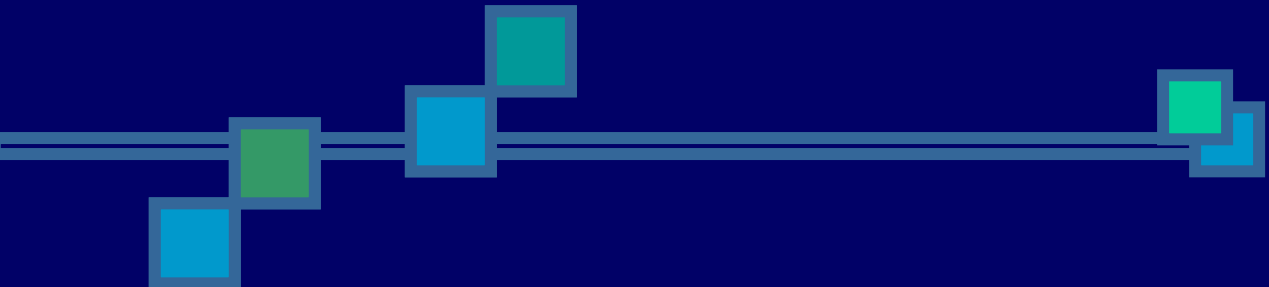


There are things known, there are  
things unknown, and in between are  
the **Search Engines**\*




Andrew Smith  
The University of Queensland

\*Paraphrasing Jim Morrison




# We search because we feel we lack something

- How much do we know about the thing we seek?
  - If we only search close to a familiar or routine context, the novel and the strange are ignored.
  - How can the search system help show us the path towards that which will satisfy our need?
- 



# Searching is a Learning and Recall Task

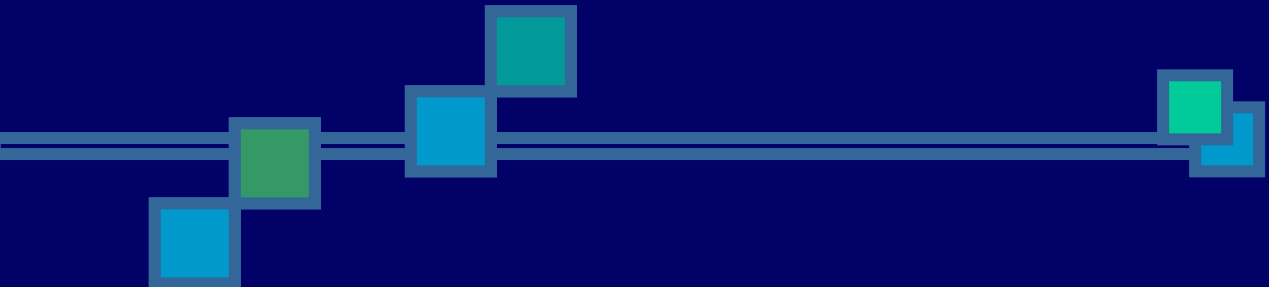
- To recall the thing half remembered, e.g. a unique email address on a required message.
  - To find out what we don't know, but someone else does.
  - To find out how to get there from here, e.g. learning a new vocabulary from a parallel discipline.
- 




# Searching is a Learning and Recall Task

- To assimilate the found information and discover implicit connections.

These tasks are heavily dependent on human memory.




We need to provide search systems which support (**not** replace) the user in these learning and recall tasks.

- Why not replace? Because this is stuff the user needs to learn.
  - Ignorance of context is dangerous – need awareness of **assumptions** and **credibility** of found information.
- 



# A system to augment the user's query

- The **query** is normally the statement of the user's best current knowledge of the thing sought.
  - Firstly, we expand the query vocab to bring in related terms from the target data set.
  - For example, start with the query term **rifle** and the Warren Commission data:
- 

### Primary Classes

Converged in 7 iterations.

[Go to next concept set.](#)

- rifle

### Secondary Classes

Converged in 11 iterations.

