

PUZRIŠ-DAGAN: ORGANIZATION OF AN ANIMAL CONCENTRATION CENTER DURING UR III PERIOD



Silvia Nicolás Alonso
Biblical and Oriental Institute of León
SPAIN



World Association
for the History of
Veterinary Medicine

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Introduction

Sumerian writing

Mesopotamia



Sumer (*Kalam*)
Ki-en-gi

FROM PICTOGRAM TO CUNEIFORM WRITING

Calculi

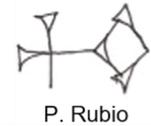
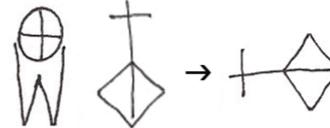
Pictogram
(ca. 3100 B.C.)

III millennium B.C.

Udu = sheep

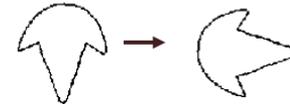


Maš = goat



P. Rubio

Áb = cow



Ur = "dog"



Sources



LEXICAL LISTS

- Widely used in Mesopotamia and the entire Middle East
- The first ones date back to the beginning of writing (Uruk)
- Enumerations of signs on all kinds of topics
- They follow a clearly definite classification order
- Divided into columns
- Attempt to catalog the knowledge about the world
- Scholar function

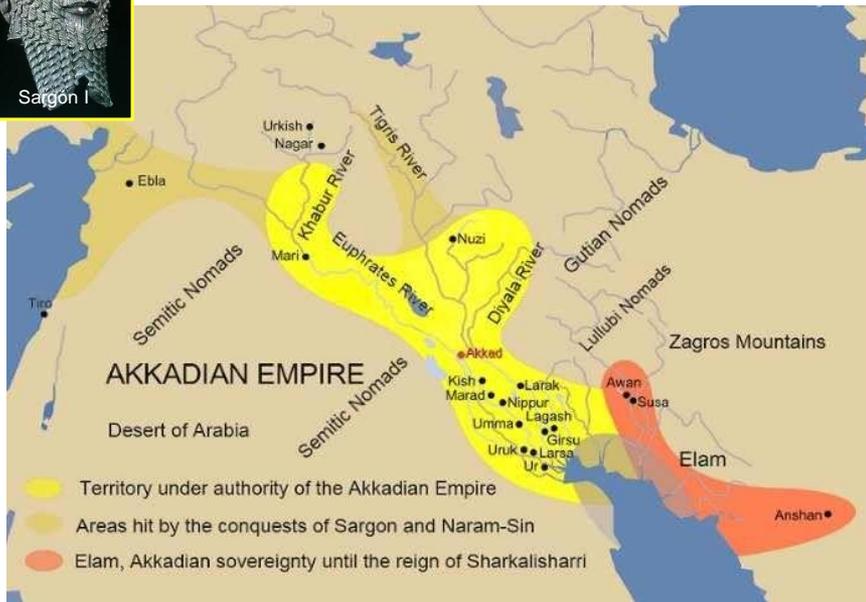


Sources

THE AKKADIAN EMPIRE



2334 a 2192 B.C.

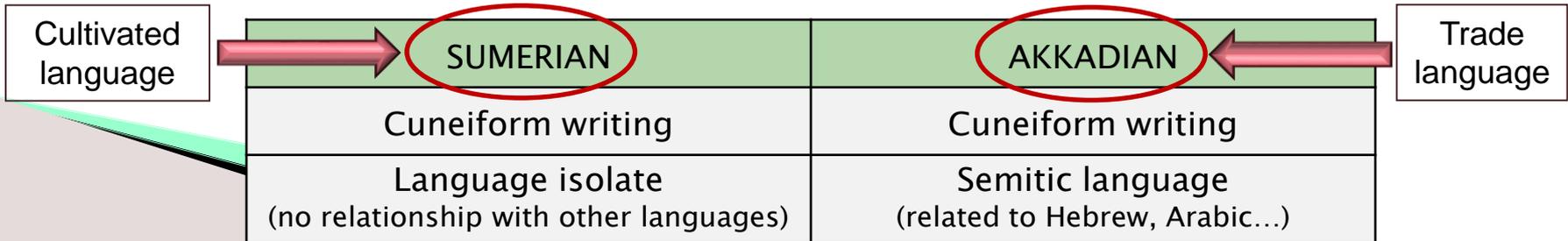


BILINGUAL LISTS: **Har-ra = Hubullu**



- Sumerian-Akkadian bilingual encyclopedic compendium
- Pelobabilonic period
- For learning purposes
- “Interest, in relation to a debt” (first term of the list)

