



# Att skriva vetenskapligt på engelska

## SA1006-3

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Susanna Lyne [suslyne@kth.se](mailto:suslyne@kth.se)  
KTH Språk och kommunikation

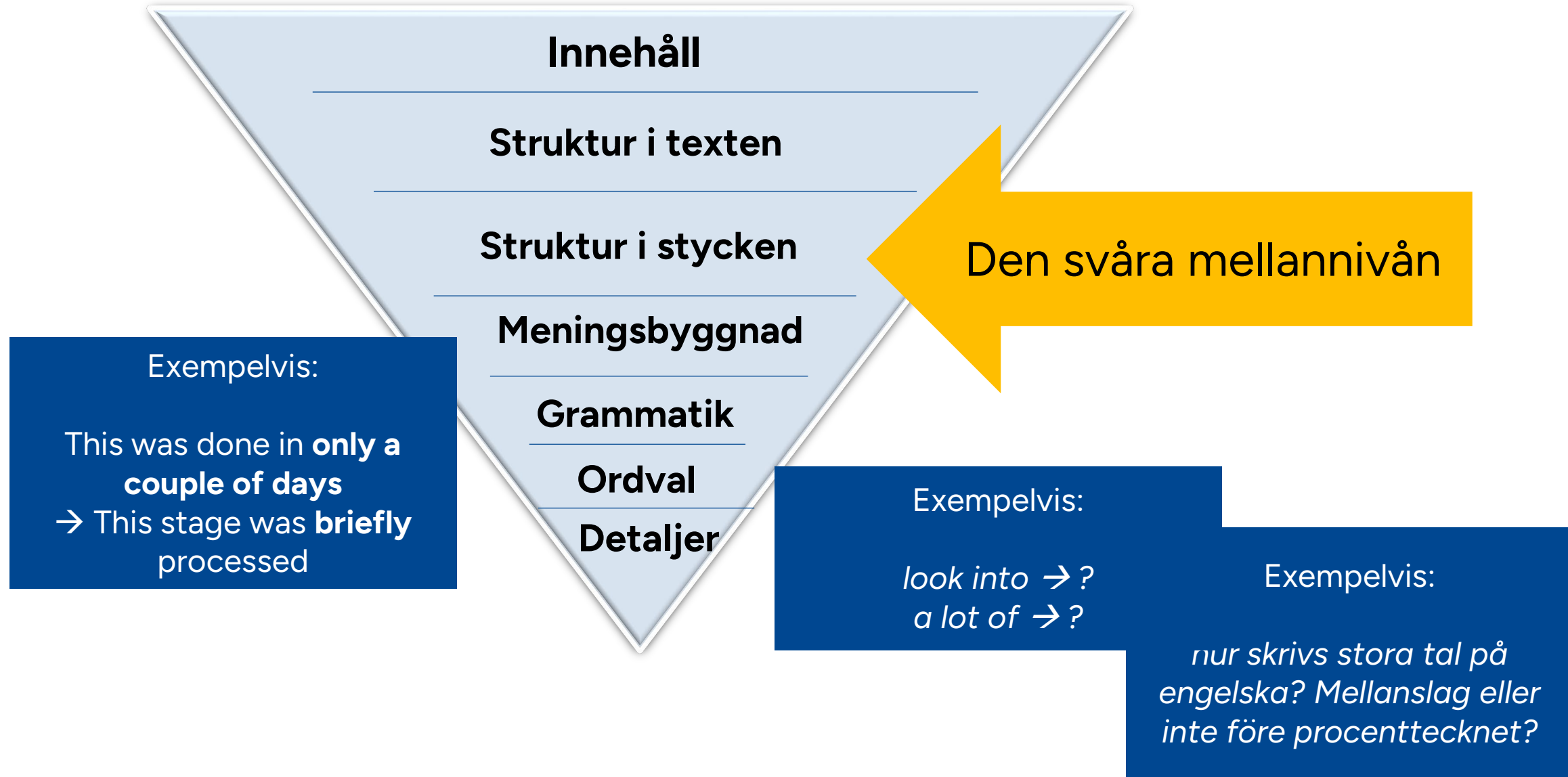
# Kurstillfälle 3 och 4

- 11 september (idag):
  - Språket som gör att det hänger ihop
- 16 september (måndag):
  - Vetenskaplig stil
  - Vanliga misstag
  - Kommatering och annan interpunktion
- Susanna Lyne
- Adjunkt i engelska och teknikvetenskaplig kommunikation
- Doktor i engelsk språkvetenskap (Uppsala), på KTH sedan 2012.

