

# The Indo-European plague in language, myth, poetics and archaeology

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Copenhagen, 12th October 2019

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# Yamnaya migrations

- In 2015 two articles in nature provided convincing evidence for the "steppe hypothesis"



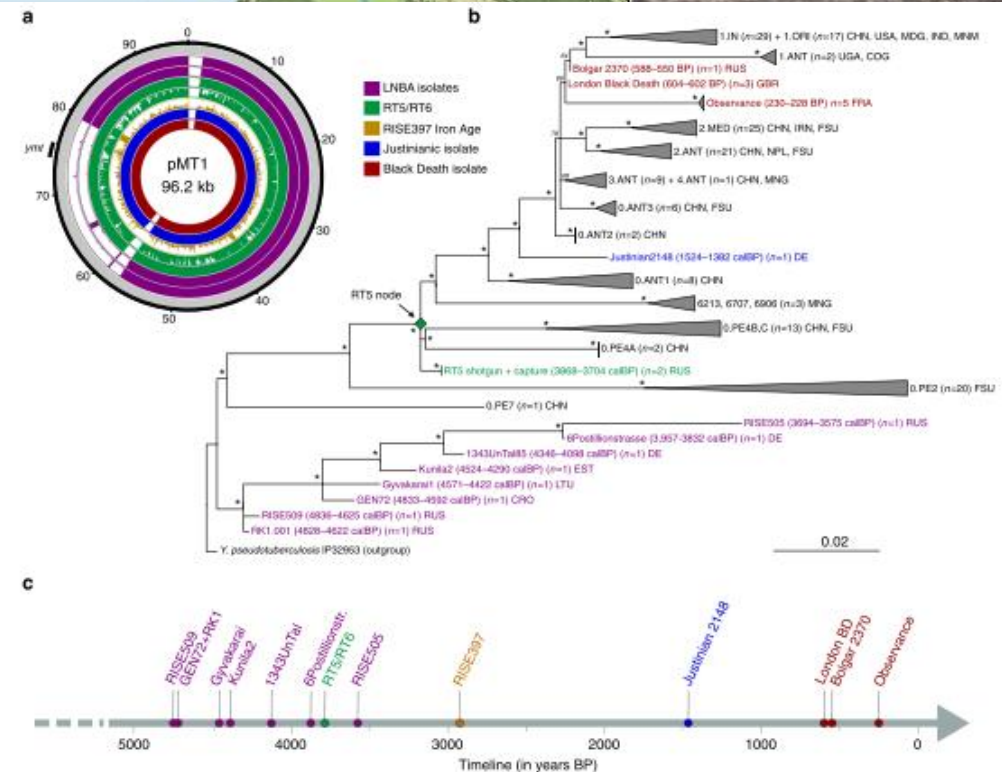
# Yamnaya plague

- Later *Yersinia Pestis* (the etiological agent of plague) was found in Kurgan cemetery
- The *Y. Pestis* was present since the early Yamnaya migrations (but also in Europe before this time)
- However, the data partly excluded a bubonic plague before the beginning of the 1. millennium BC (Rasmussen et al. 2015)



# The Yamnaya plague

- Now new evidence from a Kurgan cemetery in the steppe pushes this date back to the beginning of the 2. Millennium BC (Spyrou et al. 2018)



# The Indo-European plague

- **My question is:** Did the plague leave any trace in the language, poetry, religion and material culture of the Indo-European speech communities, and what might such data tell us about the disease?



No rules yet exist for combining the data sets, so we are in uncharted territory

Anthony et al., 2016

# Some methodological problems in this presentation

- Understanding of concepts of epidemics in ancient cultures
- Indicative evidence (Lack of a clear description)
- Modern knowledge applied on ancient ideas/bacteria

# Medical/plague god

- Under the entry MEDICAL GOD in the Encyclopaedia of Indo-European Culture by Mallory and Adams **two parallel systems of comparative data** are mentioned
  - One comparing Apollo Smintheus with Rudra
  - One comparing the Indo-Iranian Aryaman and his connection to the institution concerning *gaomaēza* with Irish hero Eremon





