

The 2022 War in Ukraine

Week 5

Spring 2022, Tuesdays 1:30 – 3:00 pm

Study Group Facilitators

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Cover – The Economist – April 30, 2022



A Question for this week!

Discuss:

German ban of Russian oil imports.

Immediate or by end of the year?

<https://www.reuters.com/business/energy/germany-would-weatherrussian-oil-ban-despite-shortages-minister-2022-05-02/>

Weekly Theme Reminder

1. Timeline of conflict. Major events. Newspaper, journal, speeches, attacks, events.
2. Origins. Reasons for conflict. Past conflicts. Motivations for conflict. Alliances. Goals.
3. Leaders of the Nations in conflict. Military and Political figures.
4. Resources. Military strengths. Economies.
5. **Military Tactics and Strategy. Use of Information and Cyber warfare**
6. November through July significant events
7. Cost of conflict. Likely outcomes.

Contributory investigations Reminder

1. The reporters: who are the ones providing the best articles on the different aspects of the conflict? Any volunteers?
2. Food, Fertilizer, Refugees: Who is being impacted by the conflict?
3. Who benefits from the war. Individuals, organizations, countries?
4. Leaders watch. Who is on the up and down. Who are the influential leaders?
5. Evolving strategic goals. How have the strategies of Russia, Ukraine, Nato changed?
6. Evolving tactics. What tactics are being employed this week?
7. Politicians: Republican, Democratic, Russian, Ukrainian. Which politician best formalizes the issues?
8. War Crimes? Who, what and when?
9. Battle watch. Who is winning what and where?
10. Peace Talks. Agreement versus disagreements?

Agenda Week 5 (20 minutes per section)

1. Overview of week (E.g. see New York Times, Bloomberg News, BBC, Wikipedia,) Discussion of the whole.
2. Updates from contributory investigations (Slide 5.) 2 minute update on your investigation.
3. Summary of Weekly Theme. Led by Roy and Norm.
4. **Military Tactics and Strategy. Use of Information and Cyber warfare**
5. Discussion of the whole.

Other topics/Better organization?

1a) Highlights of week

- Possible Ukraine attacks on Russian territory
- Kherson claimed as a Russian city
- Russia attacks supply lines and oil depots
- Russian attack narrowly misses UN Secretary General
- Kyiv urges residents to stop driving, so military can have the fuel
- Russia this week [suspended shipments of natural gas](#) to Poland and Bulgaria.
- Germany could end its reliance on Russian oil by the close of summer, the country's Federal Ministry of Economics and Technology reportedly [announced](#) Sunday, stepping up its previous timeline by at least three months—barely three weeks after the European Union announced a [ban](#) on Russian coal imports. (Forbes)
- First civilians from Mariupol steel mill evacuated.
- Finland to decide to apply for NATO membership on May 12, Sweden on May 24 (Reuters) <https://www.cnn.com/2022/05/03/europe/finland-sweden-path-nato-membership-intl/index.html>

1b) Overview of week

27 April. Russia claimed that a series of blasts hit targets in Russian provinces bordering Ukraine. Russian officials also reported a fire at an ammunition depot in the region and that a Ukrainian drone had been intercepted.^[447]

28 April. Ukraine's military said that Russia was "increasing the pace" of the invasion, while Putin promised "lightning-fast" strikes on anyone who interfered with Russia's goals.^[448]

Russia began ordering the occupied city of [Kherson](#) to use [Rubles](#) as currency.^[449]

The Russian Defence Ministry claimed that Russia had destroyed 6 Ukrainian arms and fuel depots. The Ministry also said that Russia had hit 76 Ukrainian military facilities.^[450]

Russia-backed separatist forces in eastern Ukraine's Donetsk Oblast claimed that they had arrested more than 100 captured Ukrainian troops suspected of being involved in crimes.^[451]

Two powerful blasts were heard in the Russian city of [Belgorod](#). Ukraine did not directly accept responsibility but described the incidents as payback and "[karma](#)" for Russia.^[452]

United Nations Secretary-General António Guterres met with president Zelenskyy and visited Borodyanka, Bucha and Irpin, where he said: "The war is evil. And when one sees these situations our heart, of course, stays with the victims".^[453] As he went back to Kyiv, one missile reportedly struck the lower floors of a 25-storey residential building, injuring at least 10 people and killing one, according to Ukrainian officials.^[454] [Dmytro Kuleba](#), Minister of Foreign Affairs of Ukraine, called the Russian missile strikes in Kyiv a "heinous act of barbarism".^{[455][456]}

