



KING ETHELRED'S COLLEGE OF ENGINEERING

Established in 978 (ish)

DEPARTMENT OF AERONAUTICAL ENGINEERING
AND APPLIED FLUID MECHANICS

WHICH WAY THE DRAUGHT BLOWS: A FLUID-MECHANICAL SURVEY OF NATO'S EASTERN DOOR

Being an inquiry into whether an alliance expanded or a continent leant, settled by reading the instruments rather than the press releases



A departmental research thesis prepared under the College Fellowship Ordinance
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*Fortitudine.
Ingenio.
Tea and biscuits.*



UPPER PIDDLINGTON - SEPTEMBER 2026

ABSTRACT

It is said in Moscow that NATO provoked Russia by expanding eastward. It is said in Kyiv, and on a widely circulated map, that nobody expanded anything: the former possessions of Russia turned westward and rushed to join because they wanted protection from Russia.[1] The two accounts describe the same borders, accession dates and colours, and differ chiefly on which side of the door the pressure stood. The Department recognises the problem. It is asked, several times a winter, why a corridor is cold, and has never yet found that the answer was that the outside pushed.

Air moves from high pressure to low. Nobody has to push a draught through a doorway; the door is opened and the pressure gradient does the rest. This paper therefore treats 'NATO expanded' and 'countries moved' as descriptions of one flow and asks the question fluid mechanics recognises: where was the pressure? It reads the timing of applications, invitations and accessions; the Finnish barometer of public opinion; the mass actually moved; and the log showing a door open in both directions. In 2000 Russia's President publicly said he did not rule out coming through it.

The instruments do not carry equal evidential weight. Finland and Sweden provide a clear before-and-after reading; the earlier accession waves followed longer application and invitation processes and cannot be assigned to whichever crisis happened nearest the final ceremony. The alliance's 1997 undertaking concerned additional permanent stationing of substantial combat forces, not the absence of every allied boot; later rotational battlegroups must be described accordingly. The paper takes no view on whether anyone should join anything. It reports which way the leaves went, and declines to nail them to the floor for a tidier conclusion.

Research status. This is a fictional King Ethelred's College thesis. Treaty articles, accession dates, summit communiqués, opinion polls, troop figures and quotations are real and referenced. The instruments, the Fellow and the Department's corridor are not. The College takes no position on the policy of any state or alliance; it takes a position on draughts, which is that the gauge must be read before the conclusion is written.

Keywords: NATO; enlargement; Article 10; Article 5; pressure gradient; draught; Finland; Sweden; Founding Act; 'not one inch'; Bucharest 2008; flow visualisation.

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The Department of Applied Geopolitics, Crown Works and Strategic Miscalculation reviewed Chapters 3 to 7, supplied the dominoes for Figure 3.1 and asked that it be recorded that it has been saying this since 1956 and would like a footnote. It has been given a reference. The Department of Defensive Engineering supplied the troop figures in Chapter 5 and the Major, who read them, said that ten thousand men across eight countries would not have troubled a decent battalion in his day, and asked whether the other side's figure was a misprint. It is not.

The Department of Strategic Geography confirmed that Finland has a land border with Russia of 1,340 kilometres and that this is the sort of fact which does not need a footnote so much as a coat.

The Bursar has asked whether the College's own draught, which enters by the Porters' Lodge and leaves by the Senior Common Room chimney, could be reclassified as a strategic asset. The Department has explained that it is a stack effect. He has asked whether a stack effect can be invoiced.

Mrs Enid Partridge of the Senior Common Room observed that in her experience people move to the warm side of the room and it is no use blaming the fire. The Department has adopted this as its abstract and would have done so sooner had it been consulted.

Gerald was asked for the Department's copy of the North Atlantic Treaty. He has brought the Treaty of Union, which he had out anyway, and has been thanked and sent back.

Statement on impartiality. The College has no view on whether any state should join, leave or remain outside any alliance. The humour in this paper is directed at press offices, communiqués, maps with legends, and the phrase 'not one inch', and at nobody who has had to leave a house in a hurry.

