Flamethrowers

- Developed by the Germans before the war
- French made minimal use, British not at all
- 1st use was as a defensive weapon
- Two basic types
  - Large immobile
  - Small “man-packs”
- Became a weapon of choice for offense
- Key element in Hutier tactics
Poison Gas

- 2d Ypres, Loos, Somme, 3d Ypres
- Both sides adopted gas quickly
- Counter measures also came out quickly
- Four basic types w/ two delivery systems
- After 1915, deaths were very rare
  - < 1% of deaths were due to gas
- Really a harassment weapon
  - Didn’t work very well
  - Problem for attacker as well as defender
- None the less, a really horrible weapon
However, poison gas followed

**Riffer’s Rule of Arms Control:**

“If you need it, you can’t get it. If you got it, you didn’t need it”
Tanks

- Developed by the British Navy (Sept 1915)
- 1st use on the Somme (Sept 1916)
  - Bad tactics
  - Mechanical problems
- Cambrai (Nov 1917)
  - More successful, lessons learned
- Final Allied offensives made much use of them (Summer/Fall 1918)
Learning to Fly

The War in the Air
The Aces

- Richthoven* German 80
- Fonck French 75
- Mannock* British 73
- Bishop Canadian 72
- Udet German 62
- Collishaw Canadian 60
- McCudden* British 57
- Loewenhardt* German 54

* KIA
Note: All on the Western Front
In the Beginning

- Observation was key mission area
  - Balloons
  - Dirigibles
  - Aircraft
- About 1000 planes available
  - Their importance widely recognized
- Physical & training requirements
Balloons
Dirigibles
1914 Observation Plane

German Taube
Early in the War

- The Marne & Tannenberg – first big successes
- Denial becomes important (Air superiority)
- How to arm a plane?
The Air War Begins

- Garros – First kills
- Pegoud – First Ace
- Eindecker – Fokker scourge (May 1915)
- Allies start building fighters also

Strategic Goals
- Protect or destroy Observation planes
- Performance & number contest
Roland Garros

Adolphe Pégoud
Fokker Eindecker
The First Fighter
Progress (1916)

- Allies develop a synchronizer (Mar 1916)
  - Deploy the Sopwith Pup & the Nieuport 17
  - Germans counter with the Albatros D.1

- Verdun & the Somme
  - Air arm starts to come of age
  - 1st attempt @ air supremacy
  - Allies win both air battles (#’s)

- Artillery spotting becomes dominant

- These battles generate an air war
  - Aces & Dogfights
  - BUT, it’s really performance and #’s
Sopwith Pup
Nieuport 17
Albatros D.1
Fighters 1916
The Most Important Planes of the War
(Observation Planes)

BE-2
Nieuport 12
RE-8
1917

- Ground attack becomes important
  - "Gott strafe England und unsere flieger"

- Germans introduced a true fighter
  - Bloody April (Arras & the Nivelle Offensive)
  - The Jagdstaffeien
1917-1918

- Summer 1917
  - Allies respond with improved aircraft
- By fall, Allies again have the edge
- May 1918
  - Germans again have performance edge (D-VII)
  - BUT, number are all in the Allies favor.
Fighters (Mid-1917 – 1918)

SE-5a

Sopwith Camel

Spad S-13

Fokker D-VII
In the End

- Allies win the production war
  - Roughly equal quality
  - 105,000 vs. 45000 produced
  - 6300 vs. 2500 front line aircraft at war’s end
  - However, the Germans were out of fuel.

- Loses (Shot down or accident)
  - Allies – 94%
  - Germans – 94%
Bombing

- The idea was popular
- Germans tried dirigibles (800 civilian deaths)
- Bombers were clearly better:
  - Germans
  - British
  - Italians
  - Russians
  - Austrians
- No real success:
  - Technology just wasn’t ready
Bombers

Breguet XIV B2

Handley-Paige 0-400

Bristol F2b

Gotha
Summary

- Allied domination (#’s)
- Allied “Combined Arms” Ops
  - 1000 aircraft at Amiens
  - 1500 aircraft at Chateau-Thierry
- Final analysis:
  - Technology not quite ready
  - Not a decisive weapon
The Forgotten Fringes

