# A Case Study in Agility: Heinz Guderian's Spearhead Advance into France, 1940

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# Agenda

- Introduction
- Agility Overview
- NCW Conceptual Framework
- Approach
- Case Study Background
- Guderian's Advance into France
- Examples of C2 Agility Using Guderian and the XIX Panzer Corps
- What's Next?
- References

# Introduction

- Secretary Rumsfeld:

"Preparing for the future will require us to think differently and develop the kinds of forces and capabilities that can adapt quickly to new challenges and to unexpected circumstances"[1]

[1] Cable News Network. "Rumsfeld Presses for More Agile Military". January 31 2002. http://www.cnn.com/2002/US/01/31/rumsfeld.speech/?related

# Agility of C2 Process

- Definition: quick and graceful in movement; nimble

- In a military context: the ability to be effective in changing, nonlinear, uncertain, and unpredictable environments

- Agility is a property of both force elements and C2 processes

    - Force elements cannot be effective without agile C2

    - C2 processes cannot be effective without an agile force
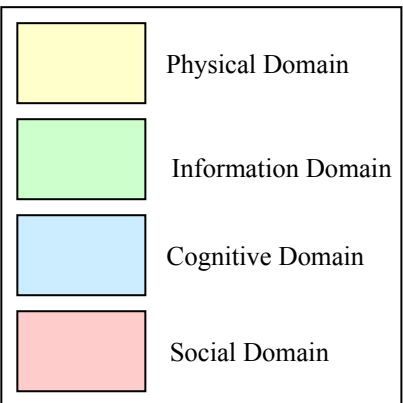
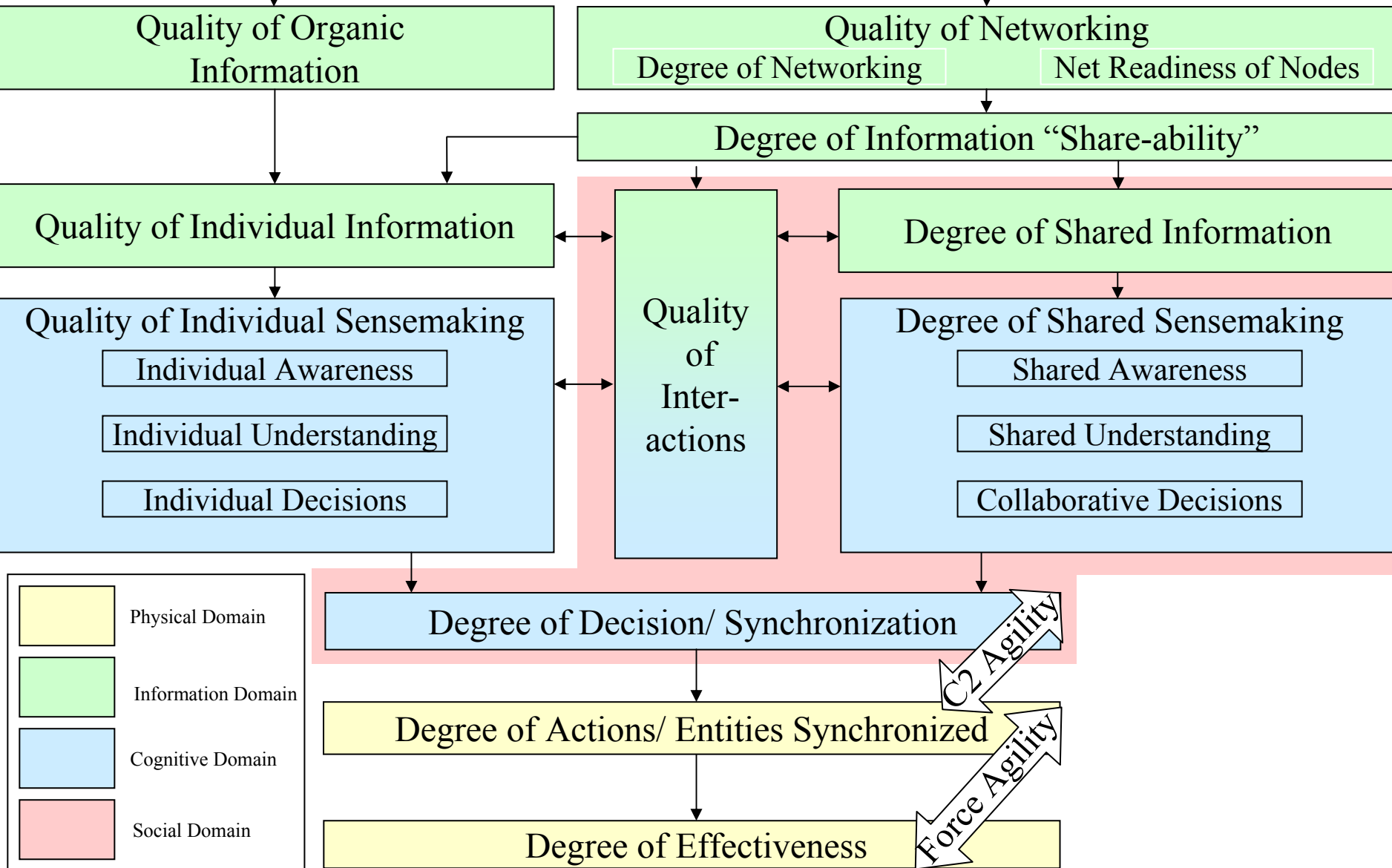- Agility always assumes effectiveness