# One concept of plague

- Rudra
  - Is an archer shooting diseases
  - Is a healer
  - Is connected with **rodents** (*ākhu* 'mole')
    - Epithet *Vañku* 'the tottering one'
  - Has a parental relationship to Gaṇeśa
    - Connected with **rats**
  - Associated with ***takmā́*** 'fever' and ***kā́sikā́*** 'cough' (AV. 11.2.22)



# One concept of plague

- Gaṇeśā
  - God of poetry
  - Connected with the **rat**



# One concept of plague

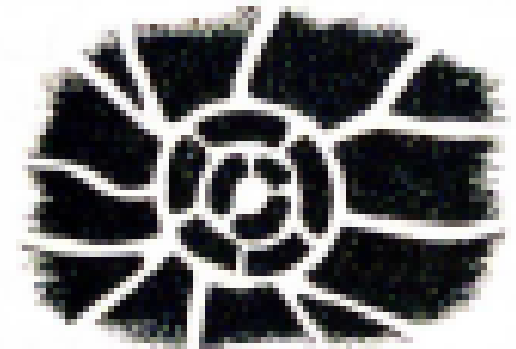
- Apollo Smintheus
  - Is an archer shooting diseases
  - Is a healer
  - Is connected with **rodents** (*σμίνθος* 'rat')
    - Epithet *λοξίας* 'the one with the oblique gait'
  - Has a parental relationship to Asclepius
    - Connected with the **mole**
  - God of poetry



# One concept of plague

- Asclepius
  - Medical god
  - The name Ἄσκληπιός derives from σκάλοψ '**blind rat, mole**'
  - This etymology is supported by the interpretation of an Askelpios sanctuary at Epidaurus as being build to resemble a **molehill**
  - Connected with fever: (Pindar's Third Pythian ode 65-67)

ἰατῆρά τοί κέν νιν πίθον καί νυν ἔσλοῖσι  
παρασχεῖν ἀνδράσιν θερμᾶν νόσων  
'a healer to cure noble men of their **feverish diseases**'

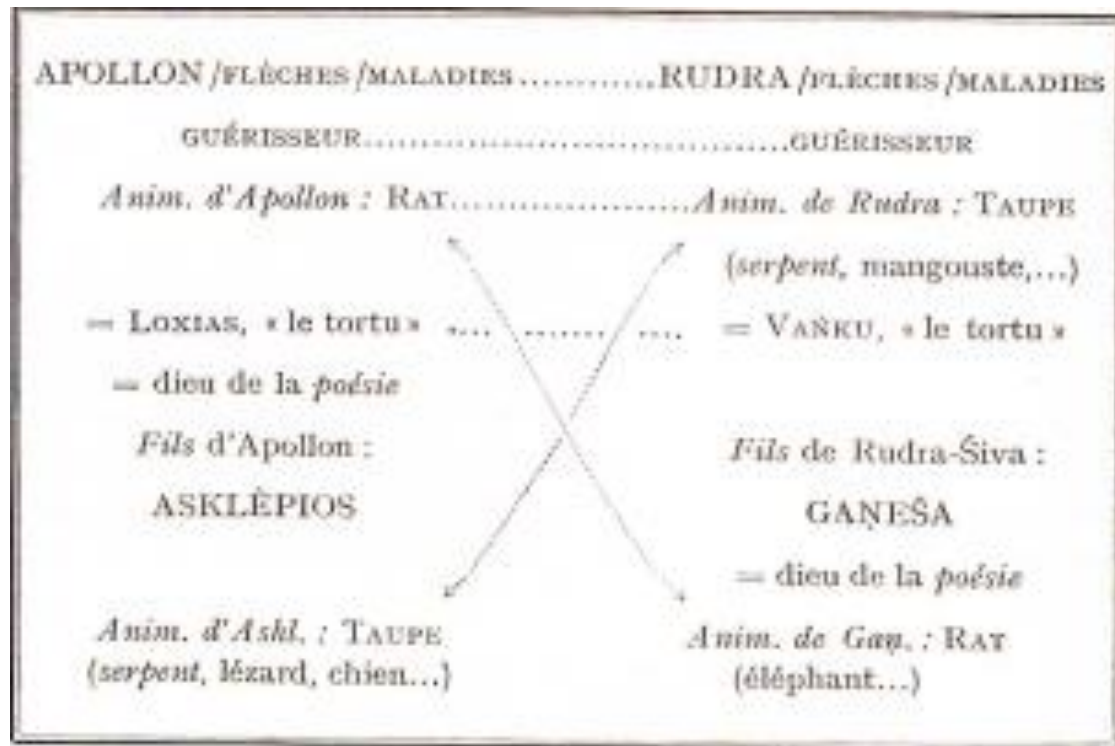


## How does all this fit together?

- Terracotta figures from Larissa of Argos has be seen as evidence of an Apollo Smintheus and Asklepios cult