- Tablets 4-5 → Vehicles
- Tablets 13-15 → Animals
- Tablet 16 → Minerals
- Tablet 17 → Plants
- Tablet 22 → Stars
- Other tablets: → Geographical names



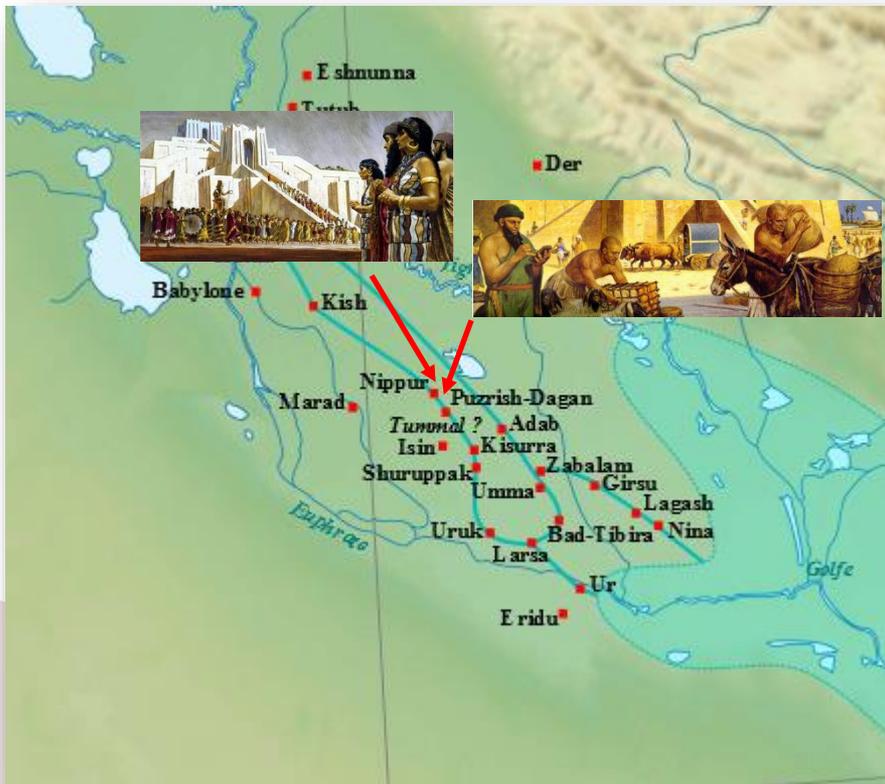
Political context

THE SUMERIAN RENAISSANCE (XXII-XXI B.C.)

