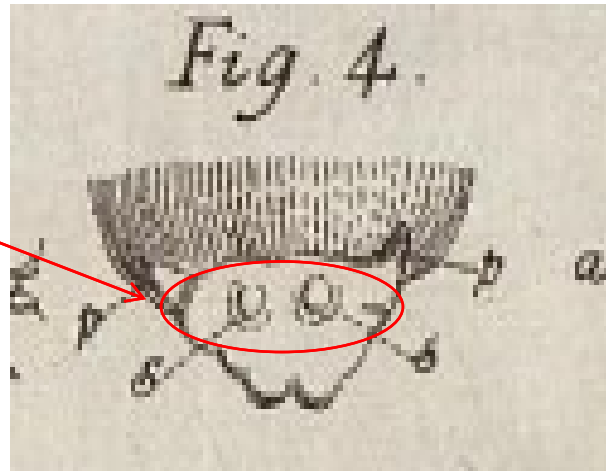




**"TWO SMALL, BROWN, ELEVATED WARTS THAT
UNDOUBTEDLY ARE THE BREATHING HOLES".**

?



**A HISTORICAL STUDY OF ENTOMOLOGIC VOCABULARY IN
THE TRANSACTIONS OF THE ROYAL SWEDISH ACADEMY OF SCIENCES.**



Purpose of this presentation

- Present a pilot study of lexical development in the vocabulary of entomology during the 18th century
- Try to explain the pros and cons with small, qualitative studies like this



Why the 18th century?

- Dynamic century
- Economic development, need for better agricultural methods and scientific knowledge
- The Royal Swedish Academy of Sciences (RSAS) [Kgl. Svenska Vetenskapsakademien] new and very influential on both science and language
- The Transactions (TRSAS) (1739–1854) important publishing channel for the findings
- Important for the development of Swedish scientific language

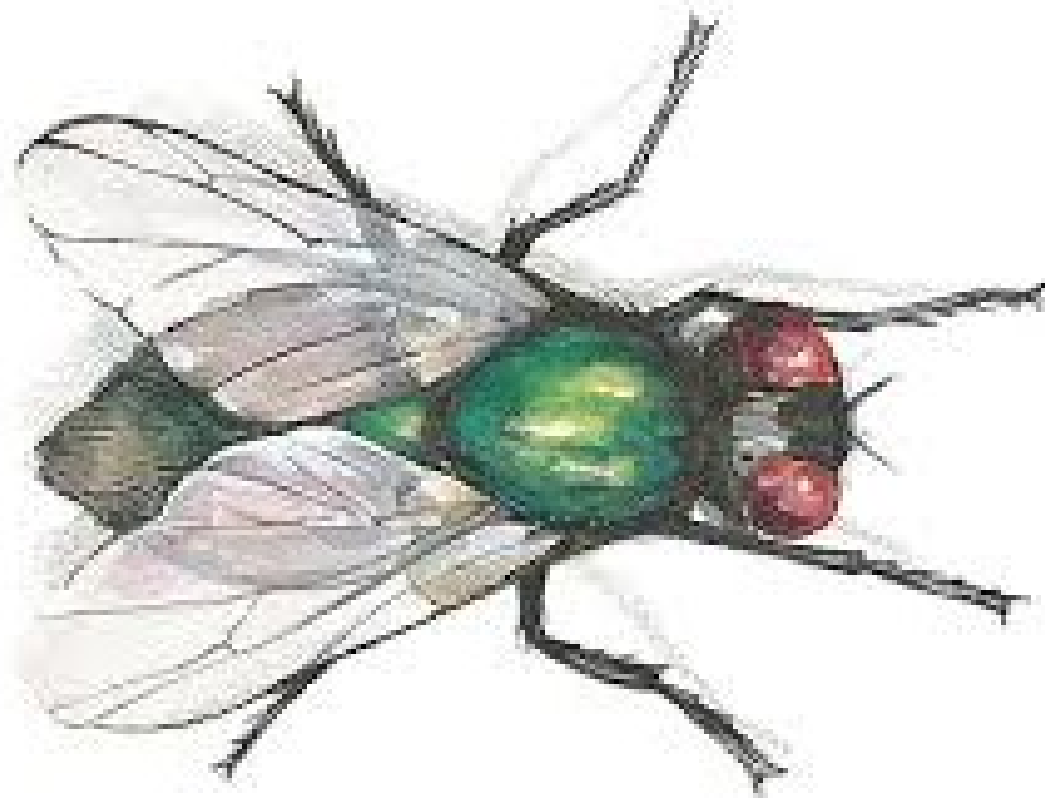


The Transactions

- 116 volumes, 1739–1854
- 9.7 million words (tokens)
- Available in print and pdf-files, but not OCR processed
- Some volumes available on Google Books



Why entomology?