1b) Overview of week (Discussion of the whole)

29 April. [Roman Starovoyt](#), the governor of Russia's [Kursk](#) region, claimed that mortars were fired at a checkpoint in the village of Krupets. He added that the Russian border guards and military responded with retaliatory fire.^[457]

30 April. Russia claimed that it had destroyed 389 military facilities in Ukraine overnight, including 35 control centres and 15 arms depots.^[458]

The Ukrainian military claimed that Russia had conducted a missile strike on the [Odessa Airport](#), damaging the runway and rendering it unusable.^[459] Odessa's regional governor, [Maksym Marchenko](#), claimed that Russia had used a [Bastion](#) system in Crimea; the Russian Defence Ministry said that it had used high-precision [Onyx](#) missiles.^[460]

May 1. The Russian Defence Ministry claimed that its air defence systems had shot down two Ukrainian [Su-24m](#) bombers over the Kharkiv region overnight.^[460]

May 2. Local authorities in the Odessa region claimed that a Russian rocket strike hit a strategically important bridge across the [Dniester estuary](#).^[461]

Ukraine claimed that its Bayraktar drones sank two Russian [Raptor](#) patrol boats near Snake Island. The Ukrainian Defence Ministry also released aerial thermal camera footage showing explosions on two small military vessels. However, the authenticity of the video could not be verified.^[462]

Day by day

- **Civilians are being evacuated from the Azovstal steelworks in Mariupol**, where about 1,000 people are thought to be sheltering. The first group of 100 was being led away by late afternoon on Sunday, according to the Ukrainian president, Volodymyr Zelenskiy. The effort was being led by the Red Cross, and coordinated with Ukraine and Russia.
- **Two groups of nearly 60 people have already [been evacuated to the village of Bezimenne in Donetsk](#)**, with Reuters witnessing buses arriving on Saturday and Sunday.
- **The US House speaker, Nancy Pelosi**, has become the highest-ranking US official to visit Ukraine since the outbreak of the war, where she met president Zelenskiy. In a press conference afterwards, Pelosi said the US would not be bullied. “If they are making threats, you cannot back down,” she said.
- **The German chancellor, Olaf Scholz, has rejected criticism of Germany’s reluctance to send heavy weapons to Ukraine**, as an opinion poll by the Sunday newspaper Bild am Sonntag found that a [majority of Germans disagreed with his approach](#).
- **The governor of the north-eastern city of Kharkiv** has urged people not to leave shelters on Sunday, because of intense shelling.
- **Pope Francis has described the war in [Ukraine](#) as a “macabre regression of humanity”** that makes him “suffer and cry”, in a Sunday address in St Peter’s Square.
- **Russia’s defence ministry has confirmed an attack on an airfield near Odesa** on Saturday. It said its forces had destroyed a runway and hangar at an airfield that contained weapons supplied by the US and EU.
- **One person has been injured in a fire at a Russian defence facility** in the Belgorod region, which borders Ukraine.

Day by day

- **Zelenskiy has said Ukrainian forces have destroyed about 1,000 Russian tanks, 2,500 armoured vehicles, and almost 200 aircraft.** In an address on Saturday night, he said Ukraine would be free. “All ... temporarily occupied cities and communities in which the occupiers are now pretending to be masters will be liberated.”
- **Ukraine has carried out a prisoner exchange with Russia,** with seven soldiers and seven civilians going home. One of the soldiers was a woman five months pregnant.
- **The Russian military has killed twice as many Mariupol residents** in two months of war as Nazi Germany did in its two years occupying the city during the second world war.
- **The Hollywood actor and UN humanitarian envoy Angelina Jolie made a [surprise visit to the western Ukrainian city of Lviv](#) on Saturday,** the regional governor has said on Telegram. Jolie, who has been a UNHCR special envoy for refugees since 2011, came to speak to displaced people who found refuge in Lviv, including children undergoing treatment for injuries sustained in the missile strike on the Kramatorsk railway station in early April. “She was very moved by [the children’s] stories,” Maksym Kozytskiy wrote.
- **Russian forces have stolen “several hundred thousand tonnes” of grain in the areas of Ukraine they occupy,** according to Ukraine’s deputy agriculture minister.
- **Russia has bombarded Ukraine’s second city, Kharkiv, as part of its renewed push in the east of the country,** while claiming that the “draft of a possible treaty” between the two countries was being discussed on a daily basis.