# One concept of plague



# One concept of plague (Cattle and men)

- It is interesting that Apollo Smintheus and Rudra first inflict **cattle then men** with their arrows
- (This may be indicative in the quest to identify the plague)



# One concept of plague (Cattle and men)

- Apollo Smintheus

*οὐρῆας μὲν πρῶτον ἐπώχετο καὶ κύνας ἀργούς, αὐτὰρ ἔπειτ' αὐτοῖσι βέλος ἔχεπευκὲς ἐφιεῖς  
βάλλ'·* (Il. 1.50-52)

'**The mules** he assailed first and **the swift dogs**, but then on **the men** themselves he let fly his stinging shafts, and struck'





# One concept of plague (Cattle and men)

- Rudra

*āré te **goghnám utá puraṣaghnám***

Rg.v I.114.10a

'May your **ox- and man-killing** (weapon) be far away'



## One concept of plague (Cattle and men)

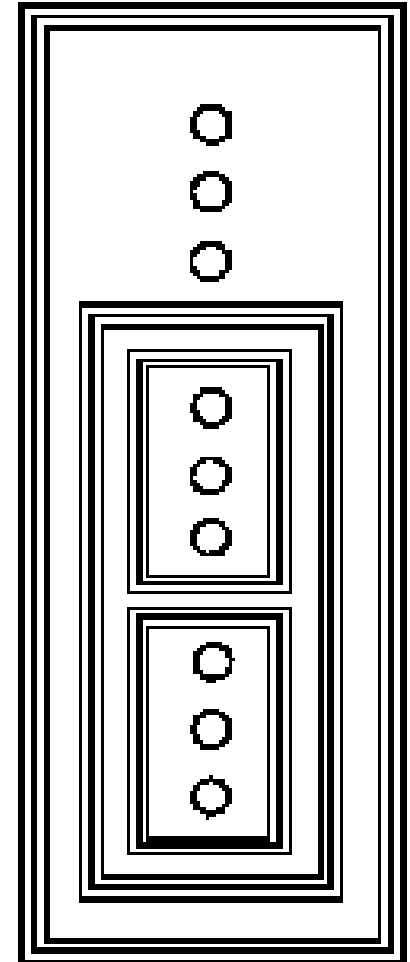
- The collocation beast/man-slaying (in that particular order) seems to be an Indo-European theme.
- Calvert Watkins sees it as closely associated with “the basic formula” (Watkins, 1995)

HERO SLAY SERPENT



# Another concept of plague

- Barašnom (Vd. 8.37-72/9.1-37)
  - Purification rite, with the purpose to clean a person who have been in contact with *nasā* '**carrion**'
  - The person to be purified is New Persian. referred to as *rīmanī*
  - The *rīmanī* is purified with *gōmēz* 'cow's urine' (an effective disinfectant due to high ammonia content) dust and water in nine *maḡa-* 'shallow pits'
  - The purification is performed three times followed by **nine days of seclusion** during which the *rīmanī* is required to clean himself and his **cloth** with *gōmēz*