# Agility: Attributes and Definitions

- Robustness:
  - the ability to maintain effectiveness across a range of tasks, situations, and conditions
- Resilience:
  - the ability to recover from or adjust to misfortune or damage
  - the ability to degrade gracefully under attack or as a result of partial failure
- Responsiveness:
  - ability to react to a change in the environment in a timely manner

# Agility: Attributes and Definitions

- Flexibility:
    - the ability to identify multiple ways to succeed
    - the capacity to move seamlessly between them
- Innovation
    - the ability to do new things
    - the ability to do old things in new ways
- Adaptiveness:
    - the ability to change the work process
    - the ability to change the organization

# NCW Conceptual Framework

| Information Sources | Value Added Services | Force | C2 | Effectors |
|---|---|---|---|---|

**Quality of Organic Information**

**Quality of Networking**
- Degree of Networking
- Net Readiness of Nodes

Degree of Information "Share-ability"

**Quality of Individual Information**

**Degree of Shared Information**

**Quality of Individual Sensemaking**
- Individual Awareness
- Individual Understanding
- Individual Decisions

**Quality of Inter-actions**

**Degree of Shared Sensemaking**
- Shared Awareness
- Shared Understanding
- Collaborative Decisions

Degree of Decision/ Synchronization

Degree of Actions/ Entities Synchronized

Degree of Effectiveness

C2 Agility

Force Agility

**Legend:**
- Physical Domain
- Information Domain
- Cognitive Domain
- Social Domain

# Approach

- Case Study Methodology
- Based on work of Dr. Robert Yin on case study design and methods
  - Definition/Problem
  - Design of case study
  - Data collection
  - Data analysis
  - Reporting
- Important to keep a case study in the context of when it occurred

# Why Guderian?

- Revolution in military affairs
  - First major use of maneuver warfare
  - Parallels "transformation"
- Abundance of data
  - Primary and secondary sources
  - Previous studies
  - New material released (communications, daily logs, after action reports)
- Many different representations of Agility throughout the operation