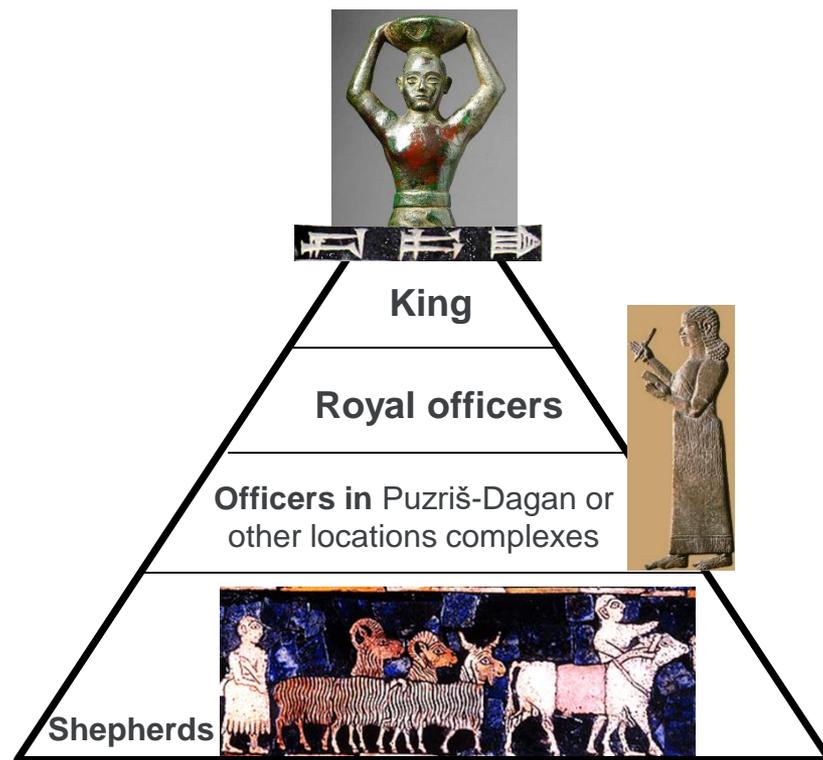
Ur III Dynasty
or
Neosumerian
period

Ur-Namma	18 years	2112–2095 BC
Šulgi	48 years	2094–2047 BC
Amar-Suen	9 years	2046–2038 BC
Šu-Suen	9 years	2037–2029 BC
Ibbi-Suen	25 years	2028–2004 BC

Taken from Liu, Ch., 2017



ADMINISTRATIVE ORGANIZATION

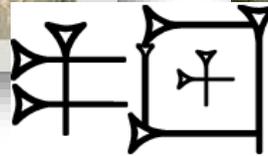


STRONGLY HIERARCHICAL ORGANIZATION
CENTRALISED POWER (THE KING AND HIS THRONE)
WORK SPECIALIZATION

Herds management: importance of the shepherd

State shepherds

Shepherd feeding sheep. Cylinderseal impression. Uruk period (Berlin).



Sipa(d) = Herder, keeper
(all species)

Sipa(d)-lugal = royal shepherd

Sipa(d)-udu-siki-ka = shepherd of wool sheep

Sipa(d)-gu₄-niga = fattened bovines herder

Sipa(d)-ur-gir₁₅-ra = dog handler

Sipa(d)-mušen or **mušen-du₃** = fowler

Sipa(d)-tur = shepherd's assistant

Unu₃ = bovines herder

Na-gada = herdsman, shepherd (lowest level)

...

