



Lessons Learned From Ontology Design

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THE SOLDIER 'S CODE - 11 Articles - French Land Army, 1999

- 1) The soldier is entirely devoted to **serving France** anywhere and anytime.
- 2) The soldier **achieves his mission** with the will to win and vanquish, possibly at the risk of his life.

4) The soldier **obeys orders with respect of the laws of war and international conventions.**

- 5) The soldier **improvises and adapts** in all circumstances.
- 6) As a **professional**, the soldier keeps fit, physically and intellectually and develops his abilities and his moral strength.
- 7) Member of a brotherhood of arm, the soldier **acts with honor, frankness and loyalty**.

5) The soldier **improvises and adapts in all circumstances.**

of armies in philosophical, political and religious matters.

- 11) **Proud of his commitment**, the soldier represents, always and everywhere, his garrison, the land army and France.



The **SOLDIER 'S CODE** sounds marvelous,
but how are we going to teach it?

- 1) **Ensure that the teaching process is the same for every soldier**

Objective

The soldier has the appropriate behaviour when facing a practical setting

2) => A Database of Concrete Cases

- 3) **Nicely link the real-life situations to the soldier 's code**

1) + 3) => An Instructor 's Guide (2002)



One more constraint...

4) Automate the learning process

Why ?

- => Distant education (operational context)**
- => (Anytime) Self-training and self-evaluation**
- => Saving time and money...**





Outline

- *Description of the Tutoring Process*
- *Ontology in the Tutoring Process (SABRE)*
- *Managing Ambiguities (Eigenvalues)*
- *Discussion (Reuse?)*



International &
French
Legal Texts

Practical Setting

Must find the appropriate behaviour

al or
vents

Learner



Face to Face or Distant Training Session



Green Book



Teacher



Concrete
Case

- 1) Picks the article to learn
- 2) ... and one corresponding behaviour
- 3) Chooses an appropriate concrete case