Problems in studying a field like this

Scientific vocabulary is crucial for the development of a scientific field, but is also a product of the same field.





And I'm not an entomologist





and I'm not a terminologist either

Enkel sökning

Utökad sökning

Källor

Senaste nytt

Frågor och svar

Hjälp

Termpost 3 av 4

[<< Föregående](#) [Nästa >>](#)

SVENSK TERM (REKOMMENDERAD): **entomologi**

DEFINITION: vetenskapen om insekterna samt i vidsträckt bemärkelse även vissa närbesläktade djurgrupper såsom spindeldjur, tusenfotingar

SE ÄVEN: [tillämpad entomologi](#)

ENGELSK TERM: entomology

TYSKA TERMER: Entomologie (f)
Insektenkunde (f)

KONTEXT: Die allgemeine Entomologie befaßt sich unter anderem mit Beschreibung, Ordnung, Verbreitung, Physiologie der Insekten, die angewandte Entomologie befaßt sich mit Abwehr und Bekämpfung von Schadinsekten sowie mit den Nutzinsekten.

FINSKA TERMER: entomologia
hyönteistiede

KÄLLA: [Terminologikum TNC: Skogsordlista | 1994](#)

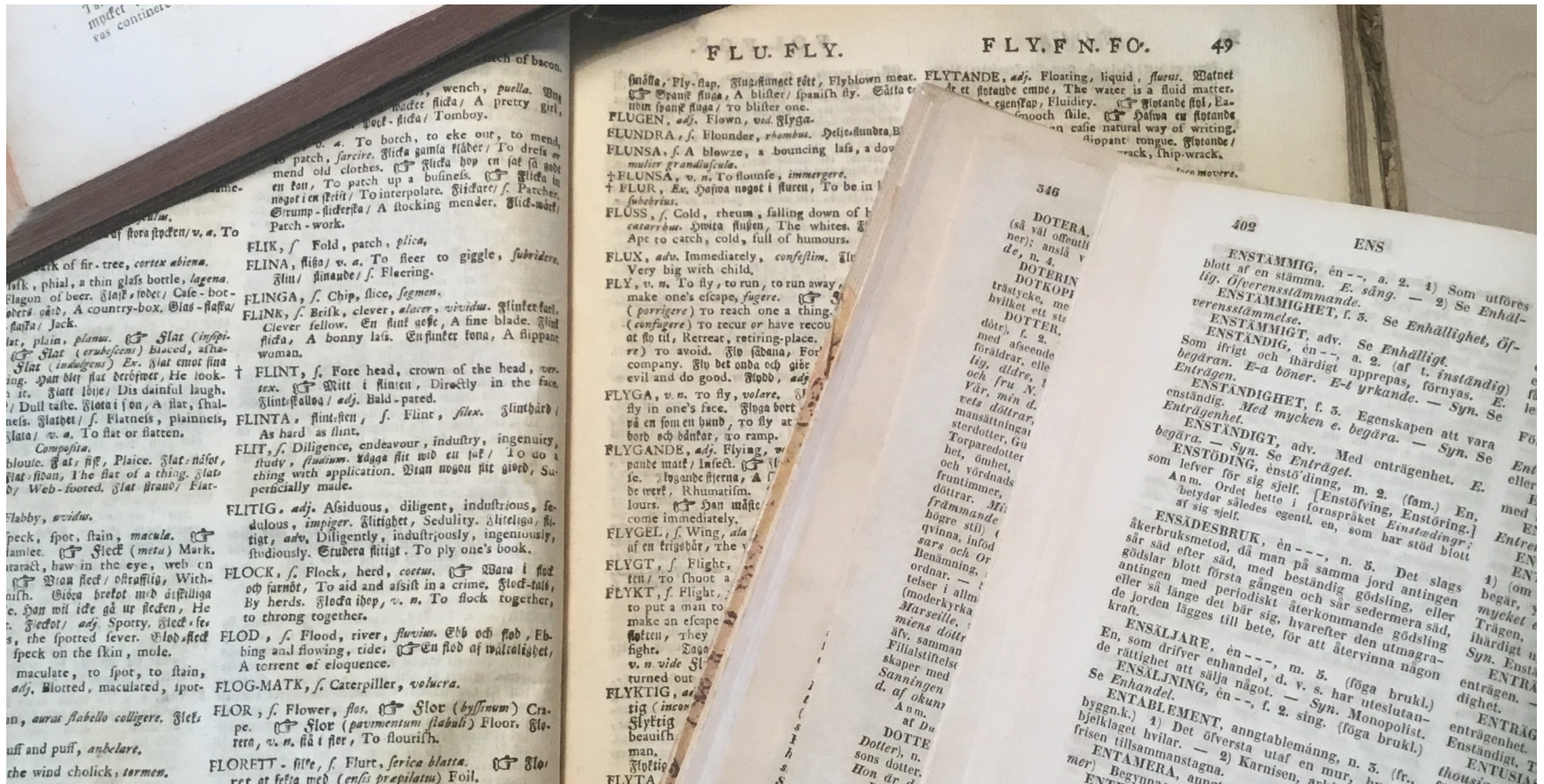
[Synpunkter på denna termpost?](#)