Yesterday/Today

- Russian forces fired rockets [at the encircled steel works in Ukraine's Mariupol](#) and smoke darkened the sky above the plant, where officials say 200 civilians are still trapped despite evacuations
- Ukraine hoped a first column of evacuees from the ruins of the steel works [would reach the Ukrainian-controlled city of Zaporizhzhia today.](#)
- Russia [has rerouted internet traffic](#) in the occupied Ukrainian region of Kherson through Russian communications infrastructure, the internet service disruption monitor NetBlocks said.
- Russia's foreign ministry accused Israel of supporting neo-Nazis in Ukraine, [further escalating a row](#) which began when Russian Foreign Minister Sergei Lavrov claimed Adolf Hitler had Jewish heritage.

Oil and Gas

- Two senior ministers in Chancellor Olaf Scholz's government on Monday said Germany would be ready to back an immediate European Union ban on Russian oil imports, and that Europe's biggest economy could weather shortages and price hikes. (Reuters)
- To seal the deal, the E.U. may grant the two countries (Hungary and Slovakia) exemptions, the officials said, speaking on the condition of anonymity to discuss private negotiations while details are still being hammered out.
- 4 EU countries buy gas from Russia with Rubles (Bloomberg)

Ukrainian Official Outlines Intentional Ambiguity on Strikes Inside Russia

- A fuel depot in Russia burst into flames, moments after surveillance video captured the bright streaks of rockets fired from low-flying helicopters.
- A fire broke out at a military research institute near Moscow.

“We don’t confirm, and we don’t deny,” said the official, Oleksei Arestovych

“If you decided to attack another country, commit mass murder, crush peaceful people with tanks, and to support murder using warehouses in your region, then sooner or later the time will come to repay that debt,” said Mykhailo Podolyak, a negotiator for President Volodymyr Zelensky.

“So, the disarmament of the killers’ warehouses in Belgorod and Voronezh regions is just a completely wholesome, natural process. Karma is a harsh thing.”

Total casualties

Breakdown	Casualties	Time period	Source
Civilians	9,539–24,539+ killed (est.) ^[note 5]	24 February – 28 April 2022	Ukrainian government
	3,818 killed, 4,000+ wounded (conf.) ^[71]	24 February – 24 April 2022	
	2,899 killed, 3,235 wounded	24 February – 28 April 2022	United Nations ^[72]
Ukrainian forces (ZSU, NGU)	2,500–3,000 killed, 10,000 wounded	24 February – 15 April 2022	Ukrainian government ^[73]
	2,000–4,000 killed	24 February – 9 March 2022	US estimate ^[74]
Russian Armed Forces	1,351 killed, 3,825 wounded	24 February – 25 March 2022	Russian government ^[75]
	1,744 killed ^{[note 6][note 7]}	24 February – 22 April 2022	Meduza news website ^[78]
	1,899 killed ^{[note 8][note 9]}	24 February – 29 April 2022	BBC News Russian ^[80]
Donetsk PR forces	1,523 killed, 6,167 wounded	26 February – 28 April 2022	Donetsk PR ^[81]
Luhansk PR forces	500–600 killed	24 February – 5 April 2022	Russian government ^[82]
Russian and allied forces (RAF, Rosgvardiya, FSB, PMC Wagner, DPR & LPR)	10,000+ killed	24 February – 30 March 2022	US estimate ^[83]
	15,000 killed	24 February – 25 April 2022	UK estimate ^[84]

Civilian Deaths by Area

Area	Fatalities	Time period	Source
Chernihiv Oblast	700+ killed ^[97]	24 February – 29 March 2022	Ukrainian government
Kharkiv Oblast	606 killed ^[98]	24 February – 28 April 2022	
Kramatorsk	57 killed ^[99]	8 April 2022	
Kreminna	200 killed ^[100]	18–19 April 2022	
Kyiv Oblast	1,291 killed ^[101]	24 February – 31 March 2022	
Luhansk Oblast	400 killed ^[102]	24 February – 12 April 2022	
Mariupol	6,000–21,000+ killed ^{[103][104]}	24 February – 12 April 2022	
Mykolaiv Oblast	176 killed ^[105]	24 February – 4 April 2022	
Odesa Oblast	9 killed ^{[106][107]}	24 February – 23 April 2022	
Sumy Oblast	100+ killed ^[108]	24 February – 4 April 2022	
TOTAL	9,539–24,539+ killed	24 February – 28 April 2022	