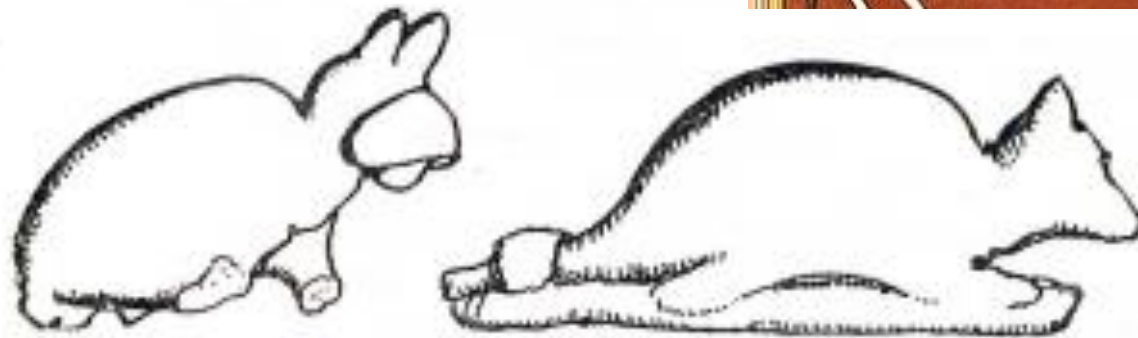
# Another concept of plague

- The Barašnom rite has been connected with a similar episode from Celtic texts
  - *Historia Britonum Book Leinster* and *Book of Lecan*
- “**milk of seven score white cows**” in a pit is able to cure soldiers on the battlefield from **poisonous enemy weapons**
- This episode is connected with the Irish hero Eremon
  - The name Eremon is connected to Airyaman (<\*Herjo-men)
- Airyaman is the master of the Barašnom (Vd.22.20)



# The same concept of plague?

- Is there any connection between these two systems ?



# The same concept of plague?

- It has been argued that MPers. *rēm-* 'dirt, filth' and Greek λοιμός 'plague' can be viewed as reflexes of PIE *\*loǵ-mó-* 'polluted (and polluting) substance' (Milizia 2015)

*bēwar mag ī rēm* (translating (Vd 14,6))  
'ten thousand pits full of **polluted matter**'

- This phrase refers to the pits of the Barašnom rite
- *rīmanī* is a derivation of NPers. *rim* < M.Pers. *rem-*



## The same concept of plague?

- The hapax *bixəḏa-* (Vd. 19.21) can be seen as referring to *gōmēz* 'cow's urine' in the *barašnom* rite (Milizia 2012)
- Milizia says: *bixəḏa-* is a reflex of PIE *\*b<sup>h</sup>ik-tro-* 'instrument of purification' from the root 'b<sup>h</sup>eig- 'to purify' (another reflex is Greek *ἀφικτρός* 'impure')
- ' *φοῖβος* **epithet of Apollo** (and *ἀφοίβαντος* 'impure') can also be traced back to 'b<sup>h</sup>eig- by positing an ancient *\*-u-* participial (Hamp 1977)

# The same concept of plague?

- These articles give an idea of a shared terminology between the two systems
  - The cultic epithet of **λοιμῖος** 'pestilential' of Apollo indicates a strong association with the word **λοιμός**. In Iranian the same root is used to distinguish the pollution from corpses
  - **biṣadā-s** the purifying substance against a plague the same root is in another epithet of Apollo **φοῖβος**





# The same concept of plague?

- A concept of nine nights seem to be present in both systems

*āat. pasca. nauua. xšaparāt. us. tanūm. snaiiaēta. us. vastrāt. gēuš. maēsmana. apāca.  
paiti. auuaθa. yaoždaiiqn.*

‘When **nine nights have passed**, he shall wash his body, he shall wash his clothes with gomez and water to make them clean. He may thenceforth go near the fire ect.’

(Vd. 9.35)

# The same concept of plague?

Ἐννῆμαρ μὲν ἀνὰ στρατὸν ὥχετο κῆλα θεοῖο, τῇ δεκάτῃ δ' ἀγορὴν δὲ καλέσσατο λαὸν Ἀχιλλεύς

'**For nine days** the missiles of the god ranged among the host, but on the tenth Achilles called the people to assembly'(Hom Il. 1.53-54)



# The same concept of plague?

- Purification ritual
  - In the Iliad the Achaeans have to do a number of things in order to ease the anger of Apollo including the performance of a cleansing ritual (Hom Il.1.314)

οἱ δ' ἀπελυμαίνοντο καὶ εἰς ἅλα λύματα βάλλον

'And **they purified themselves**, and cast the **defilement** into the sea'

# Indo-European plague?

What do these texts tell us?

- Greek and Indo-Iranian comparative material
  - A common terminology indicating a contrast polluting ~ purifying
  - Epidemic connected with mice/rats/moles
  - Epidemic connected with contact with corpses
  - Purification of one's body and **cloth**
  - Epidemic affecting cattle and men?
  - A concept of a nine-day period
  - Can be healed?