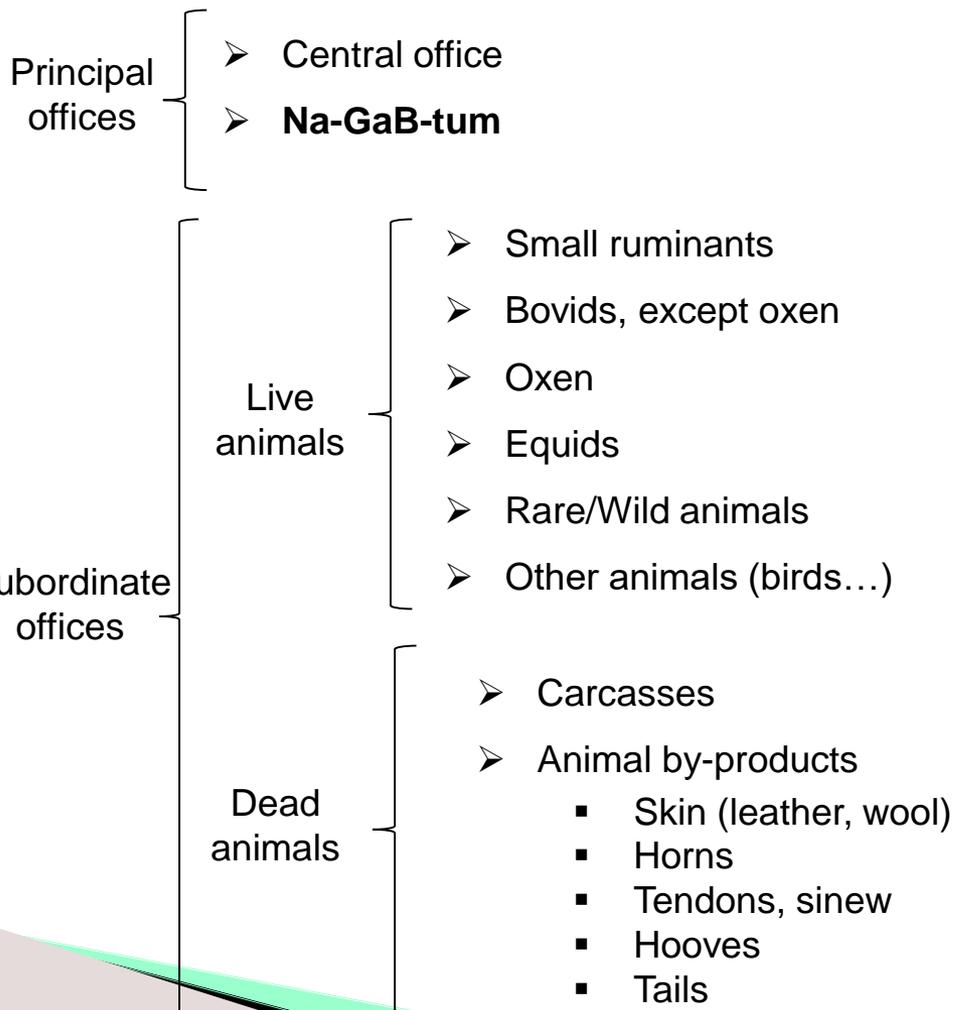
RIGHTS & OBLIGATIONS

- Daily care and protection of the herds
- Annual census (classification by sex & age)
- Control of dead animals
- Control of grazing areas
- They had a salary (animals, milk...)

The Puzriš–Dagan complex

Puzriš–Dagan: administrative components

OFFICES



OFFICIALS

- Royal officials
- **Giri**
- **Maškim**



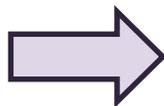
Ovis orientalis musimon

Puzriš–Dagan: administrative components

DOCUMENTS



31 x 55,8 x 23 mm
Biblical and Oriental
Institute of León, Spain.



Ovines delivery.
Drehem (2054 a.C.)

LABELS OR *BULLAE*



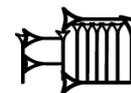
Inscribed bullae with seal impressions. Umma and Puzrish-Dagan. Ur III Period. The State Hermitage Museum. Saint Petersburg. Russia.



35,7 x 48 x 14 mm
Biblical and Oriental
Institute of León, Spain.