Russian-controlled territory Areas where Ukraine regained control



Guardian
<https://www.theguardian.com/world/2022/mar/17/russias-war-in-ukraine-complete-guide-in-maps-video-and-pictures>

1. Belgorod

The region's governor claims two explosions took place in the early hours of Monday

2. Iziium

Ukrainian forces likely conducted a rocket artillery strike on a Russian command post on 30 April, killing senior Russian officers










3. Mariupol

Around 100 civilians were evacuated from the Azovstal steel works on Sunday and are on their way to the city of Zaporizhzhia

4. Odesa

Russia claims to have destroyed a hangar at an airfield containing weapons supplied by the US and EU

Russian General Casualties

Name	Rank	Date reported	Status	Notes
Magomed Tushayev	 Major General ^[a]	26 February 2022 ^[4]	Disputed	Commander of the Chechen units of the National Guard of Russia ; killed during an SBU Alpha Group ambush at a convoy around Hostomel , northwest Kyiv . ^[5] His death claim was made by Ukrainian military and the Daily Mail . This is disputed by the Chechen leader Ramzan Kadyrov who posted a video said to show Tushayev alive ^{[6][7]} and Chechnya media which posted video said to be Tushayev denying his death on 16 March 2022. ^[8]
Andrey Sukhovetsky	 Major General	1 March 2022 ^[9]	Confirmed	Deputy commander, 41st Combined Arms Army . Shot by a sniper at Hostomel ^{[10][11]} on 28 February 2022. ^{[12][13]} Had previously been involved in the Russian military intervention in the Syrian civil war , and 2014 Russian annexation of Crimea . ^[14] His death was reported by a retired Russian intelligence officer on Twitter on 1 March ^[9] and by Russian online tabloid Pravda.ru on 3 March 2022. ^[15]
Vitaly Gerasimov	 Major General	8 March 2022 ^[16]	Claimed	Chief of staff of the 41st Combined Arms Army . Allegedly killed outside Kharkiv . Had previously been involved in the Second Chechen War , Russian military intervention in the Syrian civil war , and 2014 Russian annexation of Crimea . ^[14] CNN said it had not independently verified Gerasimov's death and US officials had not confirmed it. ^[17]
Andrei Kolesnikov	 Major General	11 March 2022 ^[18]	Claimed	Commander of the 29th Combined Arms Army . ^[14]
Oleg Mityaev	 Major General	15 March 2022 ^{[14][19]}	Claimed	Commander of the Russian Army's 150th Motorized Rifle Division . Killed somewhere near Mariupol . ^[14]
Andrey Mordvichev	 Lieutenant General ^[b]	18 March 2022 ^[20]	Disputed	Commander of the 8th Guards Combined Arms Army . Killed in a Ukrainian artillery strike on the Chornobayivka airfield in the Kherson Raion according to "preliminary information" from the Ukrainian authorities. ^[21] On 28 March, footage appeared allegedly showing Kadyrov meeting with Mordvichev and other commanders in Mariupol . ^{[22][23]}
Yakov Rezantsev	 Lieutenant General	25 March 2022 ^[citation needed]	Claimed	Commander of the 49th Combined Arms Army . Ukrainian officials claimed he was killed as a result of a Ukrainian strike on the command post of 49th Russian Army in Chornobayivka airfield in the Kherson Raion . ^{[24][25]}
Vladimir Frolov	 Major General	16 April 2022 ^[26]	Confirmed	Deputy commander of the 8th Guards Combined Arms Army of Southern Military District . No information about his death was released prior to the notice of his funeral at Serafimovskoe Cemetery , St. Petersburg. ^{[27][28][29]}
Andrei Simonov	 Major General	29 April 2022	Claimed	Simonov, a senior leader of electronic warfare units, was killed during an artillery strike on a command post of the Russian 2nd Army, in the vicinity of occupied Izium . ^[30]

On 23 April 2022, Ukraine's Ministry of Defence reported a strike on a Russian [49th Combined Arms Army command post](#) in [Kherson Oblast](#), killing two generals and critically injuring one. The names of the two generals have not been released at the time of the report.^{[31][32]}

a. ^ One-star general, equivalent to [brigadier generals](#) in the American and Canadian militaries and [brigadiers](#) in the British military.^[3]

b. ^ Two-star general, equivalent to a [major general](#) in the Canadian, United Kingdom, and United States militaries.