[Tillbaka till träfflistan](#) | [Ny sökning](#)

[<< Föregående](#) [Nästa >>](#)



I am a language historian who like old, printed dictionaries...





So, in order to fly under the radar ...





The study

- Material
- Method
- Theoretical framework
- Results



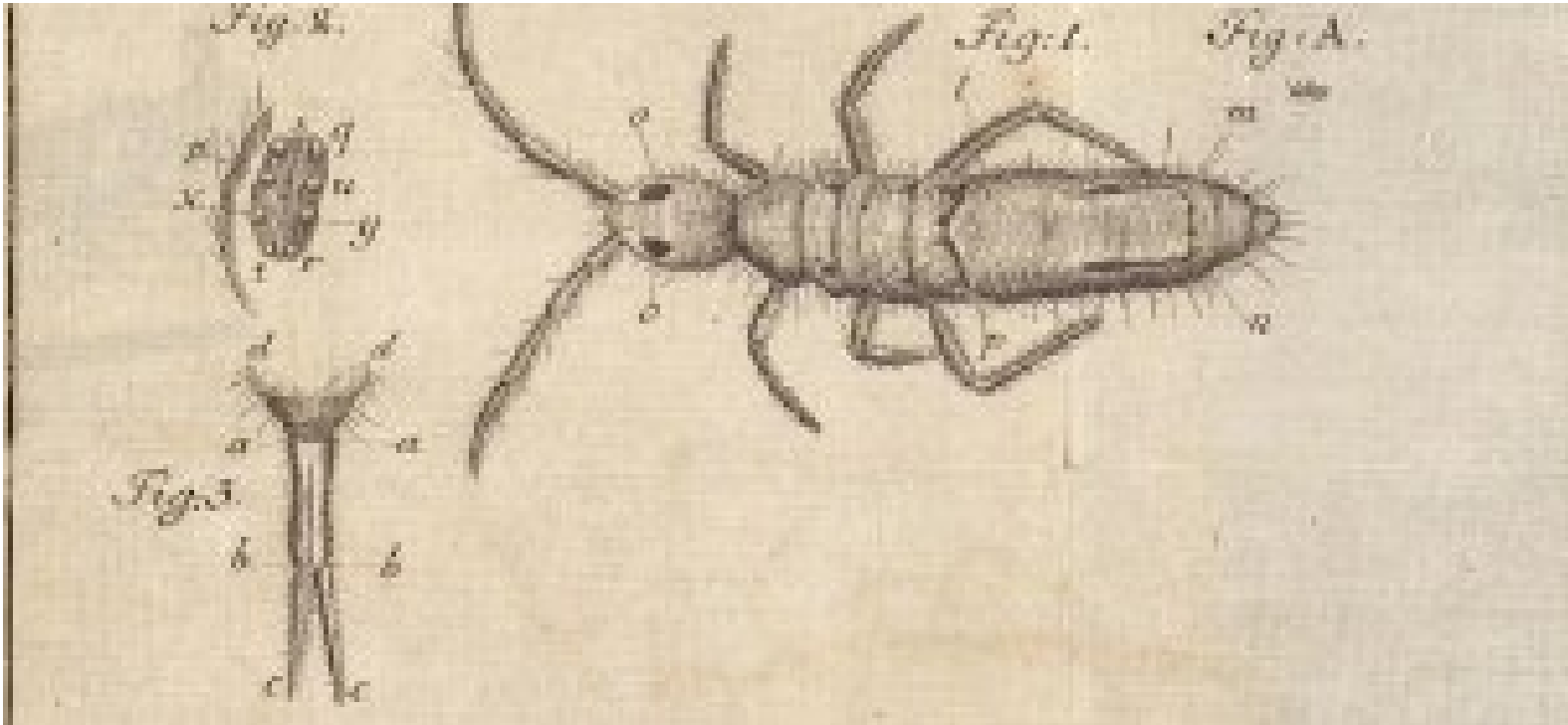
Material: five different authors, six texts.