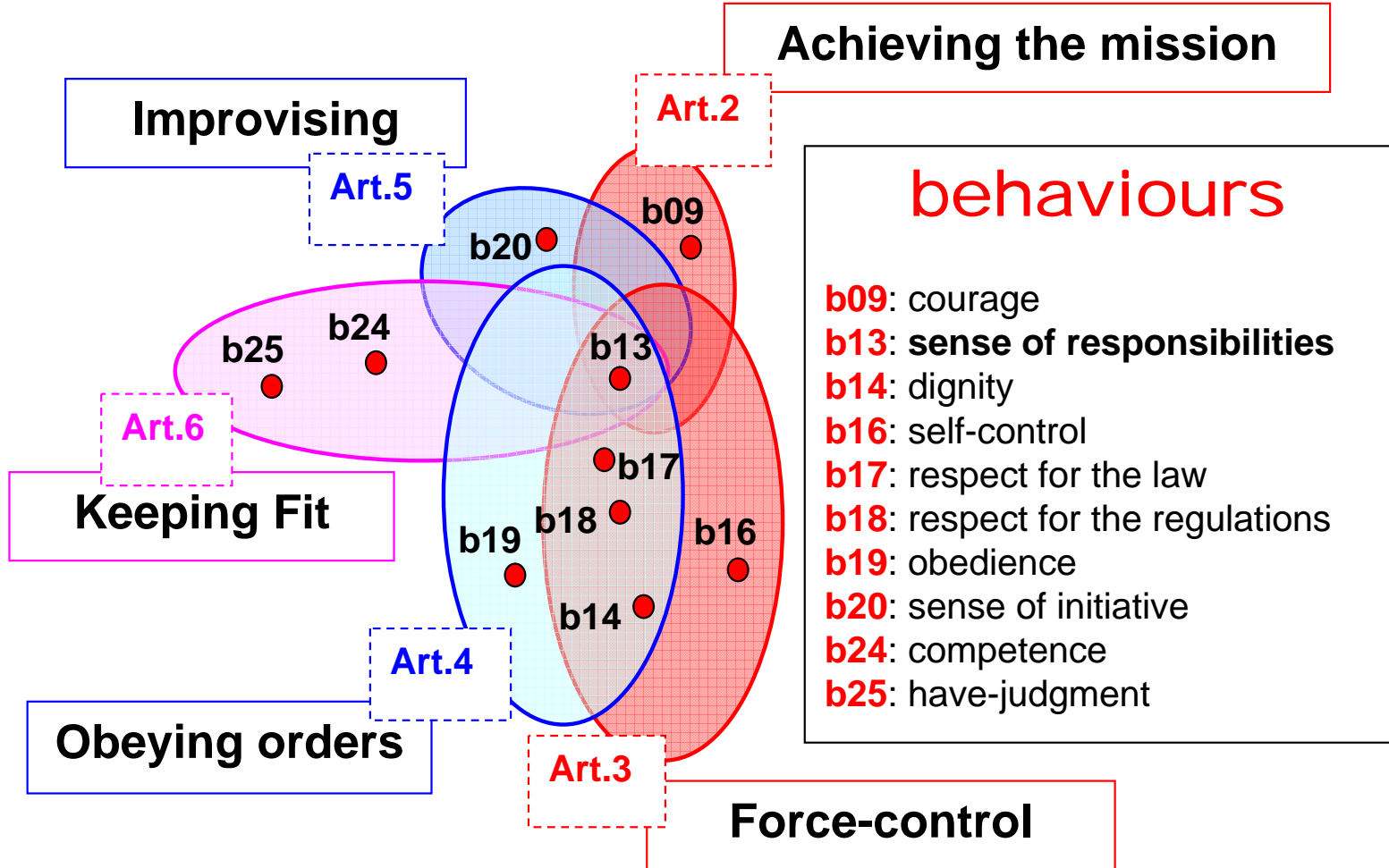
Theoretical Training

e

1) Let 's pick **Art. 4**

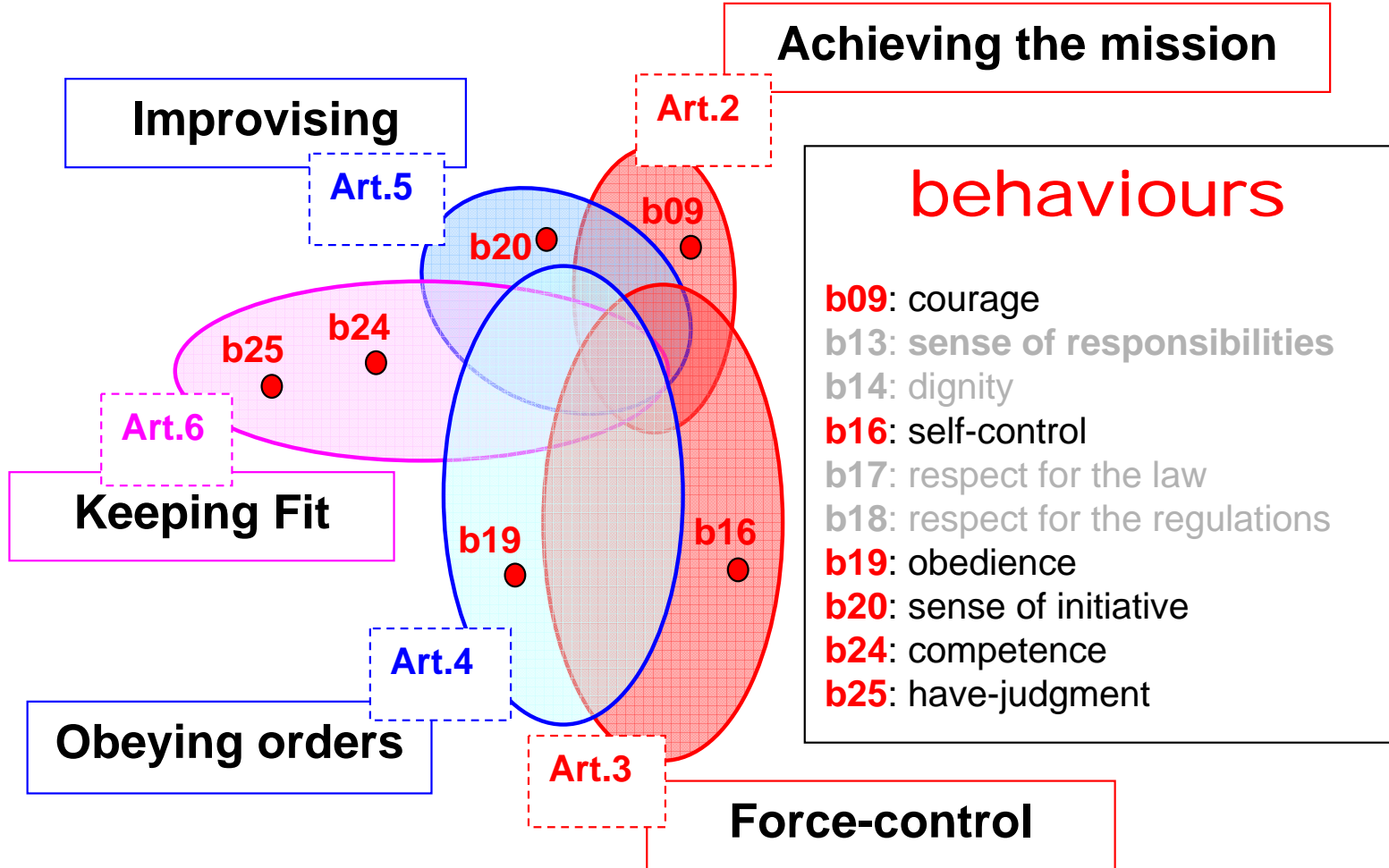
2) ... and *one* corresponding **behaviour**?