# Case Study Background

- The War Started in 1939
    - The Advance into France was not a surprise
    - The Blitzkrieg tactics were seen before
- Guderian is seen as the father of the Blitzkrieg
    - Tank exercises were conducted since the early 1920's
    - Strategy was old, the tactics were new
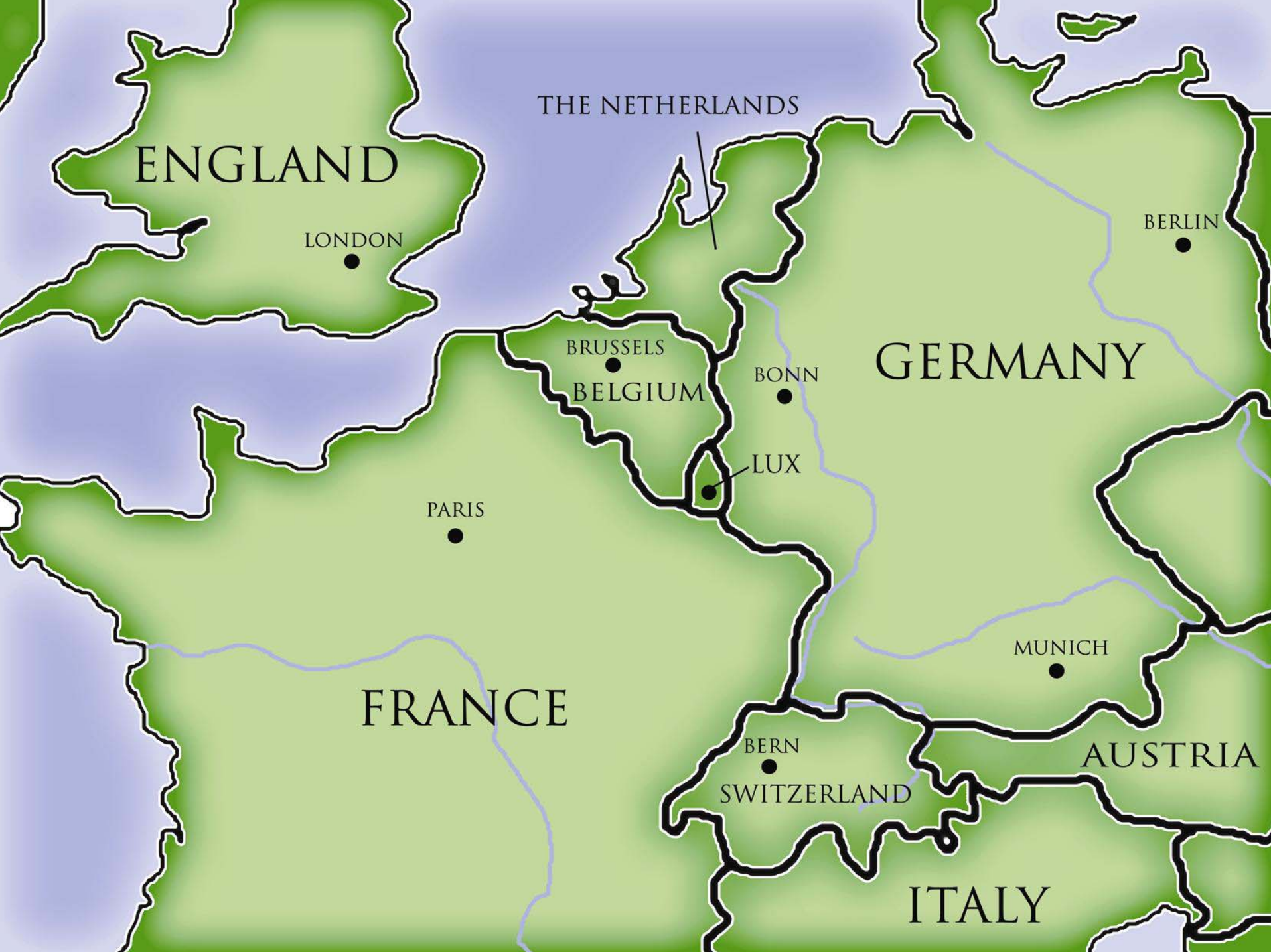
Sambre

Onhaye •

BELGIUM

Bastogne •

LUX.