- Carl Linnaeus (von Linné) (1707–1778)
- Charles / Carl de Geer (1720–1778)
- Clas Bjerkander (1735–1795)
- Carl Fredric Fallén (1764–1830)
- Peter Fredrik Wahlberg (1800–1877)

- Total nr of words (appr.): word / page * nr of pages: 13.200



Carl von Linné (1739). Om RENARNAS BRÖMSKULOR i Lapland (2400 tokens)



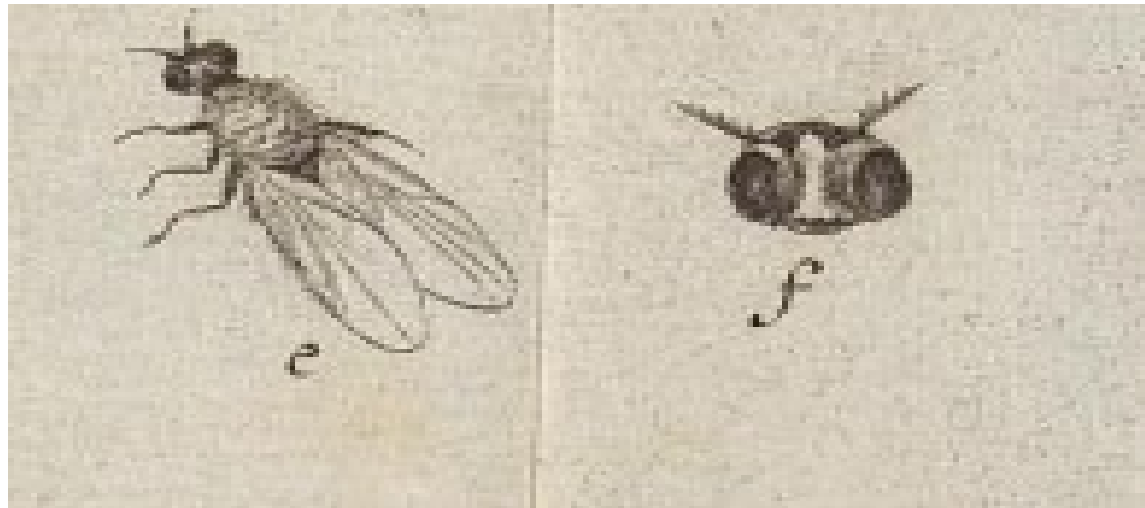


Carl de Geer (1760). Brömsarnas ursprung (3000 tokens)