[Go to previous concept set.](#)

[Go to next concept set.](#)

- accuracy
- action
- actual
- addition
- alleged
- allegedly
- ammunition

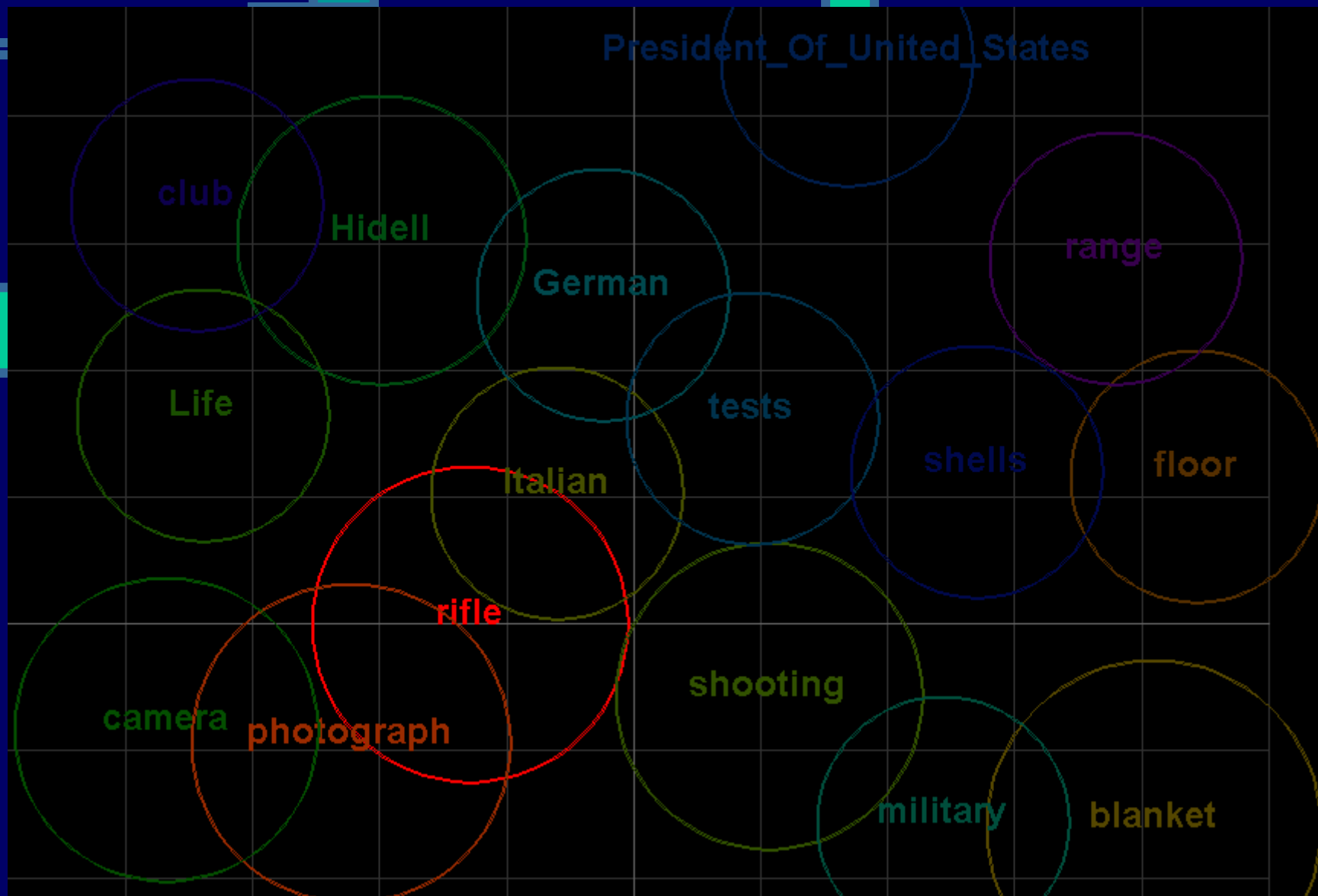
rifle:

rifle -> 8.5725  
telescopic -> 5.5388  
[[italian]] -> 5.0994  
carbine -> 4.9575  
practicing -> 4.917  
shotgun -> 4.7785  
[[mauser]] -> 4.7785  
mounted -> 4.6675  
deer -> 4.6043  
high-powered -> 4.5345  
crosshair -> 4.5345  
[[mannlicher-carcano]] -> 4.4566  
sighting -> 4.4566  
[[m-1]] -> 4.3685  
windage -> 4.3685  
[[klein]] -> 4.2669  
mounting -> 4.2669  
widely -> 4.1469  
screw -> 4.1469  
star -> 4.1469  
mechanism -> 4.1469  
bolt-action -> 4.1469  
mail-order -> 4.0002  
chamber -> 4.0002  
crosshairs -> 4.0002