SEALS

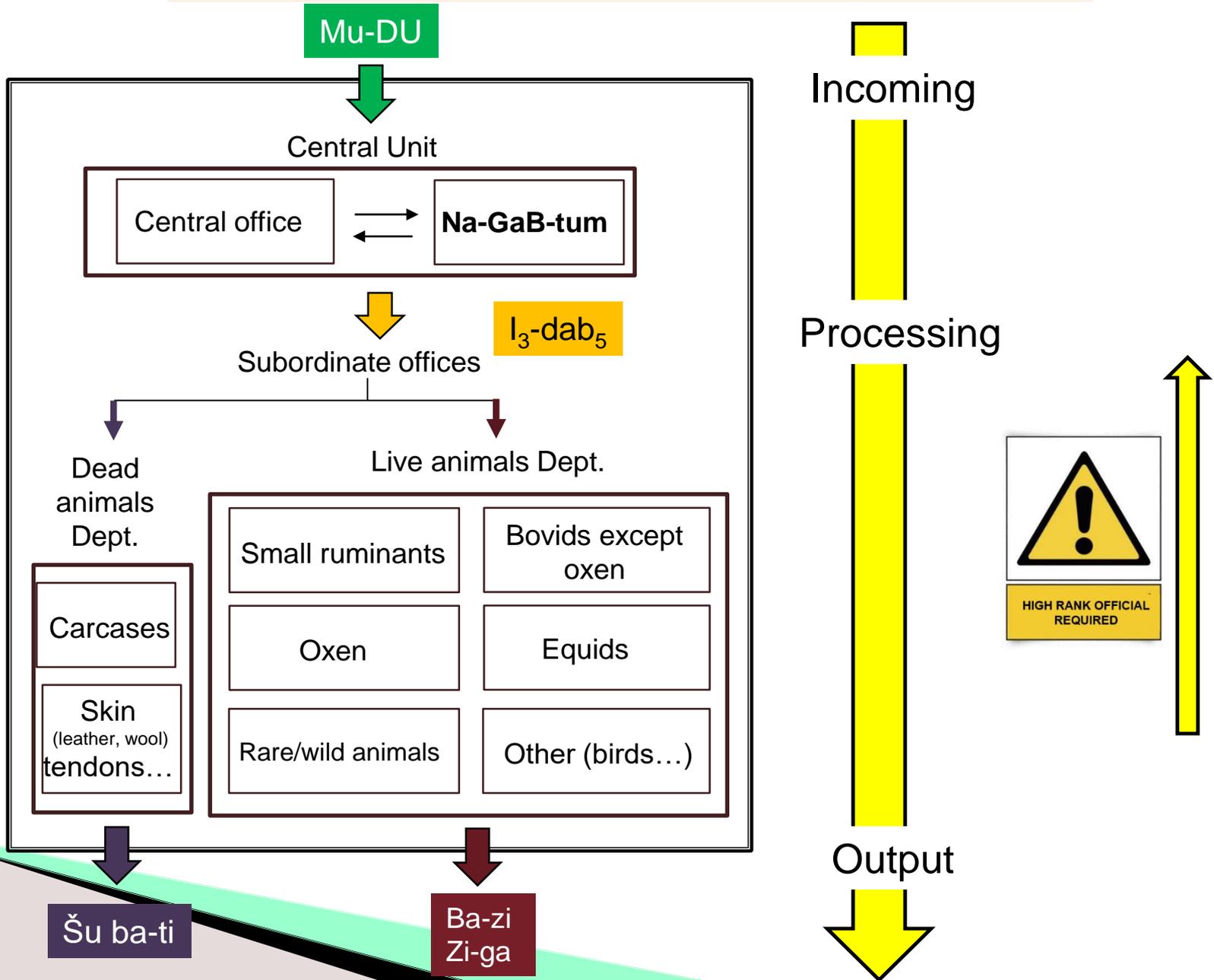
kišib



Shepherd feeding sheep. Cylinderseal and its impression. Uruk period (Berlin).

Term	Meaning
Mu-DU	Reception
l ₃ -dab ₅	To take charge
Zi-ga	Withdrawal
Ba-zi	Dispatched
Šu ba-ti	Death animals received

Puzriš–Dagan: administrative organization



**Animals received
Mu-DU**

Animals received: Mu-DU

ORIGIN

✓ Taxes

Bala



From local governors (*ensi₂*) to central government.

Gun₃-ma-da



From peripheral countries to central government

✓ King's herds

✓ Specific individuals

✓ Penalties

✓ War booties



THE NA-GAB-TUM

Central office



Na-GaB-tum

- Central office support of in animal management
- Animal supply in case of deficit
- Farmyard for the King's animals
- Feedlot & birthing pen
- Deal with newborn animals

Mu-DU ^dŠul-gi-ra
(received for Šulgi)



Ú-tu-da
(born)



To take charge
(processing)

$I_3 - dab_5$

To take responsibility: l_3 -dab $_5$



l_3 -dab $_5$

(To take responsibility)

- Inspection
- Classification
- Lot reorganization
- Accounts

INSPECTION

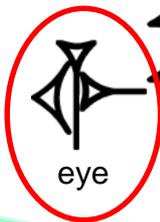
Šu-gid $_2$



hand



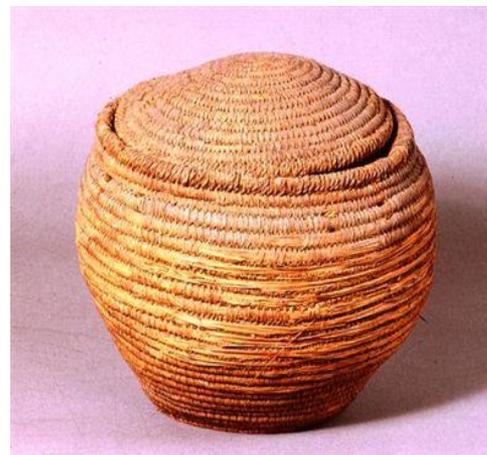
Gurum $_2$ =
IGI x GAR



eye



Ki-bi gi $_4$ -a ACCOUNTS



Estimates

Pisan dub-ba
(basket with tablets)



