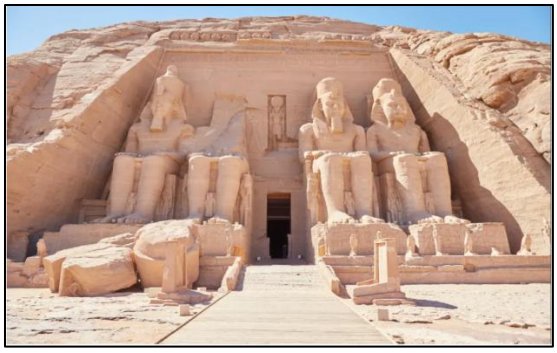

Fig. 3: Smart application in the construction of Abu Simbel temple (After https://sailingstonetravel.com/abu-simbel/ Last accessed on 6 November 2024 at 11:00 pm)

According to the above-mentioned examples of the ancient Egyptian smart applications in architecture, the main standards of the smart building include using the available local materials in construction, showing consideration for the weather conditions, and using the latest technology of the construction time to adapt with the context.[54]

Enhancing learning through the use of multiple types of intelligence

Learning can be enhanced by using multiple types of intelligence such as visual, musical and spatial. Artistic activities, in ancient and modern times, are a popular and attractive way to educate children and enhance their motor, creative, linguistic and social intelligence. In ancient Egypt, children engaged in several games that emphasized strategy, intelligence, and skill. Among the most popular of these were the board games *Senet* and *Mehen*, both of which involved mental agility and planning to win.[55]

In ancient Egypt, education was prevalent among the population. Schools were not only abundant in large towns, but could also be found in small villages, albeit in a more sporadic and unofficial manner. Intelligent boys would typically attend village schools at a young age, where they would be taught basic reading, writing, and arithmetic skills by an elderly teacher. If he didn't attend a local school, he would work in an office to become a "learned scribe". Engaged in duplicating letters, notices, and official papers, with his employer overseeing his efforts and making corrections as needed as the boy copies them again, he slowly gains a proficient understanding of writing and various types of business and legal documents. If he wants to learn the hieratic script, he will need to replicate examples from books. After completing this training program, he seeks a higher position. He gets married, and his children follow in his footsteps to become scribes.[56]

[54] Abo-elazm & Ali 2017, 7.

[55] منصور، أحمد.، 2021. "الألعاب الشعبية في مصر القديمة: نظرة على موروث ألعاب الأطفال في مصر". *مجلة الموروث*. معهد الشارقة للتراث. العدد (22). 160-175.

[56] Laurie, S. S. 1893. "The History of Early Education. II. The Ancient Egyptians". *The School Review*. Volume. 1, No. 6. 362-363.

The traditional Egyptian educational system included three levels of initiation:[57]

1. The Mortals, probationary students still learning and without inner vision experience.
2. The Intelligences, students who gained inner insight and received intellect or Nous.
3. The Sons of Light or Creators are individuals, who through their studies have integrated into the spiritual awareness.

V. Conclusion

In ancient Egypt, intelligence was diverse, covering practical abilities, academic knowledge, and moral values. Education and wisdom greatly influenced society and created a lasting impact. Intelligence was commonly seen in terms of wisdom, knowledge, and problem-solving skills, particularly in governing, religion, and resource management.

Ancient Egyptians believed that every person is born with innate intelligence, shaping a person's identity, evident in moral wisdom and practical decision-making, as reflected in their instructional texts.

The main terms for intelligence in the discussed examples of ancient Egyptian texts include:

- *sꜣr/t* refers to intelligence, understanding, or discernment.
- *wḥꜥ-ib* describes a calm or wise heart, indicating inner clarity and intelligence.
- *prỉ m ḫt*, translated to "*born from the womb*", is used to emphasize innate intelligence.
- *sbḳ* signifies being "smart" or "clever", as an encouragement or a description of capability.
- *ꜥrḳ* refers to "cleverness" or "being perceptive and wise". It is often used to describe someone who has sharp insight or an exceptional ability to understand and act intelligently. This term complements the other keywords like *sꜣr/t* and *rḫ*, adding to the nuanced understanding of intelligence in the cultural and moral framework of ancient Egypt.

The heart was seen as the seat of emotions and intellect, crucial for spiritual judgment and shaping personal identity, highlighting its central role in Egyptian beliefs.