# A system to augment the user's query


- Next, the semantic context of the concept **rifle** is mapped and drawn for the user:
- 







# A system to augment the user's query

- Now the user can make a guided and informed search through the material:
- 

Leximancer Map

Concept List: accuracy Settings

Iterations = 1000

Selected Concept: Hidell

Related Entities (and locations). (Count: 13)

Click on the **buttons** to browse the evidence

Concept	Absolute Count	Relative Count
rifle	4	14.8%
Italian	3	11.1%
holding	2	7.4%
secure	2	7.4%

Text Browser

Concepts: Hidell AND rifle

lane\_m1.html#S1\_532  
 lane\_m1.html#S1\_622  
 stuckey.html#S1\_325

Chicago. ( TG\_LANE\_M1\_TG )  
 Mr Rankin. ( TG\_LANE\_M1\_TG )  
 When was this? ( TG\_LANE\_M1\_TG )  
 Mr Lane. ( TG\_LANE\_M1\_TG )  
 I spoke with him within the last 2 or 3 days. ( TG\_LANE\_M1\_TG ) And he told me that--he runs the mail-order house which sent the carbine, Italian carbine, to Dallas, not to Oswald, but to A. Hidell, and that he sent that out with the holes already bored in the Italian carbine, and equipped with a telescopic sight which was already attached to the rifle. ( TG\_LANE\_M1\_TG )  
 Aguto Marcelli, who is a correspondent for an Italian publication which appears physically very much to be like Life magazine, called Leuropeo, stated to me that he had spoken with Mr Klein, and Mr Klein told him that the FBI--"The FBI warned me to keep my trap shut." ( TG\_LANE\_M1\_TG )  
 Mr Rankin. ( TG\_LANE\_M1\_TG )  
 When was this? ( TG\_LANE\_M1\_TG )  
 Mr Lane. ( TG\_LANE\_M1\_TG )  
 He told me this about 2 weeks ago. ( TG\_LANE\_M1\_TG ) When I spoke