• Hirson

Montherme •

• Vervins

• Sedan

Semois

Arlon •

Luxembourg

• Rethel

Aisne

Maginot Line

FRANCE

Meuse

| 0 | MILES | | | | | | | | | | 50 |

| 0 | KILOMETERS | | | | | | | | | | 80 |
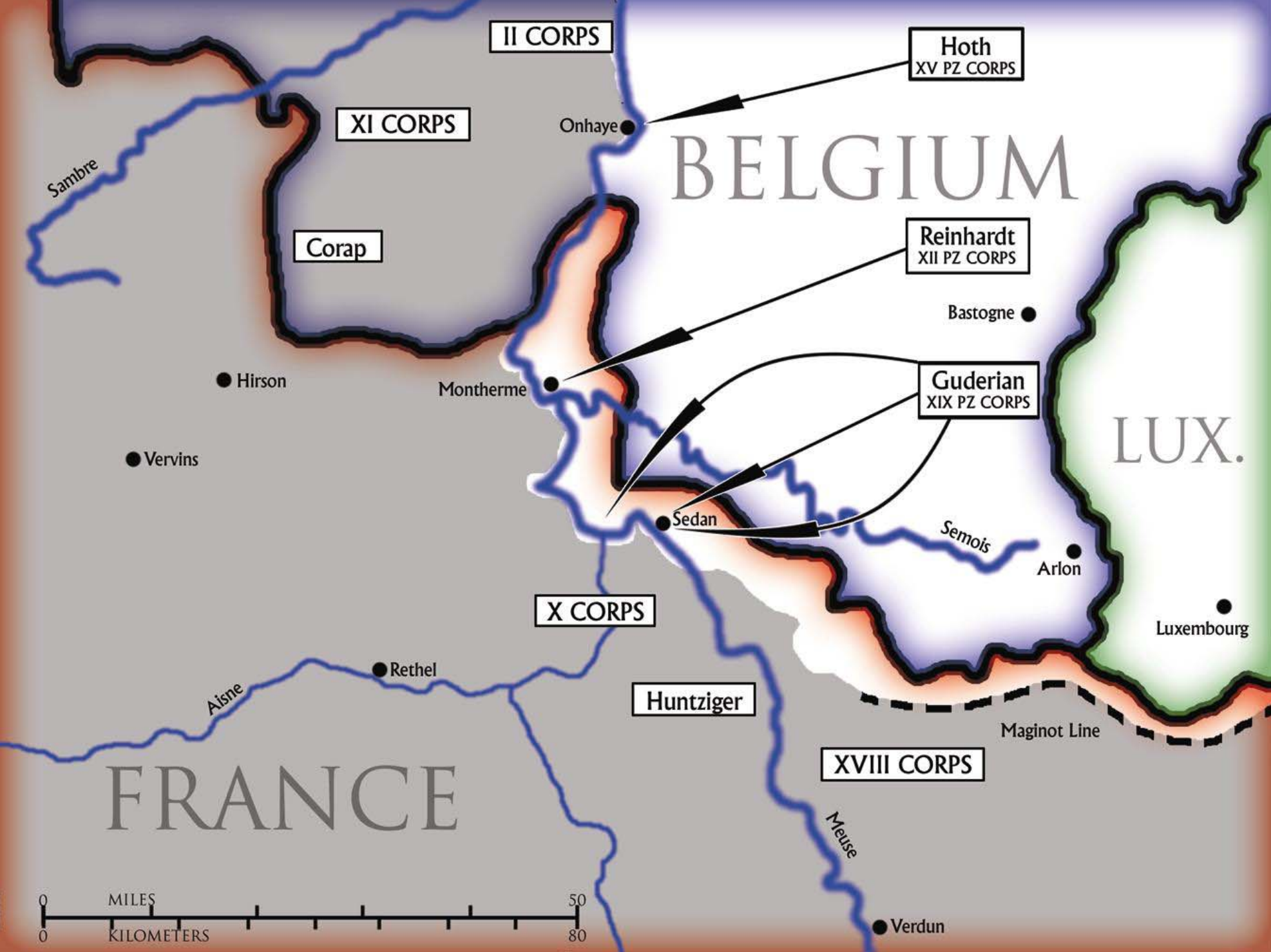
• Verdun

II CORPS

Hoth
XV PZ CORPS

XI CORPS

Onhaye

BELGIUM

Sambre

Corap

Reinhardt
XII PZ CORPS

Bastogne

Hirson

Montherme

Vervins

Guderian
XIX PZ CORPS

LUX.