**Clas Bjerkander (1793). *Musca subcutanea*,
eller En ny och obeskrifven Fluga uti Korn-
bladen (800 tokens)**



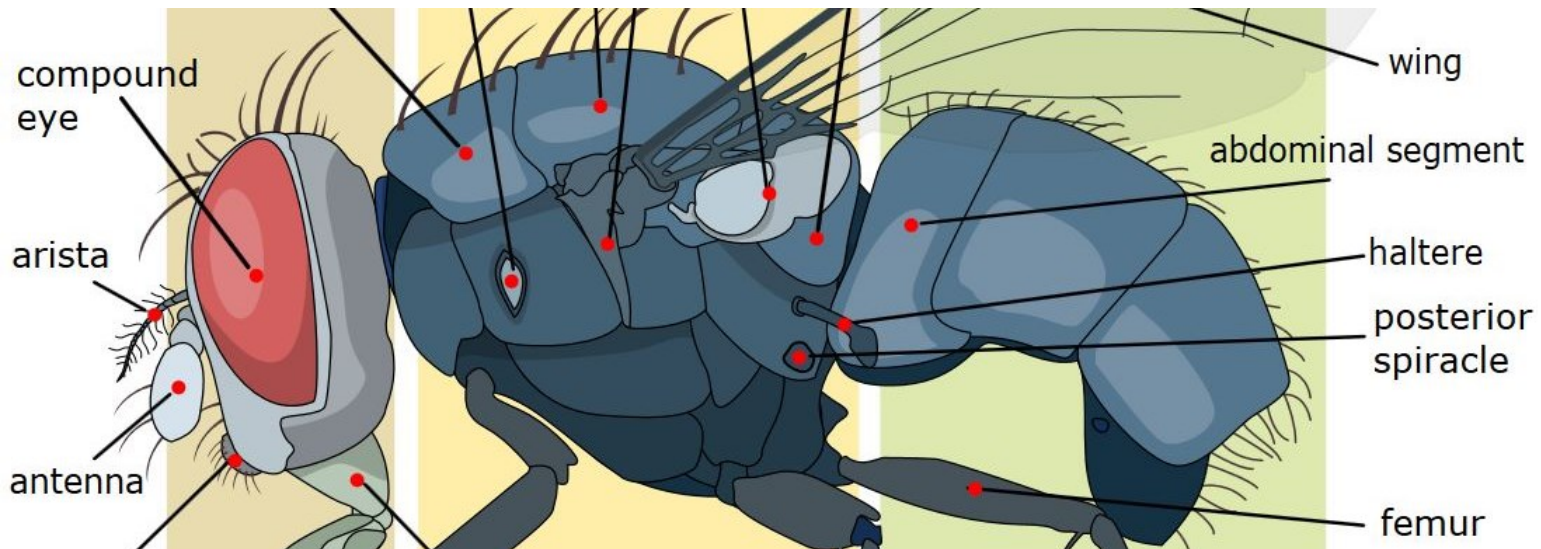


**Clas Bjerkander (1795). Phalaena Ekebladella.
En ny Nattfjäril beskrifven. (1200 tokens)**





Carl Fredric Fallén (1809). *Beskrifning öfver de i Sverige fundne Arter af Brömse-Slägtet, TABANUS LINN.* (3800 tokens)





**Peter Fredrik Wahlberg (1848).
Ytterligare bidrag till kännedomen om Svamp-
myggan *Ceroplatus sesioides* (3000 tokens)**





Method: Close reading!

- I've been making lists of what I've noted
- Denotations for insects (called *lexical items* or *words*)
- Denotations for body parts of the insects
- Latin and Swedish
- The order in which the information is given



Theoretical guidelines for the study

- Choice of language
 - Which is the main language?
 - How is the distribution between Latin and Swedish?
- Textual structure
 - Do the texts have some kind of common dispositional pattern from the beginning, or
 - do they develop some kind of pattern over time?
- Development of entomology as a scientific discipline



More guidelines:

- "Lexical precision":
 - one lexical item – one meaning
 - compounding
- What kind of strategies do the authors use to express "lexical vagueness"? (Synonyms, metaphors...)
- How are new denotations introduced?