Learn Stop Reset

# of points: 100% Theme Size: 33% Rotation: 0

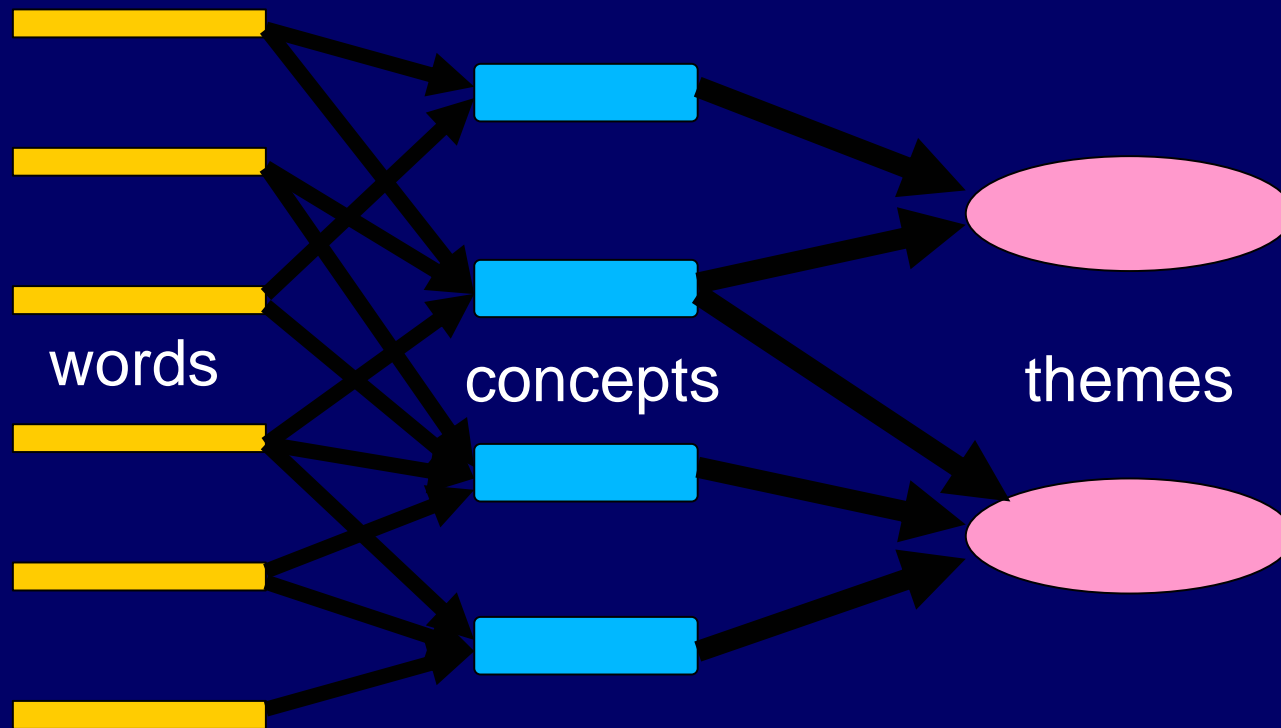
map type:  Gaussian  L

View Map Instructions View Thesauri  
 View Ranked Concepts View Document  
 Save Map Locations Reload Map Locations