# Hur mycket vetenskaplig text har ni skrivit på engelska?

- Vad är svårt?
- Är det lättare/svårare att skriva på svenska än på engelska?

# Textens komponenter



# Använd resurserna!

Slå upp mer än du tror du behöver i en bra ordbok

- Oxford Learner's Dictionary – [www.oxfordlearnersdictionaries.com](http://www.oxfordlearnersdictionaries.com)
- Cambridge Dictionary – <http://dictionary.cambridge.org>
- Merriam-Webster – [www.merriam-webster.com](http://www.merriam-webster.com) (denna webbplats innehåller dessutom en massa roliga quiz och små videoklipp – perfekt om man är allmänt intresserad av engelska!)



# The KTH Guide to Scientific Writing

- [www.kth.se/writingguide](http://www.kth.se/writingguide)

# Paragraph unity and topic sentences

- A paragraph should deal with **one idea**
- Many effective paragraphs have **a topic sentence**
  - or, in some cases, a group of 2–3 sentences that summarise the topic
- Easiest to follow if the topic sentence is at the top,
- followed by **supporting sentences** that develop the idea in a logical order by
  - explaining
  - exemplifying
  - giving detail

# Kärnmeningar (topic sentences)

**Figure 4 and 5 depict the win rate of Q-tables and deep reinforcement learning after training sessions listed in table 1.** Q-tables start at 50% win rate and increase slowly towards 80% win rate. The deep reinforcement agent wins 63% of the games after one training session and increases to roughly 67%. The deep reinforcement agent displays higher uncertainty in deciding upon an optimal action-selection policy.

**Reinforcement learning is a general-purpose approach to artificial intelligence.** In this paradigm, agents (software probes that act on behalf of a program) explore an environment and attempt to optimize the program based on rewards from that environment. A reinforcement learning method is defined as any method that is suitable for solving a learning problem, which sets it apart from supervised learning since a correct mapping between input and output is never presented [1]. There is prodigious value in exploring reinforcement learning. It does not only **provide us with an** avenue for better understanding of learning in nature, but has potent practical applications as well [6][22].

Lämplig  
vetenskaplig  
stil (ordval,  
grammatik)

(Från kexjobbet *Deep reinforcement learning compared with Q-table learning applied to backgammon*, Finnman och Winberg 2016).



**"Gammal" information först, "ny" i slutet av meningen**

Since reaching superhuman levels of play in backgammon, researchers have turned their attention to **games of greater complexity such as chess and GO**. In these games, exhaustive search is infeasible. Therefore, in order to limit the search area, **two general principles are applied**. **The optimal value function is approximated by truncating the search tree and then using Monte Carlo tree search to assess the value in each state**. This approach has been proved to converge on optimal play [6][10].

# Övning (ur *Academic Writing for International Students of Science*)

Skriv om den andra meningen i varje par så att principen *gammal – ny* bibehålls.

Cereals are one of the most important staple foods. Wheat, rye, barley, oats, maize, rice, millet and sorghum are the major cereals of the world.

Förslag till omskrivning: ...most important staple foods, the major ones being wheat, rye, barley,....  
...most important staple foods. Some of the major cereals of the world are wheat, rye, and barley.

A ligament is a resilient but flexible band of tissue that holds two or more bones together at a moveable joint.  
Movement of bones at a joint is restrained by ligaments and therefore they are important in preventing dislocation.

Förslag till omskrivning: .... Two or more bones together at a moveable joint. Ligaments restrain the movement of bones at **the** joint, and are therefore important in...