February 2022

Battles/month

Name	Start date	End date	Offensive	Result
Battle of Avdiivka	20 February		Eastern Ukraine offensive	Ongoing
Attack on Snake Island	24 February	25 February	Southern Ukraine offensive	Russian victory ^{[1][2]}
Battle of Antonov Airport	24 February	25 February	Kyiv offensive	Russian victory and subsequent withdrawal ^[3]
Battle of Chernobyl	24 February	24 February	Kyiv offensive	Russian victory and subsequent withdrawal ^[4]
Battle of Kharkiv	24 February		Northeastern Ukraine offensive	Ongoing
Battle of Kherson	24 February	2 March	Southern Ukraine offensive	Russian victory and ongoing occupation ^[5]
Battle of Konotop	24 February	25 February	Northeastern Ukraine offensive	Russian victory and subsequent withdrawal ^{[6][7]}
Battle of Okhtyrka	24 February	26 March	Northeastern Ukraine offensive	Ukrainian victory ^[8]
Battle of Sumy	24 February	4 April	Northeastern Ukraine offensive	Ukrainian victory
Battle of Trostianets	24 February	26 March	Northeastern Ukraine offensive	Ukrainian victory ^[9]
Siege of Chernihiv	24 February	4 April	Northeastern Ukraine offensive	Ukrainian victory
Siege of Mariupol	24 February		Eastern Ukraine offensive	Ongoing
Battle of Ivankiv	25 February	27 February	Kyiv offensive	Russian victory and subsequent withdrawal ^[10]
Battle of Kyiv	25 February	31 March	Kyiv offensive	Ukrainian victory ^[11]
Battle of Hostomel	25 February	1 April	Kyiv offensive	Ukrainian victory ^{[12][a]}
Battle of Melitopol	25 February	1 March	Southern Ukraine offensive	Russian victory and ongoing occupation ^[15]
Battle of Volnovakha	25 February	12 March	Eastern Ukraine offensive	Russian victory ^[16]
Battle of Lebedyn	26 February	4 April	Northeastern Ukraine offensive	Ukrainian victory ^[17]
Battle of Mykolaiv	26 February	8 April	Southern Ukraine offensive	Ukrainian victory
Battle of Vasylkiv	26 February	26 February	Kyiv offensive	Ukrainian victory ^[18]
Battle of Bucha	27 February	31 March	Kyiv offensive	Ukrainian victory ^{[19][b]}
Battle of Irpin	27 February	28 March	Kyiv offensive	Ukrainian victory ^{[22][23]}
Battle of Enerhodar	28 February	4 March	Southern Ukraine offensive	Russian victory ^[24]

Battles/Month

March 2022

Name	Start date	End date	Offensive	Result
Battle of Voznesensk	2 March	13 March	Southern Ukraine offensive	Ukrainian victory ^[25]
Battle of Iziurm	3 March	1 April	Northeastern Ukraine offensive	Russian victory ^{[26][27]}
Battle of Brovary	9 March	1 April	Kyiv offensive	Ukrainian victory ^[28]
Battle of Rubizhne	15 March		Eastern Ukraine offensive	Ongoing
Battle of Slavutych	18 March	27 March	Kyiv offensive	Russian victory and subsequent withdrawal ^{[29][c]}

April 2022

Name	Start date	End date	Offensive	Result
Battle of Donbas	18 April		Eastern Ukraine offensive	Ongoing

Gas and Rubles (Reuters)

- Europe is facing a crunch point in mid-May when EU member states [will have to reject Moscow's demands for fuel payments](#) to be made in rubles – despite being without alternative gas supply, Brussels has warned. (Guardian)
- Russia made a number of international debt payments late Friday April 29 to avoid a default, [Reuters reports](#). It made the payments in dollars and euros, despite a decree from Russian President Vladimir Putin in [early March](#) that Russia and Russian companies would only pay foreign creditors in rubles. Moscow took the stance after [Western sanctions on its foreign reserve currencies](#) in response to Russia's invasion of Ukraine. (Reuters)
- Russia's Finance Ministry said it paid \$564.8 million on a 2022 Eurobond and \$84.4 million on a 2042 bond in dollars, according to Reuters.
- The Russian government has borrowed about \$49 billion in dollar- and euro-denominated bonds.

Young Russian POW in Ukraine

The discussion between the young Russian and his father is very reminiscent of discussions between myself (NRM) and my father.

