Meditation on science vs. fascism

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1 Science

Science is all about *empirical statements*, which means they can fail when tested against experience or reality. So, science's role is to check if these empirical statements hold up. Normative statements, though, can't be evaluated this way – they can't really be true or false.

The scientific study of empirical claims basically relies on *data*. So, the "experience of reality" doesn't come from personal perception, but always from methodical measurement.

But science can never do its job with total certainty. Measurement errors and the impact they have on data quality can't be ruled out. Also, trying to verify general empirical statements ("hypotheses") wouldn't make sense logically, because just because you don't find any falsifiers in your measurements doesn't mean they don't exist. *Doubt* is just part of science.

The basic idea of science is *falsification*: When we check general empirical statements, we're always trying to use data to show that a statement isn't actually true.

The *uncertainty* "built into" inductive logic can actually be *measured*. That means the uncertainty of scientific results doesn't just translate into randomness when it comes to how much they tell us about reality.

2 Fascism

"Fascism" is hard to pin down exactly. Usually, it's defined in a historical way. Especially the link to Italian fascism and the German Nazi version influenced by it stands out.

Even with this difficulty in defining it conceptually, one thing is clear: Fascism is *anti-democratic*.

You can definitely pick out traits of fascism that together give you a way to define it. Basically, fascism *promises a kind of security*; a promise to keep life's important aspects mostly under *control*. The aim is to strengthen the *community* by pushing away and dominating anything foreign or outside it. So, fascism shows up as political, cultural, and social *tribalism* with obvious *xenophobic* vibes.

3 The Antifascist Logic of Science

If we see *science as a methodology – "scientific approach"* – it basically can't serve a political idea. Political ideas are, at their core, normative statements that can't really be handled or generated scientifically.

From a fascist point of view, science is seen as this *foreign* entity that *can't be co-opted*. But it's worth noting that this logical immunity to fascism only applies to the *scientific rigor* itself – not to science as a managed social institution or to the people working as scientists. Supporting scientists or educational institutions as political decision-makers, on the other hand, shows a non-democratic bent (Howell et al., 2020).

Science vs. fascism – it's data vs. hegemony over opinions, critical thinking vs. ideological conformity. A clear example of this is: knowledge vs. denial when it comes to human-caused climate change.

4 Strategic Delegitimization Hypothesis

Science is naturally at odds with fascism in how it works. Fascism reacts by trying to delegitimize science as an institution. This really shows the anti-democratic side of fascism, since democracy depends on scientific evidence to make political decisions (Irzik and Kurtulmus, 2018; Lewandowsky et al., 2023; Milkoreit and Smith, 2024).

For big societies, *democracy works really efficiently*: a wide range of interests in public goods can be handled better through a decentralized political setup – which is pretty much a democratic trait. But when non-democratic states centrally control the supply of public goods, it ends up being less efficient because of the added complexity costs.

In the scenario of big democracies, any fascist movements that might pop up there – as the hypothesis suggests – will try to make the democratic system look inefficient. This *story* paints democracy as the problem and the fascist movement as the fix.

Looking at science as *logic of science and methods*, the strategic delegitimization hypothesis paints this picture: science can't be used to push through the interest homogenization the fascist movement wants. Instead, science, with its critical thinking, stands against fascism. That said, science can become a problem for the fascist movement since it slows down that interest homogenization. So, a big part of their strategy will be discrediting science and taking away its critical edge. They aim to make science look bad by destroying trust in it, using stories that science doesn't solve problems, that it's just opinions (Meer and Hameleers, 2026), and that it uses up too many valuable resources. So, you could guess that if people trust science less, they're more likely to buy into anti-democratic stories and start questioning democracy.

4.1 Data

For this study, we're using the ALLBUScompact 2023 data. It gives us individual-level info collected in a non-experimental way using a trend design through surveys (CAWI, CAPI, and MAIL). The population covers "all people (German and non-German) living in private households [in Germany] who were born before January 1, 2005" (Ackermann et al., 2025). The sampling was a "two-stage, disproportionate random sample in western Germany (including West Berlin) and eastern Germany (including East Berlin)" (Ackermann et al., 2025), with a proportional municipality sample drawn in the first stage and a sample of people from local population registers in the second. The total sample size is $n = 5246$, with $n_{west} = 3567$ (68%) for West Germany and $n_{east} = 1679$ (32%) for East Germany. The data include case weights to adjust for the oversampling of East Germany. Weighting efficiency is $WE = 0.9$.