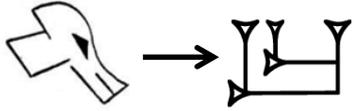
The files

Wild animals classification

CLASSIFICATION TRAITS

Determinatives or primary names

Ur (*kalbu*)

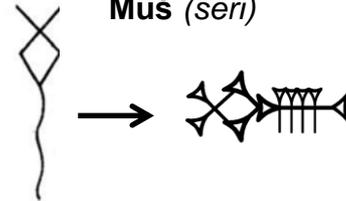


Quadrupedal predators of a certain scale.

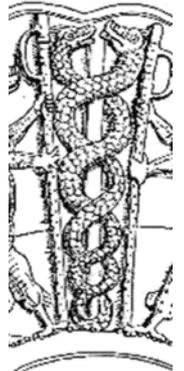


Hyena & lion. Great lyre of the royal tombs of Ur (III millennium B.C.). Penn-Museum.

Muš (*seri*)

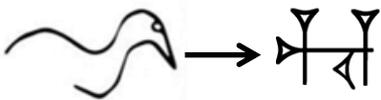


Elongated body, usually without appendages. They usually have venom.



Gudea's libation cup (III millennium B.C.). Louvre Museum

Mušen (*essūru*)

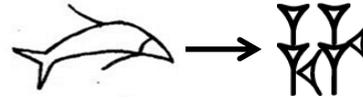


Flying animals. They usually have feathers and beaks.



Anzu/Imdugud bird. Votive relief (III millennium B.C.). Louvre Museum.

Ku₆ (*nūnu*)



Aquatic creatures of aerodynamic body, with fins and sometimes gills.



Enki god. Cylinderseal impression of Adda (III millennium B.C.). British Museum.

Wild animals classification

CLASSIFICATION TRAITS



Morphological & ethological

MORPHOLOGICAL

Size

- **tur** = small/young
- **maḥ** = magnificent (big and powerful)
- **gal** = big

- **Ur tur** (cub)
- **Ur maḥ** (lion)
- **Ur zíb** (leopard?)
- **Ur ge₆**
- **Ur dir**

- **Muš tur**
- **Muš maḥ**
- **Muš gal**
- **Muš ge₆**

- **Mušen gal** (duck)
- **Mušen ġîr-babbar**

Colour

- **ge₆** = dark/black
- **ġîr-babbar** = white foot
- **zíb** = spotted
- **dir** = red

Peculiar anatomy

- **Muš igi-nu-ġál** = eyeless snake (blind snake?)
- **Muš si-gar** = snake with a horn (horned viper?)
- **Mušen igi-mul** = bird with star shaped eyes
- **Mušen ġîr-mul** = bird with star shaped feet
- **Mušen šu-lú** = bird with a human hand
(can this refer to a behaviour?)