<https://youtu.be/rjhfQrtuJ-A>

The war in Ukraine is endangering some ancient records of civilization (NY Times)

- <https://www.nytimes.com/2022/04/30/world/europe/ukraine-scythia-gold-museum-russia.html?smid=url-copy>

Probable theft of a collection of Scythian artifacts from a museum in Melitopol in Russian occupied Southern Ukraine. Russians view Scythians as ancestors and in all probability will treat the items with due care.

- Some of the very earliest cities were found in what is now Ukraine. For example, Talianki near a village of the same name in Cherkasy Oblast, dates back to 3800 BC and may have had a population of as many as 15,000 people. This city and other ancient Ukrainian cities are discussed in Chapter 8 of David Graeber's recent book, *The Dawn of Everything*.
- [https://en.wikipedia.org/wiki/Talianki_\(archaeological_site\)](https://en.wikipedia.org/wiki/Talianki_(archaeological_site))
- Graeber and his coauthor David Wengrow (who sadly died just as their book was coming off the presses) believe that early cities like Talianki (and many other early cities including Poverty Point just South of us in Northeastern Louisiana) had no central government!
- The Scythians come much later. They were the contemporaries of Athenian Greeks. In fact, Athens depended on the grain grown on the North shore of the Black Sea for food! The Russians are trying to seize this area now.

2) Investigations

- 2 minutes
- Send Slides or bring them
- Ongoing

3) Military Tactics and Strategy. Use of Information and Cyber warfare.

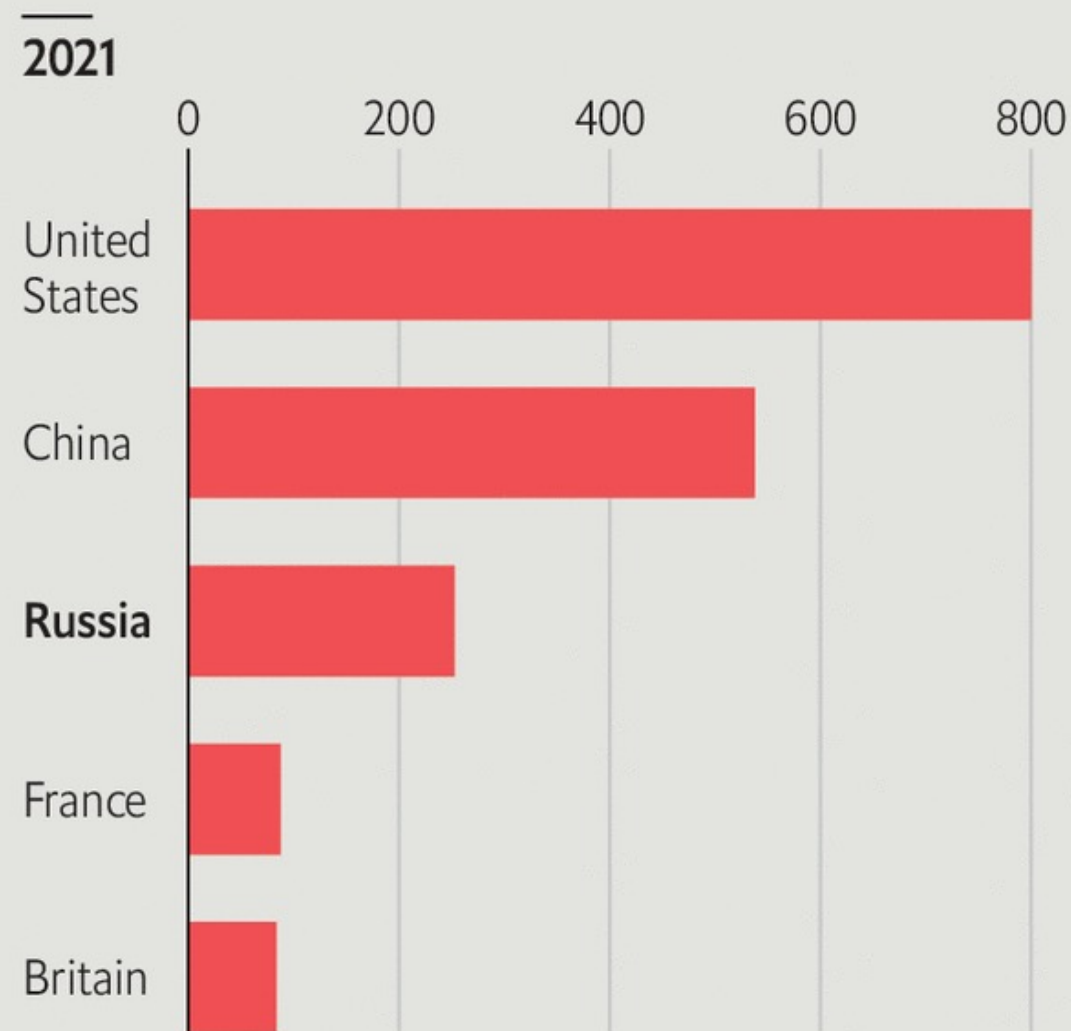
1. Introduction (With a quote by Leon Trotsky)
2. Russia
3. Ukraine
4. Nato.
5. The Cyberwar