# Gruppdiskussion

- Ta fram de engelskspråkiga KEX-jobben på Canvas och öppna ett som ni valt.
- I små grupper (3-4 studenter/grupp), studera ett eller två stycken (kanske från inledningen?)
- Diskutera hur väl författarna följt principen med *kärnmeningar* och *gammal-till-ny*. Hittar ni något ställe där texten inte flyter? Vad kan vara orsaken?
- Stryk under/markera *ord och fraser* som hjälper författaren att föra resonemanget framåt.
  - *Another challenge is that ...*
  - *It is a well known fact that ...*
  - *These small changes provide a ...*

# Något om verbformer

- Överanvänd inte ing-formen!
  - *This study is investigating... → this study investigates*
- Däremot är *ing*-formen i allmänhet *mycket* vanlig i engelsk vetenskaplig text
  - By **merging** X with Y...
  - ... , would be able to map the environment, **leading** to better accuracy
  - This was expected, due to the process **having been** delayed.
- Använd *would* korrekt (framför allt i Diskussion):

A larger database **would** *probably have provided a more accurate description.*

# Vilka tempus ska jag använda?

- **Presens** (nutid) för de flesta påståenden, förklaringar, generaliseringar om vad som gäller eller är sant.

- *This study explores... (Denna studie undersöker...)*
- *~~This study is exploring...~~*
- *The aim of the present thesis is to... (Målet med studien är att...)*
- *~~This study will explore...~~*

Överanvänd inte  
ing-formen  
Undvik futurum

- **Perfekt** (*has/have*) för att beskriva utvecklingar och pågående skeden *fram till nu*
  - *Studier har visat att...*
  - *As social media has developed, so has artificial intelligence (AI).*
- **Preteritum** (dåtid) för något som skedde i en avgränsad tid i det förflutna
  - ***In the 1990s**, neural networks were considered inferior to other machine learning algorithms.*
  - *Under 1990-talet ansågs.... // I Fahlbergs studie (2002) **framkom** att...*
  - ***Early networks** consisted of a number of workstations. / De första nätverken bestod av ...*

# Can we write *we*?

Yes!

Well, it  
depends...

- It shows you are taking responsibility for your choices and what you've done
- “We propose”, “We have shown” and “We believe” show confidence. Good for Introductions, Discussions and Conclusions
- Too frequent use gives the text an informal touch – especially if many sentences **start** with the word *we*.
- What is in focus? *The application was installed* instead of *we installed the application*.

For an excellent video on the topic, go to: [www.youtube.com/watch?v=sGjDPHnYDrM](https://www.youtube.com/watch?v=sGjDPHnYDrM)