Teacher



Teacher

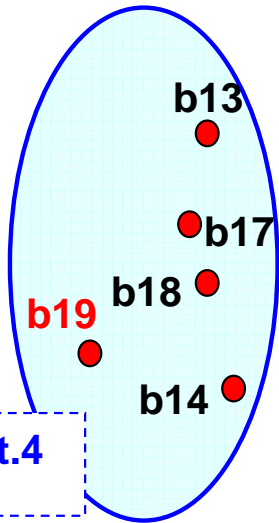
1) Let 's pick **Art. 4**
 2) ... and one corresponding **behaviour**?
 Is there one **behaviour** only corresponding to article **Art. 4**?





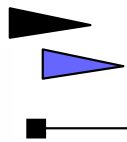
Teacher

- 1) Let 's pick Art. 4
 - 2) ... and one corresponding **behaviour**?
 - **behaviour 19** is the **eigenvalue** of **Art. 4**
- Other **behaviours** entails **Art. 4** as their context



- ## behaviours
- b09: courage
 - b13: sense of responsibilities**
 - b14: dignity
 - b16: self-control
 - b17: respect for the law
 - b18: respect for the regulations
 - b19: obedience**
 - b20: sense of initiative
 - b24: competence
 - b25: have-judgment

Obeying orders



Eigenvalue

b19: obedience which uniquely represents an instance of a class

Eigen slot

behaviour uniquely represents an article
Slot of an instance of a class with at least one **Eigenvalue**

Eigeninstance

Art. 5 Instance of a class with at least one **Eigen slot**

Eigen class

Article classes that class are **Eigeninstances**



- **Keywords** for Papers / Talks / Posters
(classification)
- **Instances** for classes
(object-oriented design - **singleton** Design Pattern)
- **Flights** for Airlines / **Theaters** for Films
(cost reduction: e.g. merging Air-France & KLM)
(market flooding - university film archives)
- **Logos** for Trademarks / **Flags** for Countries /
Symbols for Cities (identification - recognition)
- **Wines** for courses
(best association of objects)



Thank You!

- **When must we write rules?**

Good old „Keep it simple” (not simplistic :-)

- **Can 't we rewrite our classes?**

Good old code review, object-oriented refactoring, reverse engineering...

- **Can we use the instances to evaluate the ontology?**

Good old execution tests: run tests to know about the software design