Add to Log All to Log

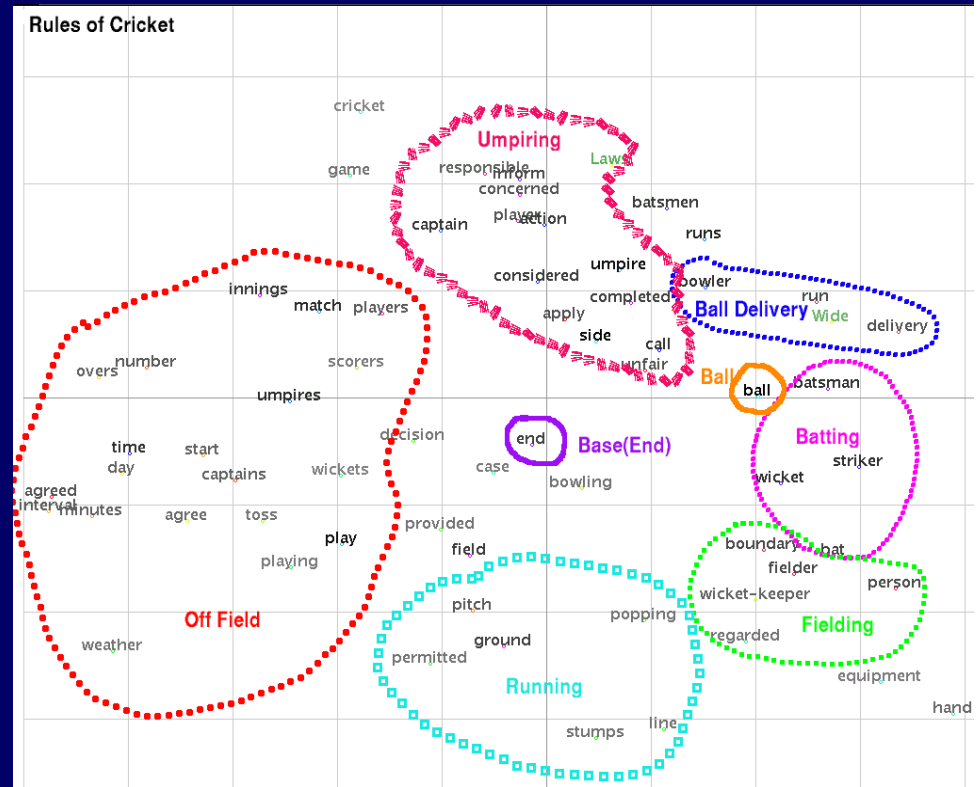
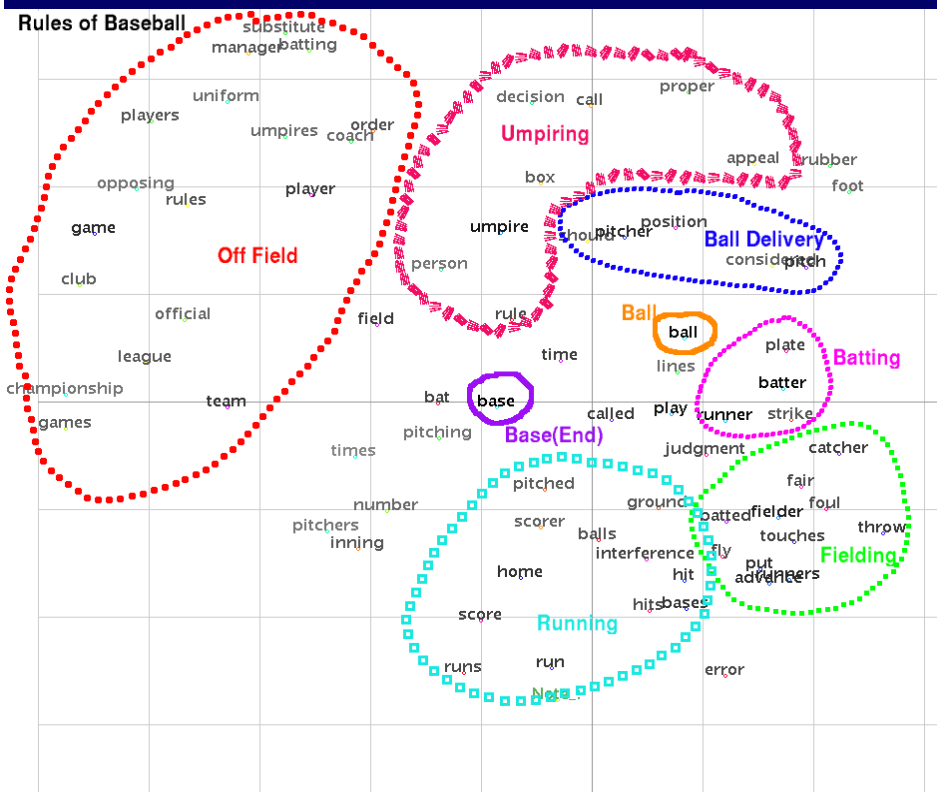
Text Browser Log Book