# Paus



# Textbindning (eng. *cohesion*) – textens ”kitt”

Pronomen

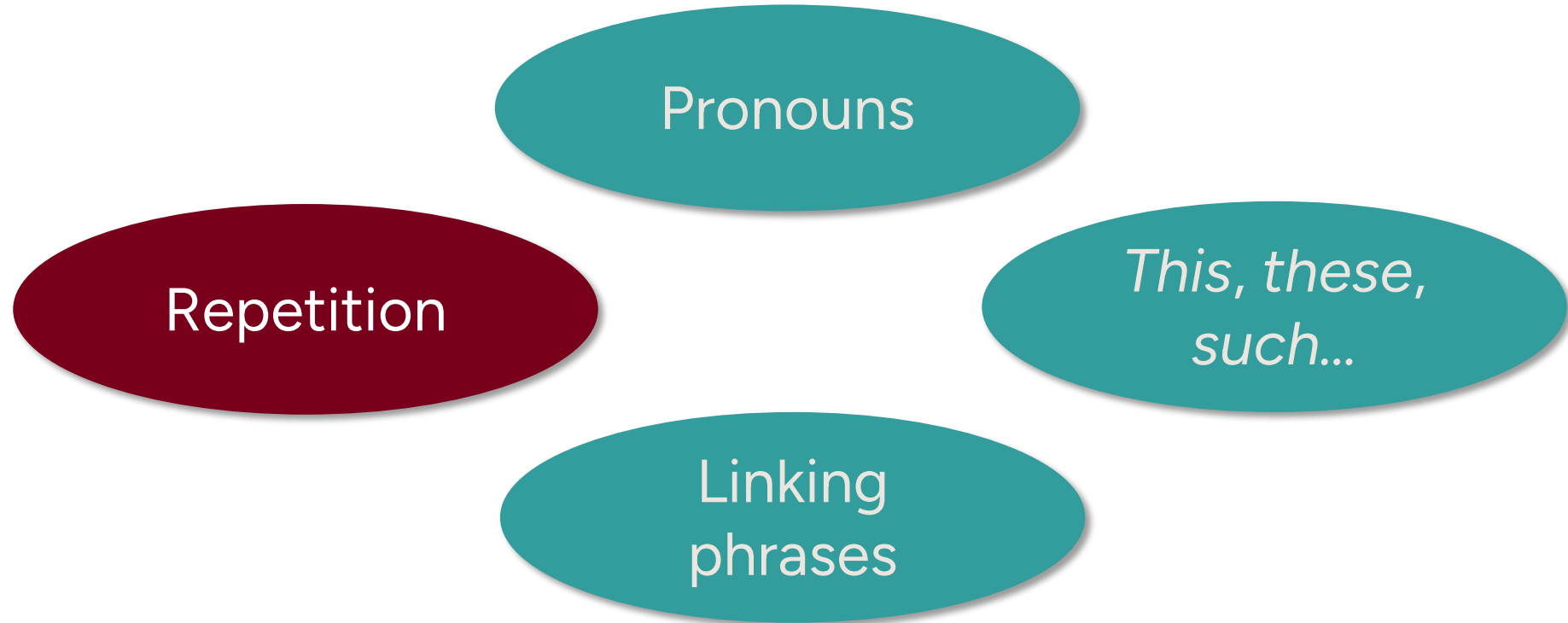
Uppprepning  
och  
parallellism



*This, these,  
such...*

Sambandssignaler

# Textbindningsstrategi 1: Upprepning

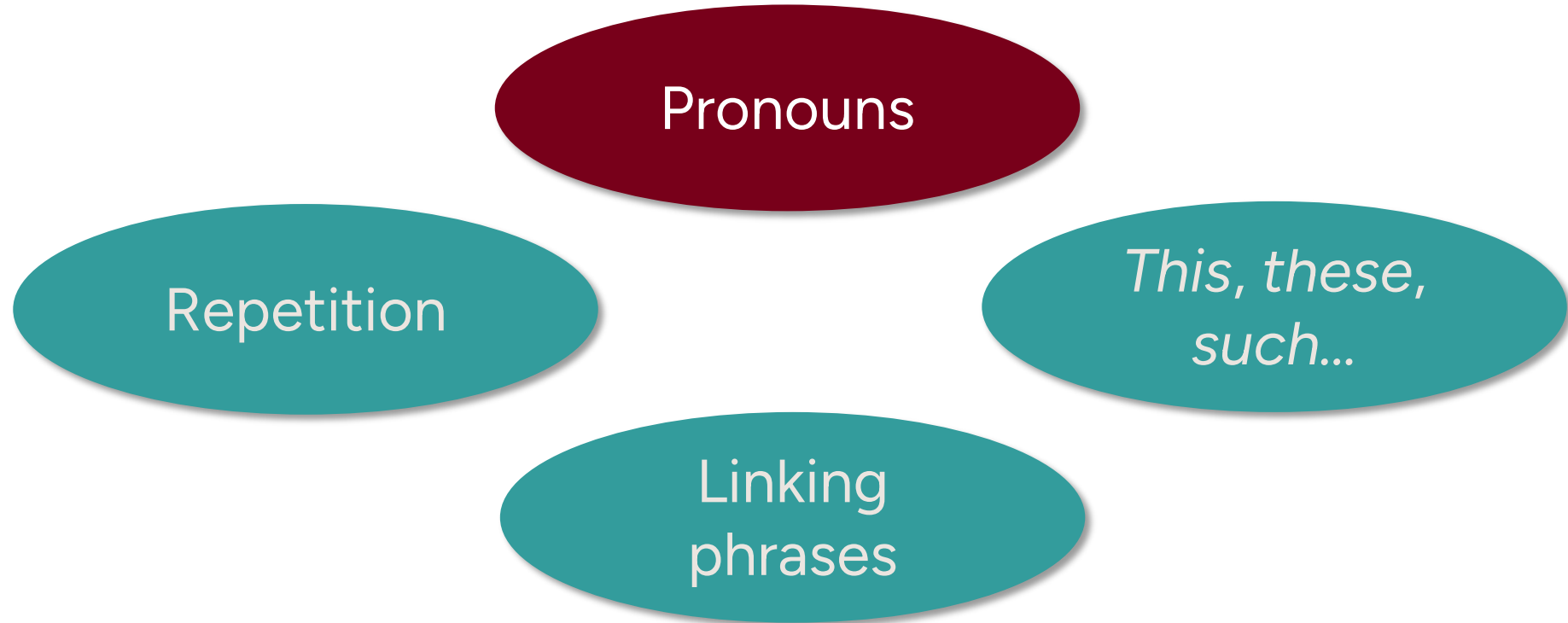


# Upprepning och synonymer

- Use consistent terminology
- Are there **key words** in the title, abstract, or in the topic sentences? → Repeat these!
- Repetition of words (or **near-synonyms**) → enhances the feeling of *paragraph unity*

The incidence of lung cancer has **declined** in the US. This **decline** can be attributed to a massive **drop** in smoking and the introduction of novel treatments. These measures have had a marked effect throughout the country.

# Textbindningsstrategi 2: Pronomen



# Use pronouns with a clear reference

Since the course aimed to enhance user experiences in HCI, it was helpful to understand the concepts, their application, and problems associated with it.

Better?

... understand the core concepts, their application, and the potential problems associated with HCI.

# Use pronouns with a clear reference

- It must always be clear what a **pronoun** refers to
- Common problem: switching between singular *it* and plural *them* in the same sentence
- Framför allt "it" och "they" har en "varningstriangel"

# En användbar konstruktion med *it*

(Från exempel-kexjobb, Finnman och Winberg 2016)

Applying the theory behind Q-learning to backgammon, **it is reasonable to expect** the approximate Q-function to be completely wrong.

**It is important to fully grasp** the concepts of Q-table learning in order to follow the shift towards deep reinforcement learning.

**It is believed/assumed/shown that** these results can have an important impact on...

# Ska jag översätta svenskans "man" med "one"?

Nej, helst inte! Avoid when referring to "people in general" or "the reader":

From Figure 4, *one can see that*...