# Indo-European plague?

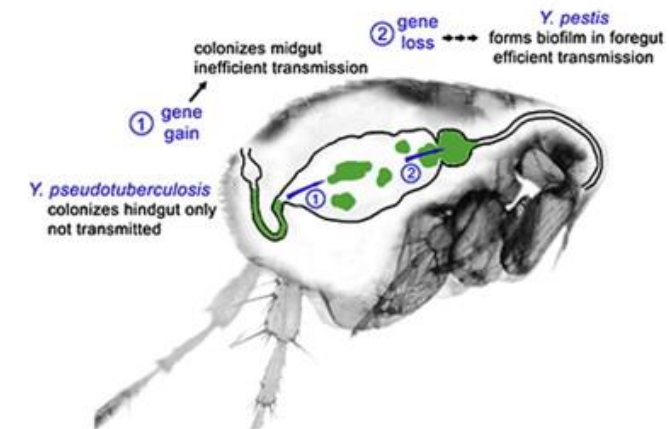
- What does the genetic data tell us?
  - The plague has existed since the beginning of the Yamnaya migrations
  - The *Y. pestis* was not transmitted via fleas before 2000 BC (Spyrou et al. 2018)
    - Thus, the plague could not have been spread by rats before this time



# Indo-European plague?

- What do we know about the plague today?
  - People commonly acquire plague when they are bitten by a flea that is infected with the plague bacteria
  - Another common way of infection with the *Y. pestis* is through contact with infected tissue
  - The incubation period is 2-10 days
  - The mortality of untreated bubonic plague is 60 %

Ecological opportunity and the evolution of flea-borne transmission in *Yersinia*



## How does all this fit together?

- 2000 BC seems to fit with a Greek and Indo-Iranian shared terminology
  - Disinfection of cloth is an efficient way to prevent infections bites from lice or fleas
  - Disinfection of one's body is an equally efficient way to prevent infection after contact with infected tissue
  - The incubation period of 2-10 days makes a 9 days seclusion a sufficient quarantine
  - A mortality of 60 % might leave the hope to get healed?
  - **Epidemic affecting cattle and men?**

## How does all this fit together?

- With the given data it seems that the plague at least can't be ruled out
  - Except for one detail: **Epidemic affecting cattle and men?**

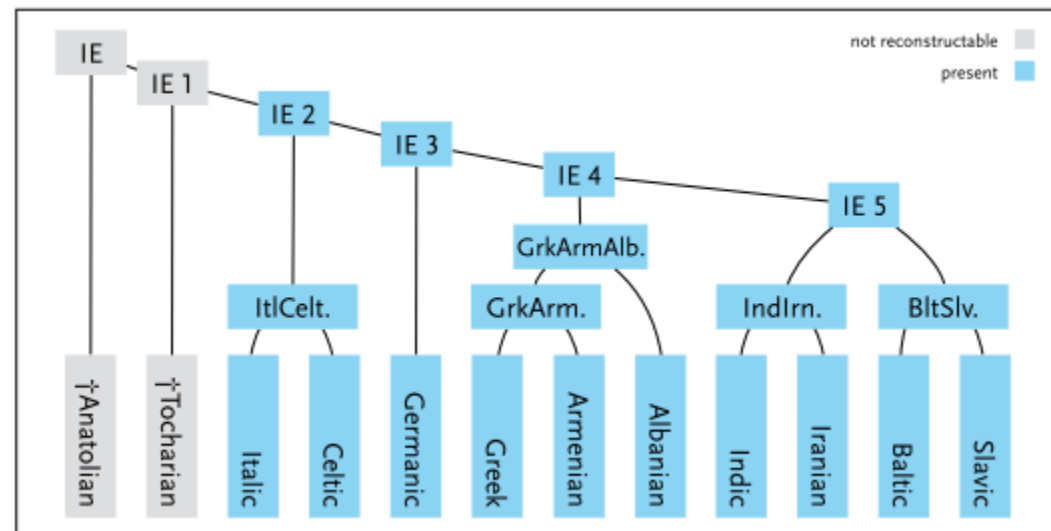


## How does all this fit together?

- Livestock are not known to be affected by *Y. pestis*
- In the given framework this leaves two solutions
  1. Excluding the plague as a possible candidate
  2. That other diseases were present and incorporated in ancient societies conception of epidemics