# Leximancer Architecture

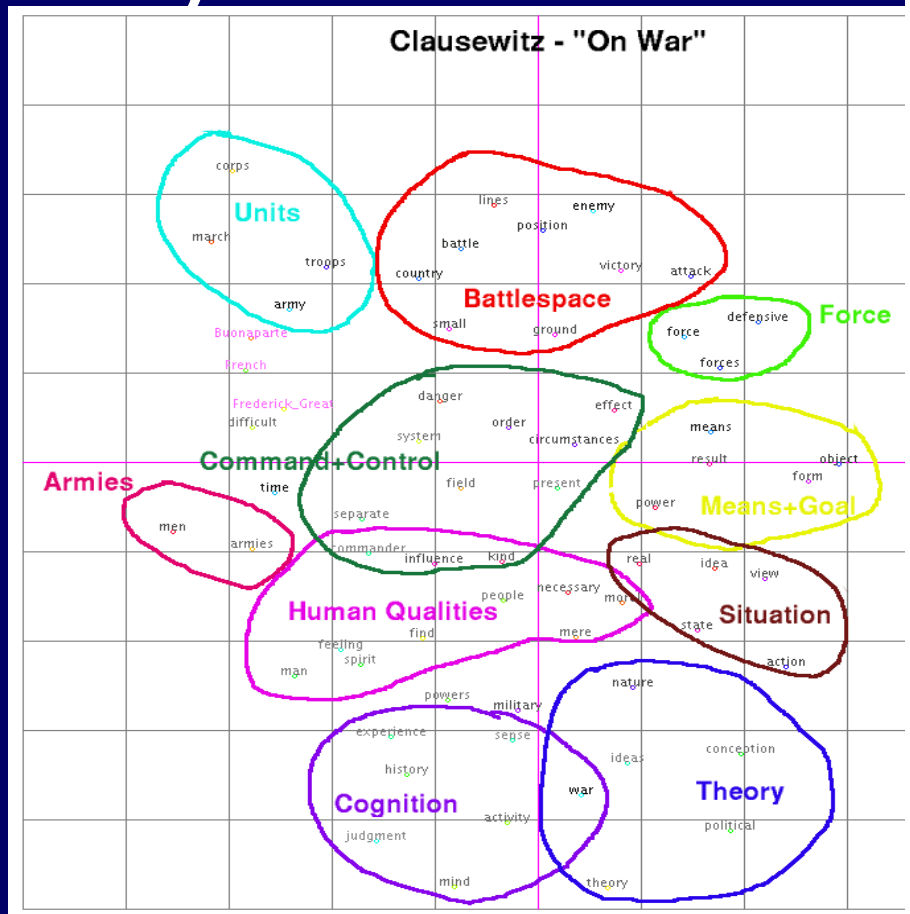
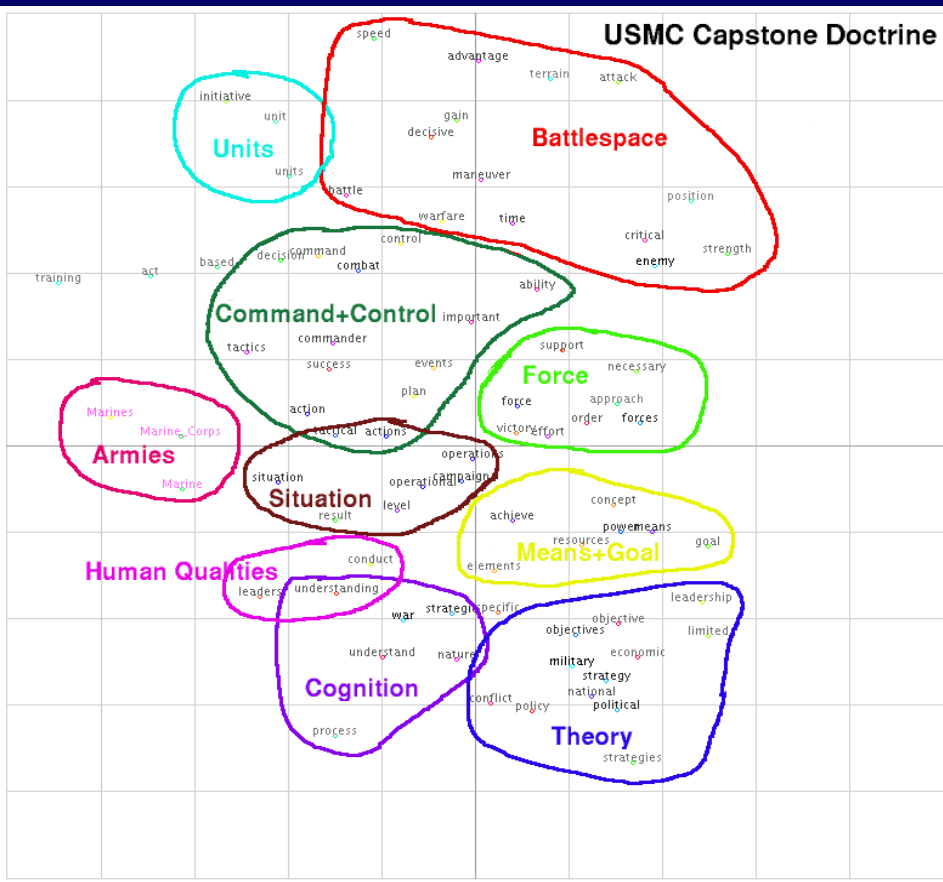




# Validation - sport rules



# Validation - military doctrine






# Summation



The goal is to **show the way** to information which the user:

- 
- May not know exists,
  - May not know how to get there, i.e. the words to look for,
  - May not know where they are when they arrive, i.e. the new context.