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NOMENCLATURE

Symbol	Meaning
the door	Article 10 of the North Atlantic Treaty, 1949: any other European state in a position to further its principles may be invited to accede, by unanimous agreement
the latch	Article 5: an armed attack on one is an attack on all; invoked once, in 2001, by NATO in response to the attacks on the United States
Δp	pressure difference across the door; here, the difference in perceived security between the two sides of a frontier
draught	the flow that results; it goes from high pressure to low, whoever holds the door
smoke pencil	a small instrument that makes a draught visible; here, the accession dates
barometer	an instrument that reads pressure directly; here, an opinion poll, read as a pressure rather than as a verdict
mass flow	what actually moves through the opening, in kilograms per second or, here, in soldiers
draught excluder	the NATO-Russia Founding Act, 1997: no nuclear weapons in new members and collective defence by reinforcement rather than additional permanent stationing of substantial combat forces
eFP	enhanced Forward Presence: the four multinational battlegroups placed in Estonia, Latvia, Lithuania and Poland from 2017, eight from 2022
not one inch	a remark by the US Secretary of State to Mr Gorbachev on 9 February 1990, about Germany; not a treaty
Bucharest	the NATO summit of April 2008 at which Ukraine and Georgia were told they would become members, without a date
stack effect	the draught produced when warm air rises in a tall enclosure and draws cold air in at the bottom; the College, in winter

1 INTRODUCTION

1.1 The claim and the counter-claim

Russia's President has said that NATO promised in 1990 not to move eastward, did so, and provoked what followed.[2] The September 2026 counter-claim arrived with a map: NATO did not advance; states once governed from Moscow turned west and asked to enter.[1] Figure 1.1 shows the sixteen 1998 members in blue, sixteen later entrants in brown, and Ukraine and Georgia in green for the 2008 promise. The Cartographic Sub-Committee confirms that all three colours remain within the lines.

Both accounts agree on the dates, borders and colours, but disagree on the direction of force. The College once tried to settle such questions by letting the occupants speak more loudly; no usable measurement resulted. An engineer reads the instruments instead, particularly when a committee insists the window is somebody else's responsibility.



Figure 1.1 - The map that prompted the inquiry: NATO members in 1998, later members, and the 2008 promise to Ukraine and Georgia.[1] The colours are evidence; the arrows remain under review.

1.2 The fluid-mechanical framing

Air moves from high pressure to low. It has not read the communiqué and cannot usefully be argued with. A door is a boundary condition, not the cause of a draught; its holder may issue a statement, but cannot choose the flow. An open-door alliance can therefore be tested by finding where the pressure stood.

1.3 Scope

This paper does not decide who should join, admit or object. Those questions belong to the occupants and, eventually, the Foreign Office, which has heavier paper. It asks only which way the pressure gradient ran. Four instruments test the claim; no fresh arrows have been commissioned.

1.4 Method

Find the door, latch and draught excluder. Light the smoke pencil. Read the barometer, weigh what moved, and check who opened the door and who asked to enter. Report before tea. Do not lean on the door or ask Gerald to hold it; he confuses instructions with invitations.

College hypothesis. If NATO pushed east, inducement or forces should precede applications. If insecurity pressed from the east, opinion and applications should move after events there, with accession following the administrative pipework. The Department will not mistake the completion certificate for the date the works were ordered.

2 THE APPARATUS

2.1 The door, the latch and the draught excluder

The door is Article 10 of the Washington Treaty of 1949: the parties may, by unanimous agreement, invite another European state able to further the Treaty's principles and contribute to North Atlantic security.[3] Sixteen states entered in seven waves after 1999, each on the initiative of the state outside. Article 10 contains no piston, conveyor belt or provision for admission while unconscious. The Legal Office checked, chiefly because the Bursar had priced a conveyor belt.

The latch is Article 5, the undertaking that an armed attack on one member is an attack on all.[3] NATO invoked it once, on 12 September 2001, in response to the attacks on the United States.[4] A latch tried once from the inside is not the same as one forced from outside. The Porter understood this immediately and has been placed ahead of several commentators.