Results: Use of Latin and Swedish

	Linnaeus 1739	De Geer 1760	Bjerkander 1793, 1795	Fallén 1809	Wahlberg 1848
Bodyparts in Latin?	No	Yes	Yes	Yes	Yes
Other words in Latin?	Arts and species	Arts and species	Arts and species	Arts and species, other entomologic vocabulary, titles of chapters	Arts and species, other entomologic vocabulary
Whole parts in Latin?	No	No	Yes, description of the fly	Yes, description of the fly	No



Adjusted Latin incorporated into Swedish

Red = Latin adjusted to Swedish orthography and morphology: Blue = Latin proper

På vardera sidan, nära **clypeus**, är en stor **tuberkel** som tycks utgöras af de hopslutna **rudimenterna** til öga och **antenn**

[On each side, close to the **clypeus**, is a **tubercle** that seems to be made up from the shut **rudimentaries** of the eye and the **antenna**]



Results: Textual outline

- Linnaeus and de Geer prefer a kind of chronological disposition
- Bjerkander is more structured and focused
- Fallén and Wahlberg are very systematic
- The ordering of the texts goes hand in hand with the increase of Latin use



Results: "Lexical precision" One word, one meaning

Insekt [insect]

Diptera [Latin for "two-wings"]

Broms [horse-fly]

Fjäril [butterfly]

Tabanus [Latin for horse-fly]



”Lexical precision”: common body parts

(Sw / Lat	Eng)
kropp / abdomen	[body]
hufvud / caput	[head]
ögon / oculus	[eyes]
bröst / thorax	[breast]
vingar / alæ	[wings]
lår / femora	[thighs]
fötter / pedes	[feet]



Synonymy – uncertainty or a stylistic feature?

- hårdt eller hornaktigt [hard]
- hårda eller af hornaktigt lynne
- ringars eller leders [circles, joints]
- bälten eller ringar [belts, circles]
- cylindrisk eller mäst lika tjock öfveralt [equally thick all over]
- magen eller bålen [stomach]
- luden eller med små korta hår besatt [hairy]
- senor eller ådror [på vingar] [tendons]
- spricker eller spjälkar sig [puppehuden] [burst]
- skölden eller thorax [shield]



”Lexical vagueness”: many words, one meaning

1. *Skråma, som jag tager för en öpning, hvarigenom masken andas*

[‘A scratch that I gather is an opening through which the worm is breathing’]

2. *Andehål vid bakdelen*

[‘Breathing holes at the end of the body’]

3. *Tvånne små bruna uphögte vårtor, som tvifvels utan äro andehål*

[‘Two small, brown, elevated warts that undoubtedly are the breathing holes’]



de Geer – metaphors. Looks of the insect

1. **liksom** klor

['like claws']

2. leden går **liksom** in uti sig sjelf, **såsom** det sker med Snäckornas horn

['the joint kind of goes into itself, like the horns of shellfish']

3. tvänne styfter, **like små** spikar med hufvuden

['two small pins, the look of nails with heads' = *halteres, svängkolvar*]

4. Åfvan uppå [snytet] har det en iholighet **såsom** en ränna

['Above the nose it has a cavity like a chute']



de Geer metaphors: function of bodyparts

1. gifva dem **såsom** et fäste

['to give them (some kind of a) hold']

2. han kan **likasom** upblåsa dem och tvärtom

['he can kind of inflate them']

3. och tjena **liksom** til beskydd för snytets öfra sida

['to serve like a protection for the upper side of the nose']



Wahlberg (1848) – a man of precision

- segment [3 for thorax, 9 for abdomen]
 - thorax-segment
 - abdominal-segment
- veck
 - tvär-veck
 - rygg-veck
 - buk-veck
- palper
 - maxillar-palp
 - labial-palp



Results: How do you introduce a new lexical item?

åtskilliga uphögningar, såsom köttaktiga vårtor [...]