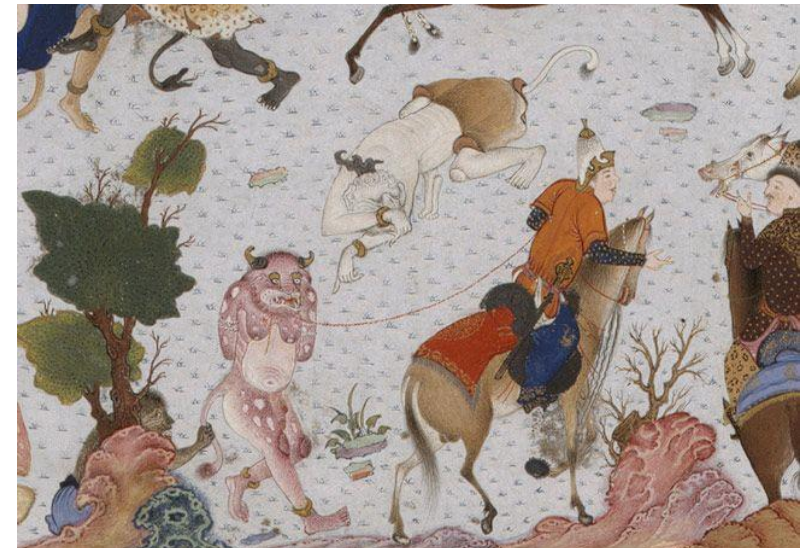
# How does all this fit together?

- The Irish material seems to support the idea that the disease we are dealing with in the Greek and Indo-Iranian material might be connected with the plague for at least two reasons:
  - We see systematic resemblances such as: poisonous weapons and a purification ritual protecting against these, involving a purifying liquid (from a cow)
  - The Irish data does not speak about rodents



## How does all this fit together?

- The legend of Taxmoruw, Ahriman and Jim-šeð from *Rivayāt parsie* might provide some of the answer
- This legend speaks about:
  - The building of the first tower of silence
  - The discovery of *Gōmēz* as purifying substance
- The legend has been identified as a reflection of the **legend of the one-armed God** (Dumézil 1974)



## How does all this fit together?

- This opens for a new interpretation of the deeds of the roman hero Horatius Cocles (identified as the one-eyed god) Livy 2.10.11

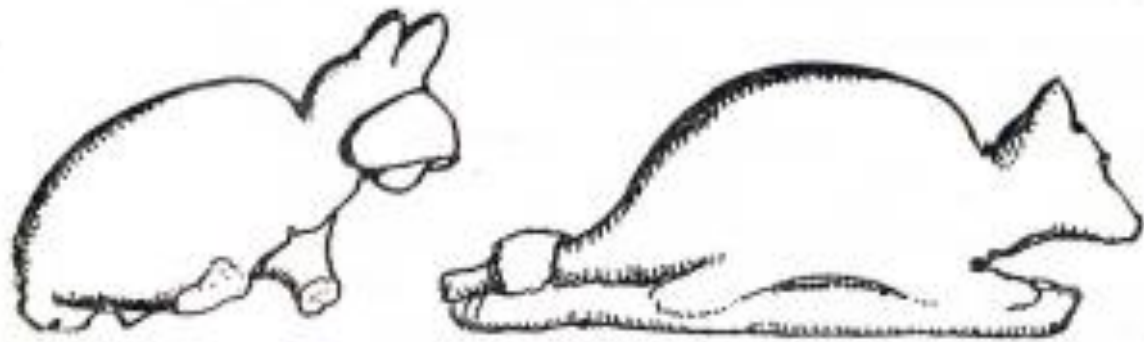
*tum Cocles "tiberine pater," inquit, "te sancte precor, haec arma et hunc militem propitio flumine accipias." ita sic armatus in Tiberim desiluit multisque superincidentibus telis incolumis ad suos tranavit*

Then Cocles cried, "O Father Tiberinus, I solemnly invoke thee; receive these arms and this soldier with propitious stream!" So praying, all armed as he was, he leaped down into the river, and under a shower of missiles swam across unhurt to his fellows, having given a proof of valour which was destined to obtain more fame than credence with posterity'