The draught excluder is the NATO-Russia Founding Act of May 1997. NATO stated that it had 'no intention, no plan and no reason' to deploy nuclear weapons on new members' territory and, in the then security environment, would defend them by reinforcement rather than additional permanent stationing of substantial combat forces.[5] 'Additional', 'permanent' and 'substantial' are load-bearing words. The Bursar objected to the last as potentially chargeable; the treaty retained it.



Figure 2.1 - A line of trees along a border fence, every one leaning the same way, while a Fellow with a clipboard records the direction. The wind is not in the picture; it does not need to be.

2.2 The instruments

Four instruments are used. The **timing gauge** keeps application, invitation and accession separate from Russian military action, despite the Ceremonial Office's preference for one photogenic date. The **barometer** is public opinion in a state that declined to join for seventy-five years. The **mass-flow meter** counts soldiers actually moved and refuses to compare unlike loads without a note. The **log** records who opened the door, who was promised entry and what was written down. The smoke pencil is Figure 3.1. Gerald returned it from Calibration with the kettle.

3 THE TIMING GAUGE

3.1 Who joined, and when

Sixteen states joined after the Warsaw Pact dissolved in July 1991, in seven waves. Table 3.1 separates application or invitation from accession: the day a flag rises is not necessarily the day a decision was caused. The Ceremonial Office prefers the flag date because it photographs better. Causation has declined the convenience. The stopwatch apologises for having impersonated a diary.

Wave	States	Accession	Decision sequence and relevant context
First	Poland; Czech Republic; Hungary	12 Mar 1999	Invited July 1997; applications and negotiations preceded the first accession wave.
Second	Estonia; Latvia; Lithuania; Slovakia; Slovenia; Romania; Bulgaria	29 Mar 2004	Invited November 2002; Baltic security concerns followed Soviet occupation and Russian withdrawal by 1994.
Third	Albania; Croatia	1 Apr 2009	Invited April 2008, before the August 2008 Georgia war.
Fourth	Montenegro	5 Jun 2017	Applied 2008; invited December 2015. The alleged October 2016 plot came later; all defendants were finally acquitted.
Fifth	North Macedonia	27 Mar 2020	Application delayed by the name dispute with Greece; invited July 2018 after the Prespa agreement.
Sixth / seventh	Finland; Sweden	2023; 2024	Applied 18 May 2022, after Russia's full-scale invasion of Ukraine; ratification delays differed.

Table 3.1 - Accessions since 1991, with the relevant decision sequence.[6] The table records chronology; it does not infer causation merely because one event preceded another.

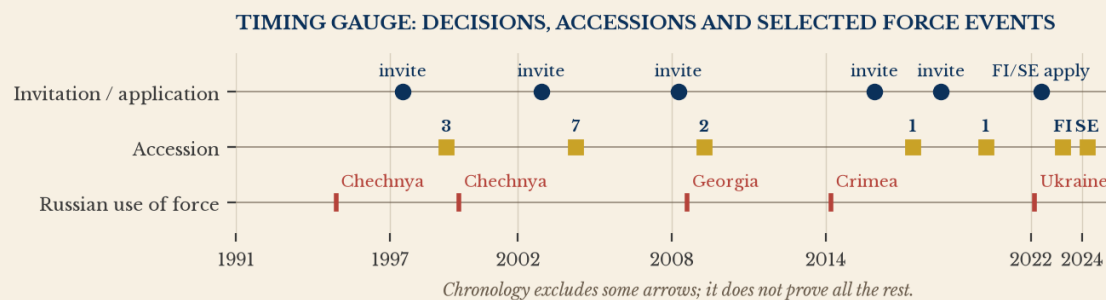


Figure 3.1 - The timing gauge: applications or invitations, accessions and selected Russian uses of force shown separately. Sequence can exclude a causal claim; it does not manufacture one.

3.2 Reading the gauge

A push from the west would be supported if inducement or forces consistently preceded applications. The record is less obliging than the first draft, which had arranged events with the confidence of a seating plan. Albania and Croatia were invited in April 2008, four months before the Georgia war; their 2009 accession cannot be caused by a later event merely because the bunting went up later. Montenegro applied in 2008 and was invited in December 2015; the alleged 2016 Podgorica plot came afterwards and, after retrial and appeal, all defendants were finally acquitted.[6] The arrow has therefore been returned to Stores.