[several elevations, like warts that look like meat]

- desse märkvärdige vårtor [these remarkable warts]
- desse då utvidgade vårtor [these dilated warts]
- desse vårtor [these warts]
- vårtorne [the warts]



Cocoon [*kokong* in modern spelling]

cylindrisk hylsa, eller så kallad coccon

[a case that has the shape of a cylinder]

- sådana cocconer [such cocoons]
- hvarje coccon [every cocoon]
- cocconerna [the cocoons]



Conclusion 1:

- The development of scientific vocabulary and the development of entomology are mutually dependant
- Basic, large body parts are described in the vernacular, smaller body parts in Latin
- Clearer textual structure – more Latin



Conclusion 2:

- Lexical items get more specific
- Less lexical variation

- Easy to compare the beginning and the end
- Hard to say something about the gradual development



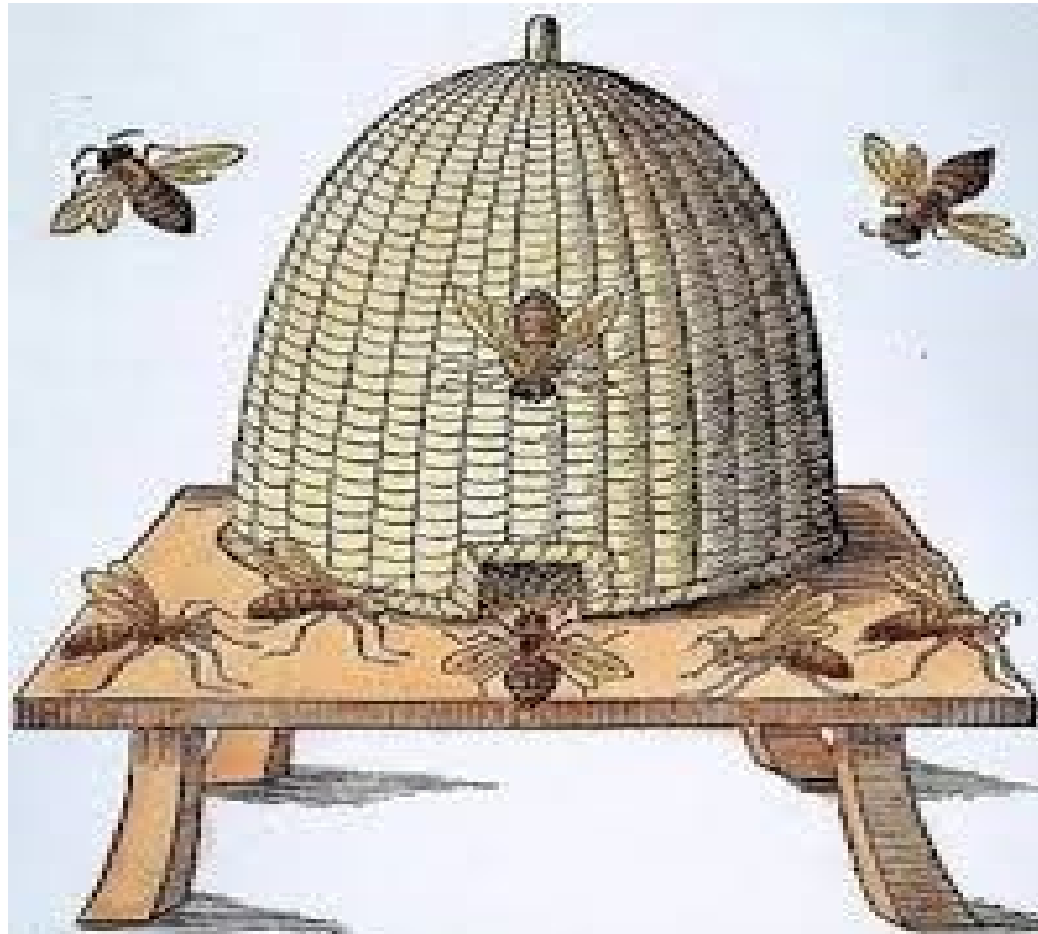
Small, qualitative studies:

- Close reading puts you close to the text!
- Orthographic and/or morphological variation is no problem
- Blackletter is no problem



Larger, quantitative studies

- More material!
- Frequencies!
- Allows you to study phrases and collocations
 - Färgen *stöter mot* grönt ['The colour turns to green']
 - *Under skapnad af* en puppa; *antagit skapnad af* en puppa ['in the shape of a pupa'] (the different cycles of the metamorphosis of insects)
- Verbs
 - Masken *kryper* [crawls], *skrider* [walk in procession], *vandrar* [wanders]
 - Insekten *värper* [lay] ägg