Blind snake



Horned viper

Mythological animals

- **muš ušumgal** (dragon)
- **Mušen an-zu**
- **Seven heads snakes...**

Wild animals classification

CLASSIFICATION TRAITS



Morphological & ethological

ETHOLOGICAL

Habitat

- | | | | | |
|--|---------------------------------|--------------------------------|-------------------------------|-------------------------------|
| ➤ a = aquatic | ➤ Ur a (otter) | ➤ Muš a | ➤ Mušen a | ➤ Ku₆ izi |
| ➤ Ki = from de ground | ➤ Ur ki (badger) | ➤ Muš kur-ra | ➤ Mušen kur-ra | ➤ Ku₆ engur |
| ➤ kur-ra = from the mountains | ➤ Ur bar-ra (wolf) | ➤ Muš sahar | ➤ Mušen edin-na | |
| ➤ sahar = from the desert | ➤ Ur nim-ma^{ki} | ➤ Muš izi | ➤ Mušen ambar | |
| ➤ na₄ = from the stones | ➤ Ur nigin | ➤ Muš na₄ | ➤ Mušen gi₆ | |
| ➤ izi = from the fire | | ➤ Muš ur-a (crocodile?) | | |
| ➤ engur = from the depths | | | | |
| ➤ bar-ra = from the outskirts | | | | |
| ➤ ambar = reed bed (from the marshes) | | | | |

Other

- bird song onomatopoeia (**Mušen gur-gur**)
- Predators aggressiveness (snooper, ripper...)
- and in general, any distinctive behaviour
 - **Ur nigin** = surrounding dog (hunting dog)
 - The bird that carries possessions
 - The bird that own the harmony (plumage/song?)
 - The fish that sweeps the entrance, runner fish, etc...

Canis lupus arabs



Domestic animals classification

CLASSIFICATION TRAITS



Directly designated species

Sheep

Udu (*imмерu*)



Tablet fragment with pictograms
(IV millennium B.C.). IBO, León



Uruk base (3300-3100 B.C.)

Goat

Maš (*bīru; urīṣu*)



Cylinderseal impression (IV millennium B.C.)

Domestic animals classification

CLASSIFICATION TRAITS



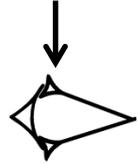
Directly designated species

Cow

Bull

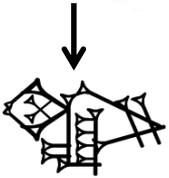
Áb (*arhu*)

Gu₄(d) (*alpu*)



Cylinderseal impression (III millennium B.C.)

Anše (*imēru*)

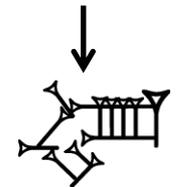


Animals used for transport



Ur banner (XXVI century B.C.) British Museum.

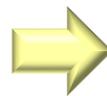
Šah (*sahu*)



Suidae (domestic and wild)

Domestic animals classification

CLASSIFICATION TRAITS



Morphological and of productive interest

Sex & reproductive state

- **nita₂** = male
- **nim/munus** = female
- **nú/un-a** = pregnant/nursing
- **Ab₂-mah₂** = first-calf heifer

Age

- **ú-tu-da** = newborn
- **tur** = small, young
- **bar-gal/sila₄** = lamb
- **ga** = unweaned
- **gaba/gub** = weaned
- **libir** = old

Color

- **babbar** = white
- **gi₆** = black
- **Si₄** = brown/red
- **sig₁₇(GI)** = yellow
- **gûn-a** = spotted

Blemishes

- **ba-za** = deformed
- **Umbin** = lame
- **gur₈-gur₈** = meteorism?

Origin

- Geographical → Simaski, Sarumiun, Lullubum...
- Habitat/Wild → Edín (steppe), kur-ra (mountains)

Purpose

- Wool
 - **bar-gál** = with wool
 - **bar-su-ga** = without wool
 - **sila₄/Kir₁₁ As-ur₄** = plucked for the first time
 - **si-2-lá** = plucked twice
- Meat → **niga o niga₂** = fattening animal
- Different kinds of rituals
 - **Más-hul-dúb-(ba)** = animal de expiación
- **en-zi** = leader animal
- **Anše-gu-za** = saddle donkey (gu-za = throne)
- **Gu₄-giš** = draught bull

Hybrids

- **Udu-a-udu-ḥur-sag** = sheep x muflon
- **Máš-a-darah₄/dara₄** = goat x bezoar goat
- **Udu-a-gukkal** = sheep x fat tailed sheep
- **ba-uš₂/ug₅** = death animal

Domestic animals classification

CLASSIFICATION TRAITS



Morphological and of productive interest

Fat tail in sheep

- **Gukkal** = fat tailed sheep (short and wide tail)
- **Udu kun-gíd** = fat tailed sheep (long tail)
- **Udu gal-tab-bu-um** = fat tailed sheep (extra long tail)

Awassi



Awassi



Long tail Han



Bowl fragment
Uruk III (3000 B.C.)