The strongest reading is Finland and Sweden: their May 2022 applications followed Russia's full-scale invasion of Ukraine by less than three months. Earlier waves fit a broader search for security, but the gauge cannot decide every motive. North Macedonia joined after the Prespa settlement ended its name dispute with Greece. Finland spoils ambiguity, North Macedonia spoils symmetry, and neither improves if the needle is painted before High Table.

Departmental observation. The gauge is useful chiefly when its marks are labelled correctly. Application, invitation and accession are three marks, not one. Where invitation predates the proposed cause, the arrow must be erased, however neatly it matched the wallpaper.

4 THE FINNISH BAROMETER

4.1 Seventy-five years at a quarter

Finland shares a 1,340-kilometre border with Russia, fought it twice between 1939 and 1944, and then maintained a Cold War neutrality so distinctive that diplomacy borrowed its name. It joined the European Union in 1995 but not NATO. Support for NATO membership remained between roughly a fifth and a third for years; a Taloustutkimus poll for MTV put it at 30 per cent in January 2022.[7] The needle had moved less in a generation than the Senior Common Room does when somebody opens the sherry.

4.2 Ten weeks

On 24 February 2022 Russia invaded Ukraine. A Yle poll on 28 February found 53 per cent in favour of a NATO application; 14 March found 62; 9 May found 76.[7] On 17 May the Finnish Parliament voted 188 to 8 to apply. Finland and Sweden lodged applications on 18 May, and Finland became NATO's thirty-first member on 4 April 2023.[6] The needle moved from roughly a quarter to three-quarters in ten weeks. No invitation or campaign explains it: neither could have cleared the College's stationery cupboard in that time. The pressure changed on the east side; the barometer, having no press secretary, simply moved.

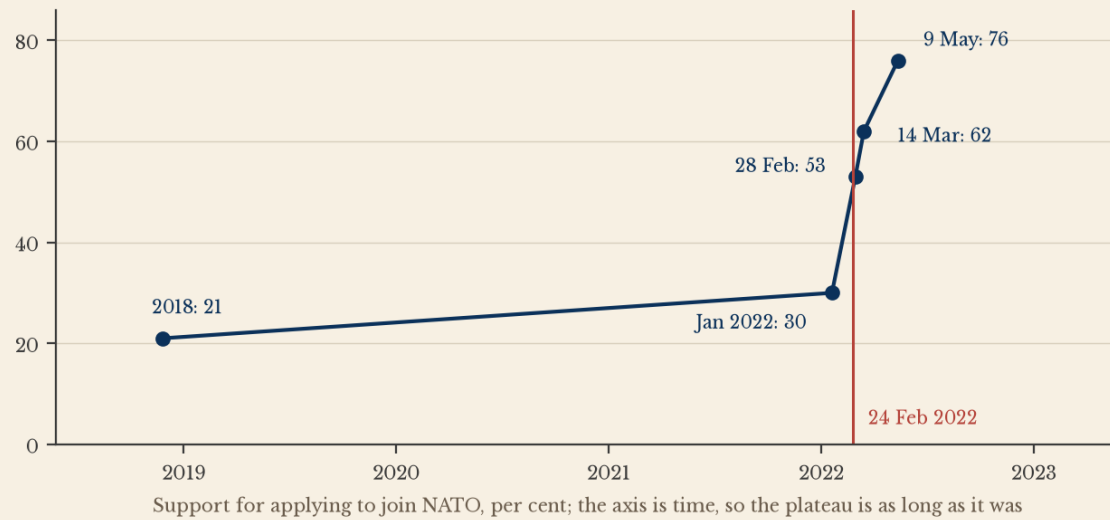


Figure 4.1 - Finnish support for NATO membership in selected polls, on a time axis, with the invasion marked.[7] The Bursar queried the steep line; Calibration returned it unchanged.



Figure 4.2 - A Fellow in a heavy coat reads a large brass barometer on a Helsinki street in February: snow on the instrument, the needle hard over.