Adress to pictures:

Broms: <http://www.viivilla.se/djurliv/bromsen--en-sommarplaga/>

Höna och ägg: https://cdn.pixabay.com/photo/2015/02/12/12/40/easter-633669_340.jpg

Worlds_greatest_Entomologist_Womens_T-Shirt_300x300

- https://www.google.com/imgres?imgurl=https%3A%2F%2Fi3.cpcache.com%2Fproduct%2F335853169%2FWorlds_greatest_Entomologist_Womens_T-Shirt_300x300.jpg%3Fheight%3D300%26width%3D300%26qv%3D90%26side%3Dfront%26Filters%3D%5B%7B%2522name%2522%3A%2522background%2522%2C%2522value%2522%3A%2522ddddde%2522%2C%2522sequence%2522%3A%27D%5D&imgrefurl=https%3A%2F%2Fwww.cafepress.com%2F%2Bgreatest-entomologist%2Bwomens-clothing&docid=8XhSnRuK30RmKM&tbnid=GEmBI33BaOCNSM%3A&vet=10ahUKEwiOh7jw9b_eAhXE2aQKHZN_B58QMwisASgAMAA..i&w=300&h=300&client=safari&bih=1379&biw=1217&q=worlds-greatest-entomology-t-shirt&ved=0ahUKEwiOh7jw9b_eAhXE2aQKHZN_B58QMwisASgAMAA&iact=mr&uact=8

Rikstermbanken: <http://www.rikstermbanken.se/simpleSearch.html> Radar: data:image/jpeg;

- Broms: https://www.google.com/imgres?imgurl=http%3A%2F%2Fwww.viivilla.se%2Fglobalassets%2Fsweden%2Fdjur%2F2014%2Fskadedjur%2Fbroms.jpg%3Fpreset%3Dwidth700&imgrefurl=http%3A%2F%2Fwww.viivilla.se%2Fdjurliv%2Fbromsen--en-sommarplaga%2F&docid=h9d_iWMRG7GB_M&tbnid=izCvtYJL_xJY3M%3A&vet=10ahUKEwi4ptPD9L_eAhWBDuwKHZ2LBtEQMwg-KAAwAA..i&w=700&h=393&client=safari&bih=1379&biw=1217&q=bild%20broms&ved=0ahUKEwi4ptPD9L_eAhWBDuwKHZ2LBtEQMwg-KAAwAA&iact=mr&uact=8

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house fly anatomy

https://www.google.com/imgres?imgurl=http%3A%2F%2Fwww.theanimalfiles.com%2Fimages%2Fhousefly_anatomy.jpg&imgrefurl=http%3A%2F%2Fwww.theanimalfiles.com%2Fanatomy%2Fhousefly_anatomy.html&docid=IFMQvHmPOJHE8M&tbnid=IzyKMens_N-9PM%3A&vet=10ahUKEwi2rYyv9r_eAhXQ-aQKHSx7AzsQMwg-KAAwAA..i&w=700&h=585&client=safari&bih=1379&biw=1217&q=House%20fly%20anatomy&ved=0ahUKEwi2rYyv9r_eAhXQ-aQKHSx7AzsQMwg-KAAwAA&iact=mr&uact=8

(<http://sciaroidea.info/file/1135> (Fungus gnats online))

Bee hive : https://www.google.com/imgres?imgurl=https%3A%2F%2Fmyelitedetail.us%2Fimages%2Fdrawn-bees-bee-nest%2Fdrawn-bees-bee-nest-14.jpg&imgrefurl=https%3A%2F%2Fmyelitedetail.us%2Fclipart%2Fdrawn-bees-bee-nest_2359836.html&docid=U6vn6IBGTNqp3M&tbnid=1FP_ZyQpyC3GMM%3A&vet=12ahUKEwiNidGU97_eAhVCy6QKHdxCH44rAIQMMyhCMEJ6BAgBEEY..i&w=736&h=721&client=safari&bih=1379&biw=1217&q=beehive%20drawing&ved=2ahUKEwiNidGU97_eAhVCy6QKHdxCH44rAIQMMyhCMEJ6BAgBEEY&iact=mr&uact=8