Better: *it can be seen that*

Better: *Figure 4 shows that*

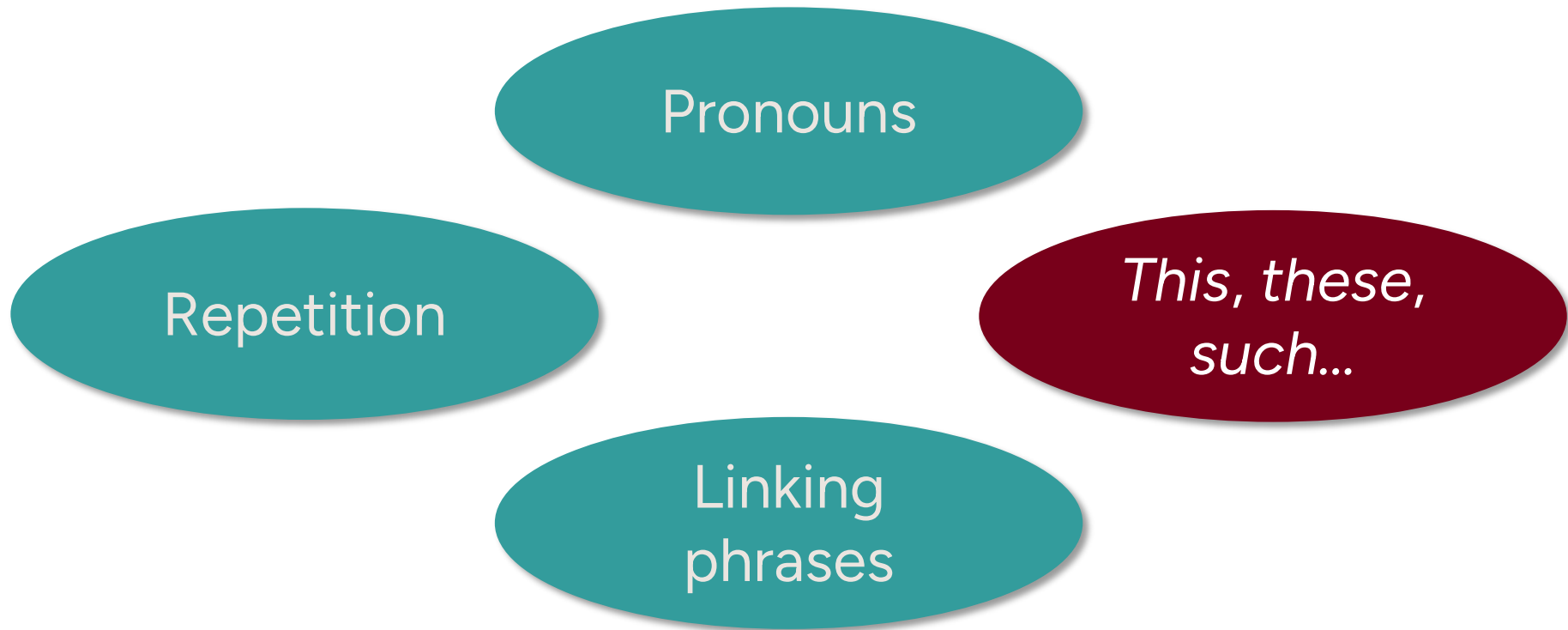
But this is correct:

Thus, the deviation in 2D distribution is significant between interest points inside a ROI enclosing the actual object entirely, and inside *one* that only captures it partially.



# Textbindningsstrategi 3:

## Använd *this*, *these* och *such* tillsammans med ett "sammanfattningsord"



# ***This, these, such + sammanfattningsord***

Swales and Feak (2012): "*this* + summary word"

Contributes to given-to-new information structure

Common summary words: *this challenge, this problem, this positive development, these methods, these systems*

Ett stiligt exempel:

"Although not all doctorates now require the production of a final thesis, many doctoral candidates still face **this substantial intellectual and linguistic hurdle.**"