4.3 The Swedish confirmation

Sweden had not fought a war since 1814 and had made not fighting one a national institution. It applied on the same day as Finland and joined on 7 March 2024; the delay was the work of Ankara and Budapest rather than Stockholm.[6] The Department treats Sweden as a second barometer in the same room. When instruments of different make and age move together in the same fortnight, one may suspect the weather. The Bursar suspected duplication and was over-ruled.

Departmental finding. An alliance does not persuade a country of five and a half million people to abandon seventy-five years of policy in ten weeks. Nothing does, except the thing that did.

5 THE MASS-FLOW METER

5.1 What the west side moved

A push has mass behind it. The Department therefore weighed what the alliance actually moved into newer members, and when. NATO's 1997 formula was defence by reinforcement rather than additional permanent stationing of substantial combat forces.[5] After Crimea, the 2016 Warsaw summit agreed enhanced Forward Presence: from 2017 four multinational battlegroups, about 4,500 troops altogether, rotated through Estonia, Latvia, Lithuania and Poland.[8] Four more followed after February 2022, making about 10,000 in eight countries.[8] These are real deployments, not 'nothing'; nor are they the permanent substantial force the wording excludes. The scales have declined both slogans.

5.2 What the east side moved

On the other side, in winter 2021-22, Russia assembled around Ukraine a force the United States estimated at 150,000 to 190,000 before it crossed the border.[9] The comma was checked twice; the number remained large. Figure 5.1 uses one linear scale, but the forces are not like-for-like: rotating battlegroups across eight allied states face an invasion force concentrated around one non-member. Statistics offered a logarithmic scale. The Department preferred the difference visible.

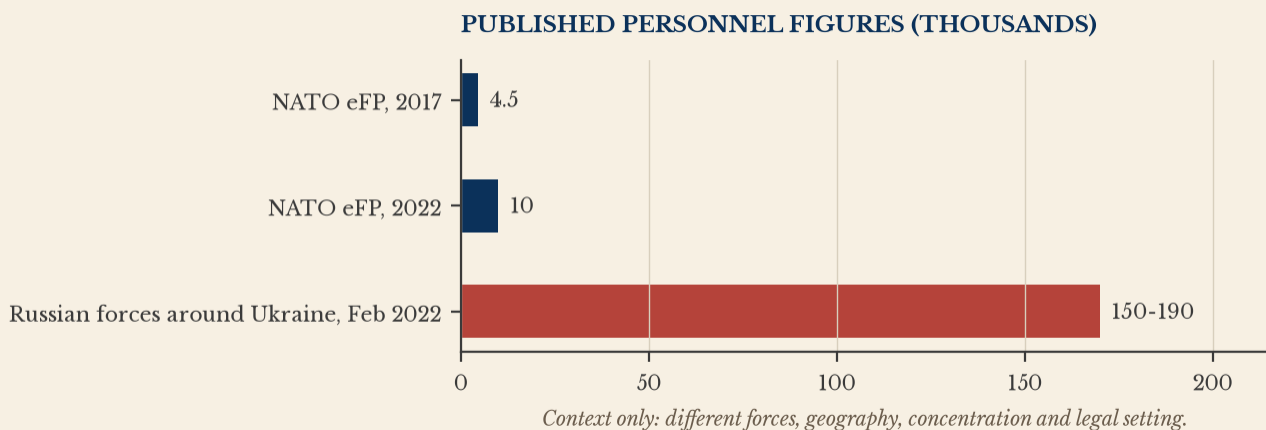


Figure 5.1 - Published personnel figures on one linear scale. Different forces, places and purposes are shown; the ruler is common, the circumstances are not.

Flow	When	How much	Source
NATO approach in members admitted since 1999	1999 to 2016	Reinforcement model; no additional permanent stationing of substantial combat forces	[5]
Enhanced Forward Presence, four battlegroups	From 2017	About 4,500 troops, rotating, in four states	[8]
Enhanced Forward Presence, eight battlegroups	From 2022	About 10,000 troops in eight states	[8]
Russian forces around Ukraine	January to February 2022	150,000 to 190,000, US estimate	[9]
Nuclear weapons in new members	1999 to date	None	[5]

Table 5.1 - What was deployed, where and when. The wording of the Founding Act is retained; rotational presence and permanent stationing are not synonyms.