Other

- Wool kind and quality (ovines)
- Degree of fattening (bovines)
- Kind and training level (bovines/equines)

Domestic animals classification

CLASSIFICATION TRAITS



Morphological and of productive interest

Wool and goat hair (siki) grades of quality

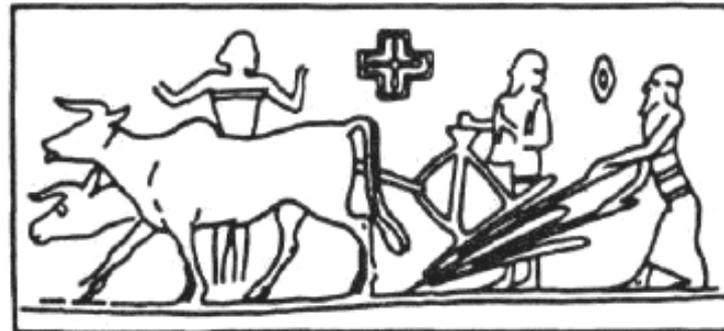
siki-gir	→	Native sheep wool
siki kur(-ra)	→	Foreign sheep wool
siki aslum	→	Wool from long wool sheep
siki udu-Šimaški	→	Šimaški sheep wool
siki gi₆	→	Black sheep wool
siki gír-gul	→	Wool plucked with knife
siki mug	→	Poor quality wool
siki ûz	→	Goat hair

Animals quality according to feeding

niga	→	Barley feed
ú	→	Grass feed
niga-sig₅	→	Barley (first quality)
niga-sig₅-ús	→	Barley (excellent quality)
niga 3-kam-ús	→	Barley (third grade)
niga 4-kam-ús	→	Barley (fourth grade)
niga gud-e-ús-a	→	Barley, "following the ox"

Names for draught oxen (team of four)

gud-sag	→	Front ox
gud-murub	→	Middle ox
gud-úr-ra	→	Rear ox
gud-ud-diri	→	Rear/additional ox



Dispatch
ba-zi / šu ba-ti

Dispatch

LIVE ANIMALS

Ba-zi (dispatched)
Zi-ga (withdrawal)

✓ Cultic purposes

For deities in the temples
The deified king and his throne
Rituals & festivities

✓ Royal household

✓ Specific individuals

✓ The kitchen

✓ Feedlot

Ziggurat of Ur



DEAD ANIMALS

Šu ba-ti

(death animals
received)

✓ The kitchen

✓ The storehouse

✓ The dogs

✓ Workshops

Animal by-products



- Skin (**kuš**)
 - Tendons, sinew (**sa**)
 - Hooves (**umbin**)
 - Horns (**si**)
 - Tails (**kun**)
- ➔
- Textile industry
 - Shoes
 - Ornaments
 - Musical instruments
 - ...

Conclusions

Conclusions

- Despite the limited availability of texts, we can appreciate the great management capacity of livestock resources the Sumerian civilization developed. To an expert management, we can add a well-integrated administrative system which was organized in an official hierarchy which presented important parallels with the current official control systems. These included well-established formularies, census, statistics, birth and death certificates and a type of quality control with possible implications in Animal Health.
- In the Ancient Near East the concept of Health is intrinsically linked to that of Holiness. Therefore, in order to fully understand the implications that inspections of animals intended for human consumption may have for health, we must take into account the religious aspect, always so present in Sumerian life.

Conclusions

- Although the lack of individual identification prevents exhaustive traceability, it exists in some lots due to political and/or economic interests. In this context, state shepherds emerge as guarantors of animal health from birth to reception in the animals concentration and reclassification centers.
- The limited availability of Drehem tablets creates a difficult bias to overcome when it comes to addressing such specialized topics as Veterinarian Medicine. We must remain watchful to new findings and unpublished texts revelation, as this type of studies contribute to the knowledge of a foundational culture, still largely unknown, as well as to a better understanding of the Sumerian people's relationship with animal species and their exploitation.



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Thanks for your
attention