- A holy/purifying liquid protects the hero from enemy missiles

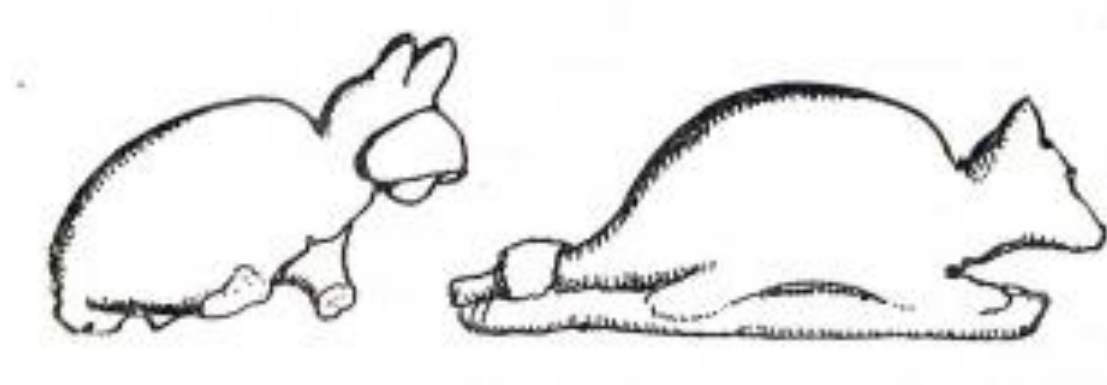
## How does all this fit together?

- Could the terracotta figures from Larissa of Argos be connected with the complex surrounding the one-eyed/the one-handed god?



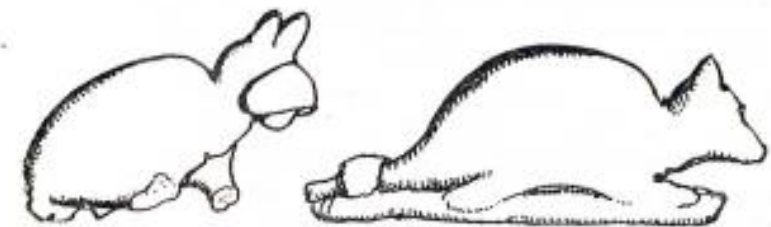
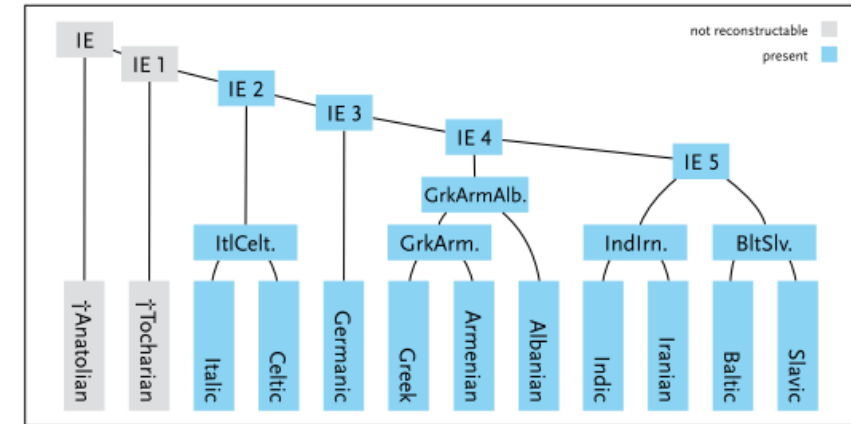
## How does all this fit together?

- The genetic data saying that the plague was not connected with rodents before 2000 BC then seem to fit well with what the texts tell us



## How does all this fit together?

- A certain purification/protectionary ritual existed at an early stage of Indo-European culture
- This was at least to some extent associated with a complex surrounding an idea of a one-eyed and a one-armed god
- After the breakup of the unity a group involving the future Greeks and Indo-Iranians came in contact with a disease (the plague?) which they connected to rats and rodents
- The presence of this disease and the threat that it presented to their community was interpreted into an already existing system of ritual



## Other suggestions

- It has been suggested that Semitic mouse cults might be the origin of the Smintheus cult in Greece
  - Since σμίνθος "mouse, rat" seems to be a Semitic loan from Akkadian *ušummu*, *šummu* 'bandicoot rat'
- A Semitic influence can't be ruled out, but an Indo-European origin of the myth seems at least to be possible as well





Thank you for your  
attention!