Departmental observation. Ten thousand soldiers across eight countries is a limited forward presence, but not nothing. The Major has withdrawn 'doorstop' pending a specification for the door. The Department has recorded this rare outbreak of dimensional discipline.

6 THE LOG OF THE DOOR: 'NOT ONE INCH'

6.1 The remark

On 9 February 1990 US Secretary of State James Baker, discussing German unification with Mr Gorbachev, asked whether he preferred a united Germany outside NATO or inside with a guarantee that NATO jurisdiction would not shift 'one inch eastward' from its present position.[10] The remark concerned Germany. The Final Settlement treaty recorded the bargain: no foreign troops or nuclear weapons in the former East Germany.[10] It said nothing about Poland, the Baltics or later enlargement. Mr Gorbachev said in 2014 that NATO expansion was not discussed in those years.[11] The archive has inconsiderately retained both remark and treaty, preventing their convenient merger into a slogan.

6.2 The door stood open both ways

The log then shows a decade in which the door opened both ways, to the distress of those responsible for signage. Russia joined the Partnership for Peace in June 1994; the 1997 Founding Act created a Permanent Joint Council. In March 2000 Mr Putin, asked by David Frost whether Russia might join NATO, replied: 'Why not? I do not rule out such a possibility.'[12] The NATO-Russia Council followed in 2002. This was neither an offer nor an application, but it shows membership was not then described by Mr Putin as conceptually impossible. Reception has checked the post tray: no Russian application was found.

Date	Entry in the log	Direction
9 Feb 1990	Baker's 'not one inch' remark to Gorbachev, about Germany	A conversation
12 Sep 1990	Final Settlement treaty: no foreign forces in former East Germany	Written down
1 Jul 1991	Warsaw Pact dissolved by its members	East to west, by the members
22 Jun 1994	Russia joins the Partnership for Peace	Russia, inward
27 May 1997	NATO-Russia Founding Act; Permanent Joint Council; the draught excluder	Both ways
12 Mar 1999	First wave admitted; Kosovo campaign begins twelve days later	East to west
5 Mar 2000	Putin to Frost: Russia joining NATO? 'Why not?'	Russia, inward
28 May 2002	NATO-Russia Council established at Rome	Both ways
3 Apr 2008	Bucharest: Ukraine and Georgia "will become members"; no date	Door propped
Aug 2008	War in Georgia	The other way
1 Apr 2014	NATO suspends practical cooperation with Russia after Crimea	Door shut

Table 6.1 - The log of the door, 1990 to 2014.[3,5,10-13] The Department notes that the door was shut from the west side in 2014, and only after something had come through it the other way.

Departmental observation. 'Not one inch' was a remark in a discussion about Germany. The Final Settlement treaty specified the military arrangements for the former East Germany; it did not create a general bar on later enlargement. The Department has a similar note about the Senior Common Room window, and has learned not to build on it.

7 THE DOOR AJAR: BUCHAREST, 2008

The green on the map is Ukraine and Georgia. At Bucharest in April 2008 the alliance declined to give either a Membership Action Plan but declared that 'these countries will become members of NATO', without a date.[14] It is the configuration produced when a committee cannot agree whether to open a door: neither shut nor open, with a minute circulated promptly. War followed four months later, when Russian forces entered Georgia beyond South Ossetia. Ukraine adopted non-alignment in 2010, repealed it after Crimea in December 2014, and placed the aspiration to join in its constitution in 2019.[15] The sequence matters. It does not turn the promise into a timetable, or the prop into an approved structural member.



Figure 7.1 - A heavy door stands a hand's breadth open in a gale; the prop bends, papers stream through, and a Fellow measures the gap rather than closing it.

Departmental finding. A promise without a date is a prop without a rating. The Department does not say whether the door should have been opened or shut in 2008. It says that leaving it ajar in that wind was unstable, and that instability is an observation rather than a licence to simplify what followed.