Sedan

Semois

Arlon

X CORPS

Luxembourg

Rethel

Aisne

Huntziger

Maginot Line

XVIII CORPS

FRANCE

Meuse

| 0 | MILES | | | | | 50 |
| 0 | KILOMETERS | | | | | 80 |

Verdun
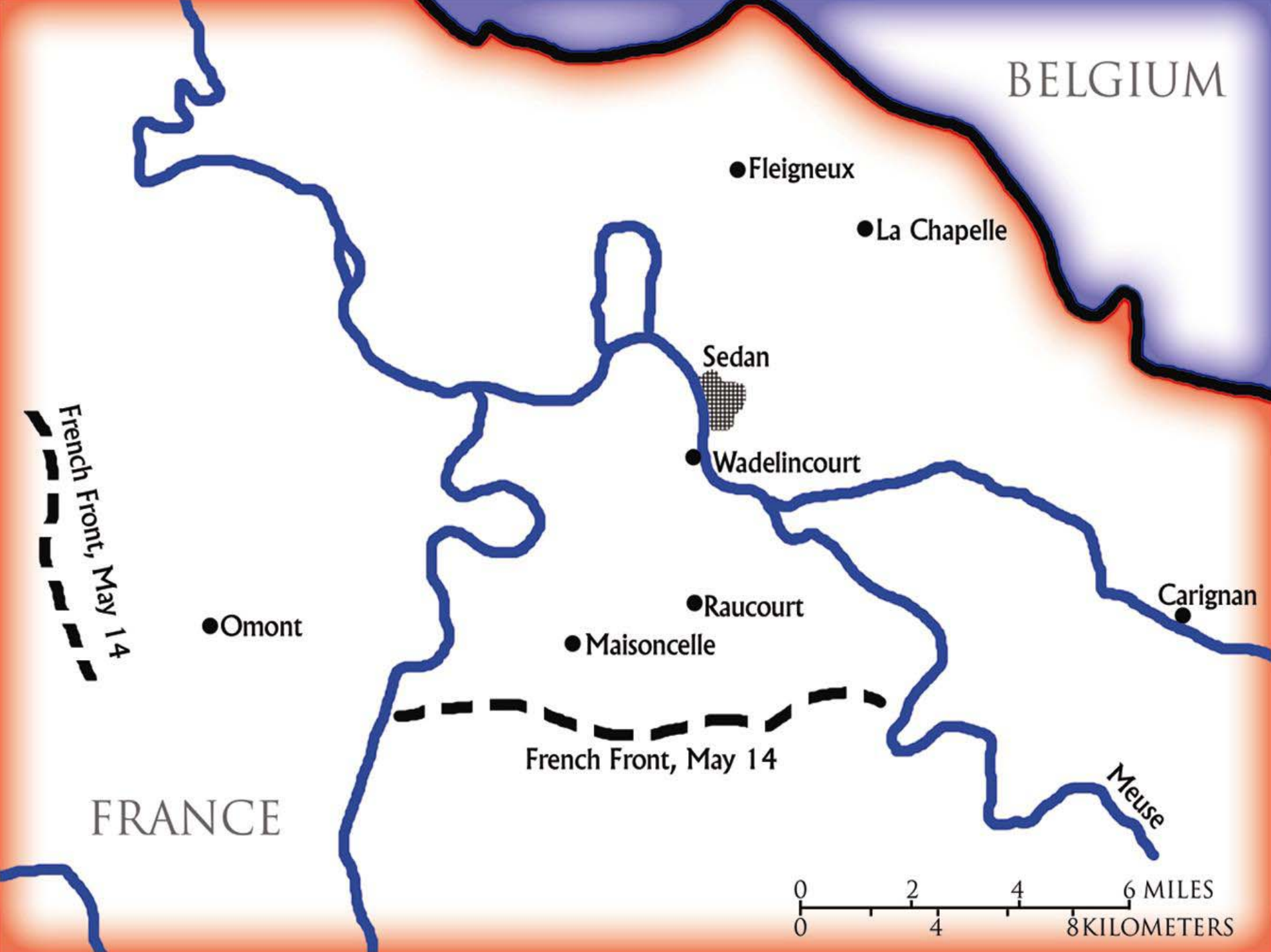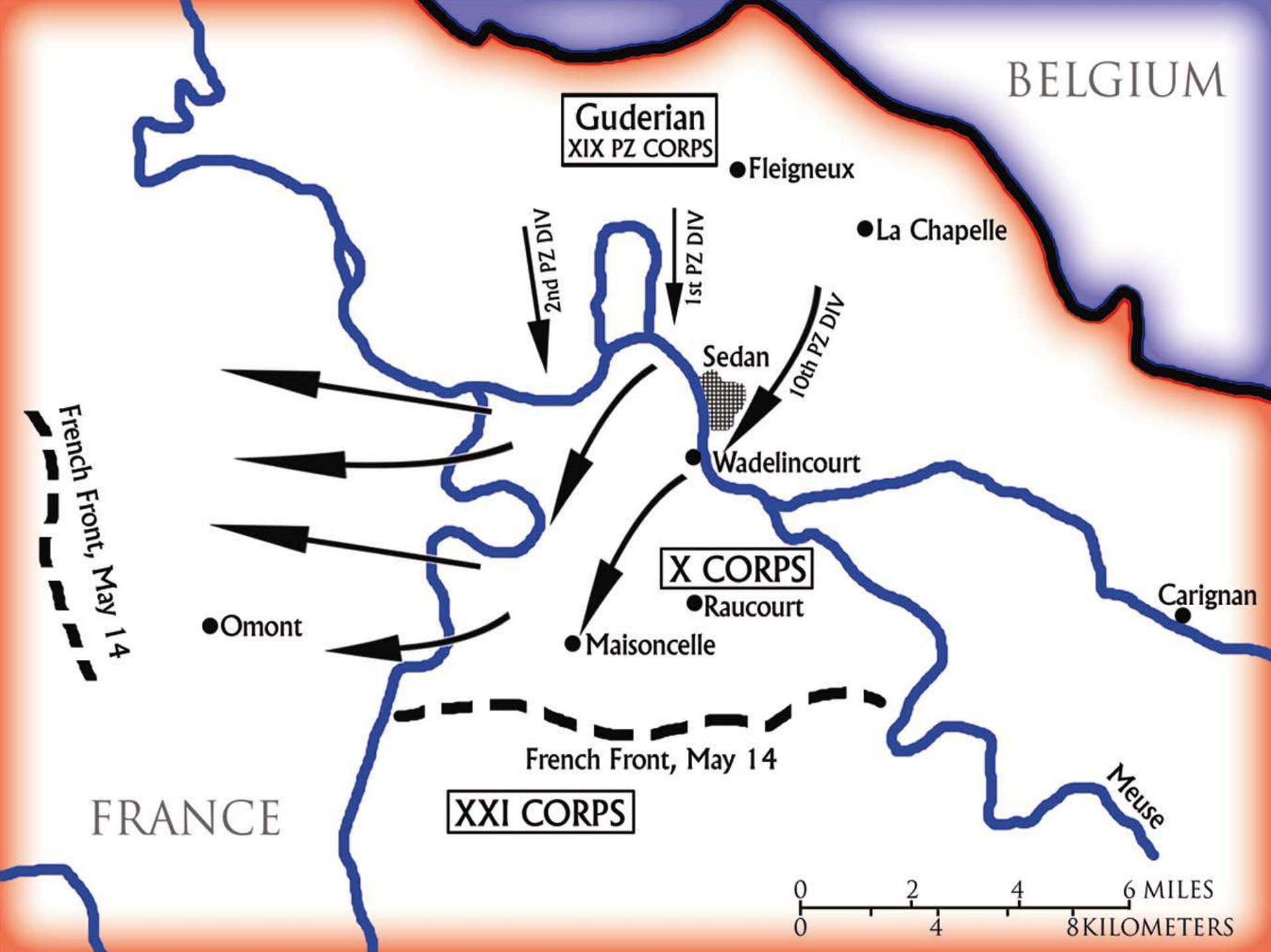
BELGIUM