Middle East & The Colonies
Middle East Campaigns

1 – Caucasus (1914-1915)
2 – Suez (1915)
3 – Gallipoli (1915)
4 – Persia (1915-1916)
5 – Caucasus (1916)
6 – Palestine (1917-1918)
Germany’s “Fringe” Strategy

- Get Ottoman empire into the war ASAP
- Declare a “Jihad” against the Allies
- Then using mostly Muslim troops
  - Force large Allied troop expenditure away from France
  - Capture Suez
  - Capture Basra (Persian Oil Fields)
  - Capture India
Ottoman Empire at war

- Quickly raises about 3M man army
- Invades the Caucasus (1914)
  - 81% dead or missing (74K)
  - Armenia
- Attacks Suez (1915)
  - Soundly defeated (1500)
  - Senussi uprising
- Defends Gallipoli (1915)
  - Wins but at a serious cost (250K)
- Defends Persian oil fields (1915)
  - Again, wins but at a serious cost (73K)
- By 1916 Turkey has been seriously weakened
Potentially good strategic design

Terrible execution

4 phases between Feb & Nov 1915

Defeat & Evacuation

250K allied casualties (5K est.)

Results
1. Naval attempt to force the narrows (Mar 1915)
2. Initial landings (April 1915)
3. Landing at Sulva Bay (August 1915)
4. Evacuation (Dec/Jan)
Defense of Persia

- After 2 easy victories, British advance up the Tigris (March 1915)
- Defeated at Ctesiphon (Von der Goltz)
- Besieged at Kut-el-Amara
  - 23000 casualties trying to relieve Kut
  - 12000 surrender March 1916
- Again, Ottomans win tactically but at terrible cost (73K)
- Britain wins strategically but ……... (47K)
British surrender at Kut-el-Amara
Ottomans try again

- Final Caucasus invasion (Summer 1916)
- Yudenich completely defeats them
- Both sides suffer greatly (as usual) (≈ 50K)
- Winter stops the assault.
- Turkey is finished as an offensive power
The End in the Middle East

- British drive Ottomans out of Sinai (Jan 1917)
- Murray loses the Battles of Gaza (March & April)
- In June, Allenby takes command and conducts perhaps the best campaign of the war
  - The “Arab Revolt” & T. E. Lawrence
  - Logistics & detailed planning
  - Aviation and armored cars
  - Combined Arms tactics
The End in the Middle East (2)

- Jerusalem (Dec 1917)
- Megiddo (Sept 1918)
- 3 Ottoman armies destroyed
- Ottoman casualty rate 71% (26K)
- British casualty rate 7% (5K)
- Ottoman Empire leaves the war (Oct 1918)
PALESTINE, 1917
BATTLE OF MEGIDO
Dispositions and Order of Battle
19 September 1918

PALESTINE, 1917
BATTLE OF MEGIDO
Situation 19-25 September 1918 and Pursuit to Damascus
British Palestine Summary:
- 1.2 M troops committed
- 50K lost in combat
- 550K lost to disease

British could have easily met their strategic goals with a much smaller commitment of resources.
The Colonies

[Map showing German colonies in Africa and Asia]
Pacific

- German holdings are numerous islands plus Tsingtao, China.
  - Coaling & radio stations

- Japan & Australia take over all islands

- Only battle is Tsingtao (Falls in Nov 1914)
1. Togoland
2. Cameroon
3. German SW Africa
4. German East Africa
This was an African fight

Three of four colonies fall easily

- Togoland (1914)
- German Southwest Africa (1915)
- Cameroons (1916)

German East African Army

- Lettow-Vorbeck runs a brilliant campaign
- Never defeated; surrenders Nov 23, 1918
Campaign lasted for 4 years

- 11K Africans + 3K Germans
- 300000 Allied troops

“…..the greatest single guerrilla operation in history, and the most successful.”

Edwin Hoyt
German East African Army Troops

Lettow-Vorbeck
Summary

- Allied powers won every peripheral campaign (except East Africa)
  - BUT, at severe loss (600,000 casualties; 50%)
  - AND, these campaigns served as a significant distraction in terms of troops and resources
  - BUT: Germany strategy failed completely.
- The Ottoman Empire was finished off by these campaigns.
- Was this a good use of Allied manpower?

I Don’t Think So