3.1) Introduction

“The army is a copy of society and suffers from all its diseases, usually at a higher temperature – ” (by Leon Trotsky – Yet another Ukrainian) - Economist

- Russia’s defense budget, of over \$250bn at purchasing power, is 3 times that of Britain or France, but much of it is squandered or stolen.
- Units have tortured, raped and murdered only to be honored by the Kremlin.
- Wallowing in corruption, unable to foster initiative or learn from their mistakes, Russia’s frustrated generals abandoned advanced military doctrine and fell back on flattening cities and terrorizing civilians.
- Russia may be vast, but it is a medium-sized polity that still yearns to be a superpower. Its population ranks between Bangladesh and Mexico, its economy between Brazil and South Korea and its share of global exports between Taiwan and Switzerland. (Economist briefing, May 1st)

Military spending, \$bn, adjusted for purchasing-power parity



Sources: "The Real Military Balance: International Comparisons of Defence Spending", by Peter E. Robertson, 2021; SIPRI; *The Economist*

- The less that Russia can project military power, the less it will be able to disrupt the rest of the world.
- However, Mr Putin is willing to take risks that to many others—including many Russians—make no sense
- A further decline in Russian power could lead to still more reckless aggression.
- Ultimately, weakness may lead Russia to the last arena where it is still indisputably a superpower: chemical, biological and nuclear weapons.
- NATO needs to update its tripwire defense. We cannot count on letting Russia start a minor war in the knowledge that Russia cannot win a major war with the West
- The best way to be safe from Mr Putin and his rotten army is to deter him from fighting at all.

Inexperience is part of the problem.

- As the historian Michael Howard once noted, the expertise a military officer hones “is almost unique in that he may only have to exercise it once in a lifetime, if indeed that often. It is as if a surgeon had to practise throughout his life on dummies for one real operation.”

America has been wielding the scalpel nearly continuously since the end of the cold war, in Iraq, the Balkans, Afghanistan, Libya, Syria and so on. Russia has not fought a war of this magnitude against an organised army since seizing Manchuria from Japan in 1945.

(Economist)

3.2) Russian military doctrine

Russian military doctrine is defensive in nature, heavily relying on artillery and cannon fire to destroy an enemy. These tactics do not necessarily work well for offensive operations, especially when going against a modern army that has its own artillery, drones, and counter-artillery systems. Moreover, as these operations push into cities, these tactics will likely only result in a large amount of damage to civilian infrastructure. While the Russian military has shown little concern on firing on civilian targets, it does not provide a military benefit. Rather, it makes their artillery vulnerable to counter-artillery attacks, while creating significant negative publicity for the Russian military.

3.2) Russian Equipment

- Syed Ata Hasnain, a retired Indian general who once commanded India's forces in Kashmir, notes "Russian incompetence in the field", rooted in "hubris and reluctance to follow time-tested military basics".

3.3) Ukraine defensive posture

- The Ukrainians forces focused on ensuring that the Russians invasion force could not achieve the momentum necessary to sweep through the country. They did this by targeting the lead elements of the Russian assault while also destroying bridges and other infrastructure. Additionally, Ukrainian anti-tank units used javelins and other anti-tank weapons to destroy tanks, further disrupting the assault. By disallowing the Russians from establishing momentum, the Ukrainians were able to establish a strong defensive posture that held the Russians in check.
- The Ukrainian military also targeted the Russian command nodes, which put the Russian forces into somewhat of a disarray.
- Another common target for the Ukrainians were the resupply convoys.

3.4) NATO

- Nato. NATO is based on a tripwire defense strategy. If an aggressor attacks any member of NATO the response would be immediate and massive, however, some portion of the NATO block would quite possibly be overrun or severely damaged.