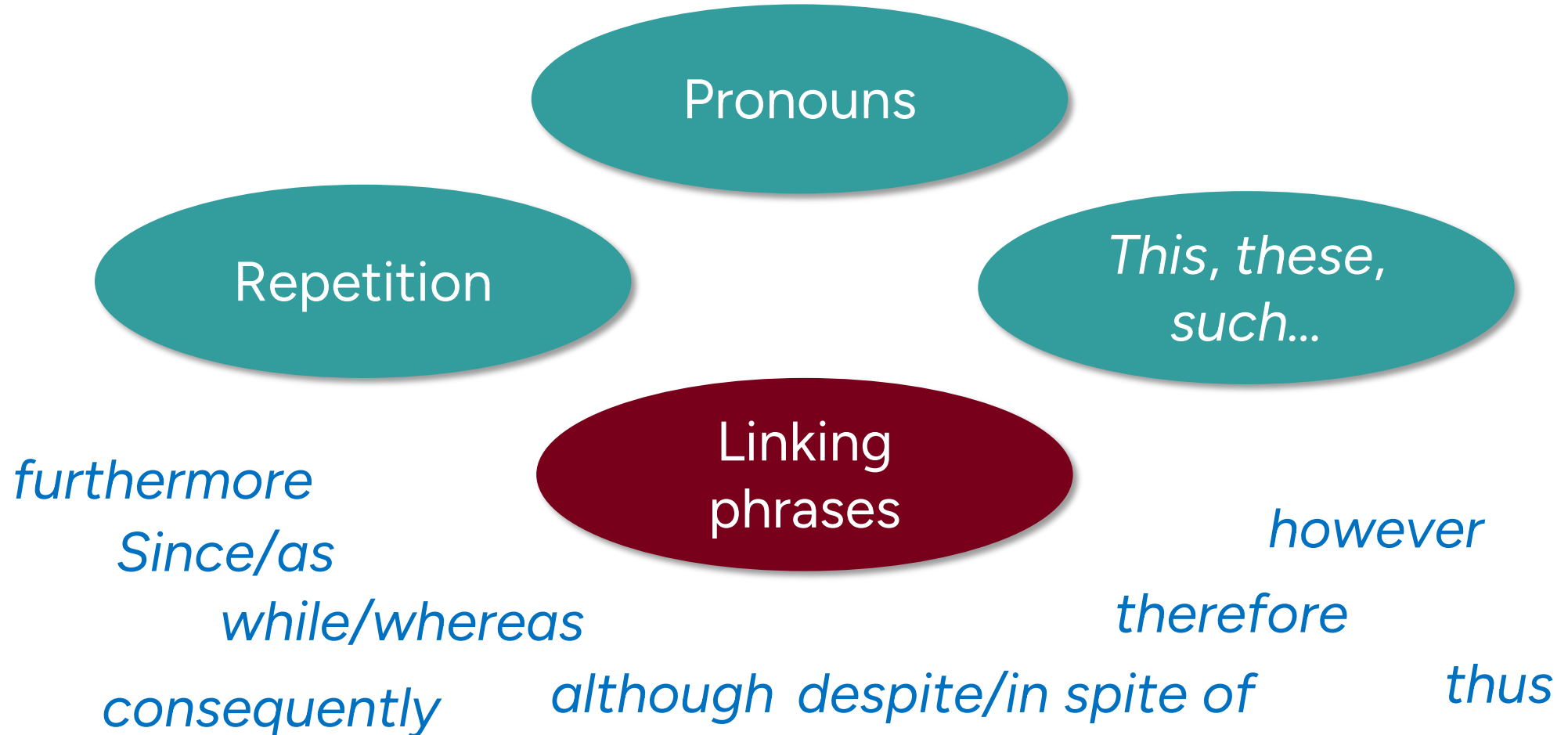
Compare: ... many doctoral candidates still face this.

Compare: ... many doctoral candidates still face this task.

# Common summary words

1. ... performed using a rope and a bucket to raise and distribute water from an open well. While **this method/solution** has the advantage of being inexpensive, its low...
2. The death rate, which was [...] declined from 5.5 in 1966 to 1.6 in 2011.  
**This (positive) development/improvement/drop** can be attributed to...
3. ... driving performance decreases when drivers use their cell phones.  
**This finding /discovery** is consistent with...
4. ... recent research has shown that these activities actually lead to increases in traffic. **This phenomenon** is known as the 'induced traffic' effect
5. For newborns today, life expectancy is about 77 years.  
This **increase/improvement/development**, however, does not mean that humans are undergoing some physiological change.

# Textbindningsstrategi 4: Sambandsord



# Sambandsord (*linking words or phrases*)

Linking phrases let readers know how they should interpret the following sentence.

*These systems are of great interest. They are powered by green electricity and use little energy.*

→ *These systems are of great interest, **since** they are powered by green electricity and use little energy.*

→ ***Despite** being powered by green electricity, these systems have not gained popularity due to their cost.*

- Punctuation can be difficult.
  - + see *Punctuation* → *Commas, semicolon and colon* in the Guide.

# Your turn! Work in pairs.

Öppna ett Kex-jobb på engelska.

Stryk under/markera ställen där skribenten använt de fyra strategierna.

Pronouns

Repetition  
and parallel  
structures



*This, these,  
such...*

Linking  
phrases

# Nästa vecka – måndag 16 sept.

- Vetenskaplig stil på engelska
- Vanliga grammatiska fel
- Hur är det egentligen med semikolon...? och andra frågor om interpunktion
- "Språkstuga" – mest på engelska, men även på svenska om ni vill!
- Det kommer att finnas tid att jobba med (den svenskspråkiga) rapporten för kursen och ställa frågor!
- Att förbereda: Läs *KTH Guide to Scientific Writing*, länkarna under **Scientific style, Sentence structure och Punctuation**