8 THE HYPOTHESIS, TESTED

The Department tests the Russian claim as a hypothesis, the politest thing the College does to anyone and normally done in writing. Hypothesis A: the alliance pushed east and Russia reacted. Hypothesis B: states moved west after Russian action and the alliance admitted them. Each predicts an instrument reading. Table 8.1 gives the results; the instruments were not permitted to confer.

Instrument	If west pushed	If east pressed	Revised reading
Timing gauge	Inducement before applications	Applications after insecurity	Mixed overall; clear for Finland/Sweden in 2022; some earlier causal arrows excluded
Barometer	Opinion moves before force	Opinion moves after force	Finnish support 30 to 76 per cent after invasion; strong directional evidence
Mass-flow meter	Early substantial allied deployment	Limited, later allied deployment	Rotational NATO presence versus concentrated Russian invasion force; not like-for-like
Door log	General exclusion promise	Conditional cooperation and later rupture	No general treaty ban; cooperation 1994-2014; Putin did not rule out membership in 2000
Door ajar	Dated accession path	Ambiguous promise under pressure	Bucharest promised membership without timetable; unstable, not a complete cause

Table 8.1 - The hypothesis test. The barometer and the 2022 applications give a strong directional reading; the earlier timing record is mixed and must be labelled accordingly.

The revised test is less theatrical and more useful, a result received coolly by the Drama Society. Finnish and Swedish opinion and applications changed immediately after the 2022 invasion. The mass-flow record shows limited rotational NATO deployments and a much larger Russian concentration around Ukraine, though the forces are not like-for-like. The log contains no universal treaty promise never to enlarge and records NATO-Russia cooperation before 2014. Earlier accessions cannot be made to follow the nearest Russian action by choosing only the ceremony date. Hypothesis A is not established generally; Hypothesis B is strong in the Nordic 2022 case and consistent with, but not proved for, every earlier one. The vote was unanimous because instruments do not vote.

Departmental observation. A neat needle is pleasing. An honest instrument is preferable. The College has therefore accepted one mixed reading and retained the coat.

9 CONCLUSIONS

- The dispute concerns agency and causation, not merely the colours on a map. Dates for decisions matter more than accession ceremonies, however much better the latter look in the College magazine.
- The timing gauge is mixed. Albania and Croatia were invited before the 2008 Georgia war; Montenegro before the alleged 2016 plot. A later event cannot cause an earlier invitation, even with excellent arrows.
- The Finnish barometer moved from roughly a quarter to three-quarters after 24 February 2022; Finland and Sweden applied in May. This is the clearest reading and has resisted adjustment by committee.
- The Founding Act concerned additional permanent stationing of substantial combat forces. Later rotational battlegroups must not be described as both present and nothing; language cannot rotate them away.
- The force figures provide context, not a like-for-like comparison: NATO battlegroups across eight members and Russian forces around one non-member are different loads. The scales objected.
- The log contains no general treaty promise never to enlarge. It records cooperation with Russia and Putin declining to rule out membership in 2000; Reception records no Russian application.
- Bucharest left Ukraine and Georgia with a promise and no date. That was unstable, but does not explain everything that followed. The prop remains condemned.
- The evidence weighs against a simple tale of one-way Western compulsion and against making every eastern action cause the next accession. The compass has no party membership.

Principal finding. Countries are not air parcels, and an alliance is not literally a barn door. The analogy is useful when it disciplines the sequence of evidence and dangerous when it replaces it. The strongest measured pressure change is Finland in 2022; the earlier record requires a more modest pencil.

Secondary finding. The College's own draught enters at the Porters' Lodge and leaves by the Senior Common Room chimney, and has done so since 978 (ish). Nobody has suggested the chimney provoked it. Estates nevertheless asks that this not be treated as a precedent.

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Sources checked 14 September 2026. King Ethelred's College is fictional; the documents and polls are not.