●Fleigneux

●La Chapelle

Sedan

Wadelincourt

French Front, May 14

●Omont

●Raucourt

●Maisoncelle

Carignan

French Front, May 14

FRANCE

Meuse

| 0 | | 2 | | 4 | | 6 MILES |

| 0 | | 4 | | 8 KILOMETERS |

# Agility: Robustness

- Robustness
  - the ability to maintain effectiveness across a range of tasks, situations, and conditions
- Example using Guderian and XIX Corps
  - XIX Corps was **robust** in the fact they were able to achieve their goals while advancing through the difficult, and uncertain terrain in the Ardennes, during the river crossing, and effective maneuver after crossing.

# Agility: Resilience

- Resilience
    - the ability to recover from or adjust to misfortune or damage
    - the ability to degrade gracefully under attack or as a result of partial failure
- Example using Guderian and the XIX Corps
    - They were **resilient** by being able to bounce back after the 2nd panzer was delayed then moved to a supporting role of the 10th armored.

# Agility: Responsiveness

- Responsiveness
  - ability to react to a change in the environment in a timely manner

- Example using Guderian and the XIX Corps
  - They were **responsive** by rapidly reacting to a developing threatening situation on the southern flank.

# Agility: Flexibility

- Flexibility
  - the ability to identify multiple ways to succeed
  - the capacity to move seamlessly between them
- Example using Guderian and the XIX Corps
  - They were **flexible** by identifying five different locations for river crossings, were able to exploit three, and able to adjust accordingly on the opposite bank.

# Agility: Innovation

- Innovation
  - the ability to do new things
  - the ability to do old things in new ways
- Example using Guderian and the XIX Corps
  - Using armor at the forefront supported by infantry was **innovative**

# Agility: Adaptiveness

- Adaptiveness
  - the ability to change the work process
  - the ability to change the organization
- Example using Guderian and the XIX Corps
  - During the crossing, they were **adaptive** by moving the Panzers to a supporting role, and then as they crossed, immediately back to the primary role the German doctrine supported.

# What's Next?

- We need to recognize and measure Agility
    - Quantitative and qualitative metrics
- Establish a baseline for further research
- Continue exploration of attributes of Agility

# References

- Alberts David S. and Richard E. Hayes. *Power to the Edge: Command…Control…and the Information Age.* CCRP Publication Series. Washington DC.

- Builder, Carol H., Steven C. Bankes, and Richard Nordin. *Command Concepts: A Theory Derived from the Practice of Command and Control* RAND.

- [1] Cable News Network. "Rumsfeld Presses for More Agile Military". January 31 2002. http://www.cnn.com/2002/US/01/31/rumsfeld.speech/?related

- Guderian, Heinz. Constantine Fitzgibbon (trans.) *Panzer Leader.* Da Capo Press: New York.

- *Network Centric Warfare Conceptual Framework.* Network Centric Warfare and Network Enabled Capabilities Workshop: Overview of Major Findings. Dec 17-19, 2002. OSD(C3I) in conjunction with RAND and EBR, Inc.

- Macksey, Kenneth. *Guderian: Creator of the Blitzkrieg* Stein and Day, New York.

- Margolis, Eric *How to Fight and Win a War*" (http://www.foreigncorrespondent.com/archive/sedan.html)

- Shimp, Chris. *France 1940* (http://www.sandiego.edu/~cshimp/france_1940.htm)