Intelligence was closely tied to moral integrity, with *Ma'at* (truth and justice) as the ethical foundation. Wisdom texts like the Instructions of Ptahhotep emphasized ethical behavior.

Deities like Thoth and Ptah represented multifaceted intelligence, linking thought, speech, and creation, demonstrating the power of words and the heart in manifesting reality.

[57] Initiation is described as the start of a person's spiritual journey. This process served as the base, the ground of learning for developing divine intelligence and ethical values (Rawls, O. J. 2018. *Bes: The Ancient Egyptian Way of Initiation*. a Thesis submitted to the faculty of Clark Atlanta University in Partial Fulfillment of the requirements for the degree of Master of Arts. Atlanta, Georgia. 64-65).

In ancient Egyptian mythology, goddesses like Isis and Seshat are linked to wisdom and transformative intelligence, often embodying creative knowledge and power. This dynamic reflects a balance where feminine deities embody wisdom and insight, while gods like Thoth act as mediators and facilitators of deeper, structured knowledge.

Intelligence was practically applied in architectural and engineering advancements. It includes investigating smart building techniques, environmental adaptations, and the use of solar alignment, showcasing the Egyptians' innovative approach to resource management and construction, which combined technical knowledge with cultural beliefs.

Education in ancient Egypt nurtured diverse forms of intelligence, from scribal training to spiritual initiation, emphasizing the holistic development of visual, linguistic, social, and ethical intelligence to prepare individuals for societal roles and spiritual understanding.

Finally, the ancient Egyptian intelligence could be defined as a holistic trait encompassing moral wisdom, practical skill, and creativity, centered in the heart as the seat of thought, emotion, and ethical judgment. It reflected a balance between knowledge and morality, guiding actions in life and the afterlife under the principle of *Ma'at*.

Compared to modern artificial intelligence, which focuses on logical processing and problem-solving, ancient Egyptian intelligence was rooted in human values and interconnectedness, reflecting a deeper understanding of the moral and spiritual dimensions of existence. This relationship between intelligence and identity in ancient Egypt underscores the importance of wisdom as a guiding force in both life and the afterlife.

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الذكاء في مصر القديمة: كن ذكيًا واشعر بهويتك

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ملخص

كان المصريون القدماء يؤمنون بأن كل شخص يولد بموهبة خاصة تُعرف بالصفة الحميدة الفطرية. وقد انعكس هذا الاعتقاد بوضوح في نصوصهم، لا سيما في السير الذاتية والتعاليم. إحدى هذه الصفات الفطرية الهامة، والتي تلعب دورًا محوريًا في تشكيل الهوية الفكرية والسلوكية للفرد منذ ولادته، هي الذكاء. تتناول هذه الدراسة كيف كان المصريون القدماء ينظرون إلى الذكاء ويجسدونه في مختلف جوانب مجتمعهم، مع التركيز على أبعاده الأخلاقية والعملية والإبداعية. تعتمد الدراسة على منهجية تحليلية تاريخية تجمع بين التحليل الأدبي للنصوص، مثل "تعاليم بتاح-حتب"، والتفسير السياقي للأساطير لتوضيح دور الذكاء في المجتمع. كان القلب يُعتبر مركز العاطفة والفكر، ولعب دورًا حاسمًا في المحاكمة الروحية وتشكيل الهوية الشخصية، وهو مفهوم يتوافق جزئيًا مع الأبحاث الحديثة في علم القلب. كما تستكشف الدراسة رمزية الآلهة مثل تحوت و بتاح، اللذين يجسدان الذكاء متعدد الأبعاد، ويربطان بين الفكر والكلام والخلق. وتسلط الضوء أيضًا على الابتكارات المعمارية، مثل ترطيب الرمال لنقل الأحجار، وتصاميم الراحة الحرارية، والمعابد الموجهة للشمس، مما يعكس التطبيقات العملية للذكاء. إضافةً إلى ذلك، ركّز النظام التعليمي في مصر القديمة على تنمية الذكاءات المتعددة، مما يعزز النمو الشخصي المتكامل والمساهمة الفعّالة في المجتمع.

الكلمات المفتاحية: الذكاء؛ القلب؛ مصر القديمة؛ تحوت؛ الأخلاق؛ الفكر