APPENDIX A - SAMPLE CALCULATIONS

A.1 The Finnish pressure ratio

Baseline: about 30 per cent in a January 2022 Taloustutkimus poll for MTV. Yle then recorded 53 per cent on 28 February, 62 on 14 March and 76 on 9 May.[7] That is a rise of about 46 points from January to May, or 23 points in ten weeks from the first post-invasion Yle reading. The former five-points-per-week sum has been retired; it was using the kettle as a stopwatch.

A.2 Accession lag

Georgia war, August 2008, to Albania and Croatia accession, April 2009: eight months. Their invitation, however, was issued at Bucharest in April 2008, four months before the war. The interval therefore cannot support the claim that the war caused the decision to invite them. Finland and Sweden applied in May 2022, less than three months after the full-scale invasion of Ukraine. The Department has erased one arrow and retained the other.

A.3 The mass-flow ratio

Ten thousand personnel in eight NATO battlegroups against a US estimate of 150,000 to 190,000 Russian personnel around Ukraine gives a numerical ratio of fifteen to nineteen to one. It is illustrative only: purpose, concentration, geography and legal setting differ. The denominator has been denied promotion to a conclusion.

A.4 The College stack effect

Porters' Lodge door, ground floor; Senior Common Room chimney, top floor; height difference about 11 metres; internal temperature in winter, according to Estates, 'adequate'; external, according to everyone else, not. The resulting draught has a direction, a magnitude and a thousand-year history, and has never once been attributed to the chimney's ambitions.

APPENDIX B - THE BURSAR'S CARD

If asked	Answer
Did NATO expand eastward?	It admitted sixteen states after 1991 under Article 10, each by unanimous invitation and accession. 'Expanded' describes geography; it does not by itself settle agency.
Did NATO provoke Russia?	The evidence does not support a single mechanical answer. Some proposed causal arrows fail the dates; Finland and Sweden clearly applied after the 2022 invasion.
What about 'not one inch'?	A 1990 remark in talks about Germany. The later treaty states the agreed limits for the former East Germany; it is not a general no-enlargement clause.
Was Russia offered the door?	Russia joined Partnership for Peace in 1994 and cooperative councils followed. In 2000 Putin said he did not rule out membership; Russia did not submit an application.
Why did Finland join?	Support rose from about 30 to 76 per cent after 24 February 2022; Finland and Sweden applied on 18 May. Ask the barometer, but cite the poll.
How many troops moved east?	About 4,500 in four rotating battlegroups from 2017 and roughly 10,000 in eight from 2022. The comparison with Russian forces around Ukraine is contextual, not like-for-like.
And Ukraine?	Promised eventual membership at Bucharest in 2008 without a date: a door ajar in a gale. Instability observed; sole causation not certified.
Can the College invoice for the stack effect?	No. The Department has explained this twice.

Table B.1 - Answers approved for High Table. The Bursar has asked that the last be read quietly.

APPENDIX C - FUTURE WORK

The Department proposes to extend the method to the European Union, whose door is heavier, opens more slowly and has a longer queue, and to the Collective Security Treaty Organisation, whose door the Department has been unable to find anyone waiting at. It will also survey the Irish, Austrian and Swiss rooms, which are neither hot nor cold and have been comfortable for some time, to establish what a closed door with no pressure across it looks like on the instruments.

A study of the Senior Common Room window, which the Bursar maintains was promised shut in 1974, is in preparation. The Department has found the minute. It says 'ajar'.

The Trebuchet Research Group has asked whether a trebuchet produces a draught. It does, briefly, and the Department has declined to measure it.

APPENDIX D - DEPARTMENTAL NOTE

The Department of Aeronautical Engineering and Applied Fluid Mechanics was founded in 1903, a few months before Kitty Hawk, on the strength of a lecture about seagulls that the College still regards as substantially correct. It has since measured lift, drag, the corrugated wing of the Ju 52 and the airflow through every corridor in the College, and holds that the last of these has taught it more about human institutions than the first three together.

The Department records that this paper was written in a week in which a map was posted, a claim was repeated, and a great many people explained the direction of a draught by reference to who was holding the door. It has read the instruments, which do not hold views, and reported them. It has also, for the avoidance of doubt, shut the wind-tunnel door, which is the one door in this paper whose direction the Department controls.

Persevera Etelred