3.5) The Cyberwar - Russian DDoS attacks

- Russia launched a series of distributed denial of service (DDoS) attacks against Ukrainian websites in early February.
- Wiper malware, dubbed WhisperGate by Microsoft, was [placed](#) on Ukrainian systems on January 13, 2022. The wiper was designed to look like ransomware and offered victims what appeared to be a way to decrypt their data for a fee, although in reality the malware wiped the system.
- Cybersecurity companies [detected](#) a new set of wiper attacks on February 23, 2022, which were dubbed HermeticWiper (alternatively known as FoxBlade). Several other pieces of malware were [deployed](#) alongside HermeticWiper, including a worm that was used to spread the wiper. The wiper spread beyond the borders of Ukraine and may have affected some systems in Baltic countries.

Cyber Attacks at Invasion Time

- Russia [launched](#) a wiper, dubbed IsaacWiper, against Ukrainian government systems, coinciding with the Russian invasion of Ukraine on February 24, 2022.
- Ukraine government officials suspect [Belarusian](#) threat actor UNC1151 of conducting a cyberattack targeting over 70 government [websites](#) on January 14. Hackers defaced the websites, posting threatening messages including “be afraid and expect the worst,” in advance of Russian troops crossing the border into Ukraine.
- On February 25, Ukraine’s Computer Emergency Response Team [accused](#) Belarusian state-sponsored hacking group UNC1151 of attempting to hack the email accounts of its [military personnel](#) in a mass phishing attack.

Attacks on Ukrainian and International Communications

- Russian APT [Gamaredon](#) was [found](#) spreading the LoadEdge backdoor among Ukrainian organizations on March 20.
- Satellite internet provider Viasat was [hit](#) by a cyberattack which caused wide-ranging [communications outages](#) throughout Ukraine on February 24, the same day Russian forces invaded the country.
- Ukraine CERT-UA [released](#) an alert about a new wiper variant, dubbed DoubleZero, being used to target Ukrainian entities.

Attacks on Russia – “Anonymous”

- The group Anonymous, a decentralized group of hacktivists, “[declared war](#)” against the Russian state on March 1, and the group claimed to have disabled sites run by Russian state-owned media.
- On March 10, Anonymous [announced](#) it had breached the systems of Roskomnadzor, the Russian agency responsible for monitoring and censoring media. The group leaked over 360,000 files, including guidance on how to refer to the invasion of Ukraine.
- Ukrainian efforts in cyberspace have made use of volunteer groups coordinated through social media and Telegram channels. The [IT Army of Ukraine](#) is perhaps one of the largest efforts by the Ukrainian government to coordinate the actions of hacktivists.

The IT Army (Ukrainian) and Belarusian Cyber Partisans

- The IT Army targeted the websites of several Russian [banks](#), the Russian [power grid and railway system](#), and have launched widespread [DDoS attacks](#) against other targets of strategic importance.
- Hackers [targeted](#) the Russian state-owned aerospace and defense conglomerate Rostec with a DDoS attack on its website.
- The Belarusian Cyber Partisans, a group who launched [cyberattacks](#) in January on Belarusian train systems in protest of Russian troop deployments in the country, appears to have continued its campaign against Belarusian railways in February.

RURansom wiper

- The [emergence](#) of the RURansom wiper on March 1, 2022, represents one of the first uses of a wiper by pro-Ukrainian hacktivists, and may portend a new phase in the ongoing cyber campaign against Russia. Despite the name, RURansom functions as a wiper, and offers victims no opportunity to pay to have their systems decrypted.

NATO/US Cyberwar Support

- The US has sent much aid to Ukraine based on its experiences defending itself from Russian attacks in the past year or two – particularly the wiper attacks.
- The “eyes and ears” of the respective commanders in cyberspace, CyOC aims at enhancing situational awareness in cyberspace and helping integrate cyber into NATO’s planning and operations at all levels.
- <https://www.gmfus.org/news/natos-role-global-cyber-security>

4) Discussion Time.

5) Next week

1. Overview of week (E.g. see New York Times, Bloomberg News, BBC, Wikipedia,) Discussion of the whole.
2. Updates from contributory investigations (Slide 4.) Come prepared to make a 2 minute update on your investigation.
3. Summary of Weekly Theme. Led by Roy and Norm.
November through July significant events
4. Discussion of the whole.