4.2 Operationalization (Measuring and Scales)

Anti-democratic attitudes were measured with an item that says: "The following question is not about actual existing democracies, but about the idea of democracy. Please indicate how much you are in principal in favour of or opposed to the idea of democracy". The answer scale is:

1 very much in favor

2 quite in favor of

3 a bit in favor of

4 a bit opposed

5 quite opposed

6 very much opposed

Trust in science and higher education as institutions was measured with the question "Please indicate for universities and other institutes of higher education how much trust you place in it". The 7-point response scale goes from „1 no trust at all" to „7 great deal of trust".

The possible relevant variables considered for statistical control were the highest level of formal education („general school leaving certificate"; 1 no certificate, 2 lowest level, 3 intermediary level, 4 quali. Univ. appl. Scie., 5 quali. for university, 6 other school certif., 7 still at school), gender (1 male, 2 female, 3 non-binary), and age group (1 18-29 years, 2 30-44 years, 3 45-59 years, 4 60-74 years, 5 75-89 years, 6 90 years and older).

4.3 Analysis

The ordinal variables are really skewed. So, we might first squeeze the distribution into fewer categories. Plus, a binary version is made for each variable.

Table 1: Distribution and re-coding of anti-democratic attitudes

antidem 6	Abs freq	Rel freq	antidem 3	Abs freq	Rel freq	antidem	Abs freq	Rel freq
1	2377.96	0.66	1	2377.96	0.66	0	2377.96	0.66
2	883.26	0.25	2	883.26	0.25	1	1203.70	0.34
3	238.25	0.07	3	320.43	0.09			
4	46.68	0.01						
5	26.02	0.01						
6	9.49	<0.01						
$n = 3581.66$								

Table 2: Distribution and re-coding of trust in science and higher education

trust7	Abs freq	Rel freq	trust	Abs freq	Rel freq
1	52.90	0.02			
2	83.51	0.02			
3	250.48	0.07			
4	579.87	0.16	0	966,76	0.27
5	1008.89	0.29	1	2557.09	0.73
6	1133.83	0.32			
7	414.37	0.12			
$n = 3523.85$					

Re-coding the anti-democratic attitude (table 1) shifts the focus to "not totally convinced by democracy" instead of "anti-democratic". For the next analysis, we assume that any relationships we find can be applied to the clearly anti-democratic range of this variable. Trust in science and higher education institutions (table 2) is listed as a metric variable in the codebook. But since the distribution is skewed and the range of values is small, we treated it as an ordinal variable and re-coded it. This way, we can ignore distribution assumptions that rarely hold and just use robust methods.

The variables for highest formal education and gender are set up as nominal. Here, dummy coding was done with both theory and data in mind. The category that stands out conceptually from the others and shows up enough in the data was coded as a dummy. For highest formal education (table 3), the coded dummy is university entrance qualification; for gender (table 4), the "female" category got dummy-coded.

For the age groups, we first combined the 75-89 years and 90 years and older categories (75 and up) and also represented them as a dummy (table 5).

The Strategic Delegitimization hypothesis talks about how trust in science and higher education can actually lower non-democratic attitudes: the more

Table 3: Distribution and re-coding of the highest level of school education

educ	**Abs freq**	**Rel freq**	**eduhi**	**Abs freq**	**Rel freq**
1	80.31	0.02	0		
2	969.32	0.19	0		
3	1524.69	0.30	0		
4	639.74	0.12	0	3262.05	0.64
5	1870.80	0.36	1	1870.80	0.36
6	19.00	<0.01	0		
7	28.98	0.01	0		
$n = 5132.84$					

Table 4: Distribution and re-coding of gender

sex	**Abs freq**	**Rel freq**	**female**	**Abs freq**	**Rel freq**
1	2563.42	0.49	0	2581.19	0.49
2	2654.75	0.51	1	2654.75	0.51
3	17.77	<0.01	0		
$n = 5235.94$					

Table 5: Distribution and re-coding of age

agec	**Abs freq**	**Rel freq**	**agec5**	**Abs freq**	**Rel freq**	**oage**	**Abs freq**	**Rel freq**
1	729.13	0.14	1	729.13	0.14			
2	1195.84	0.23	2	1195.84	0.23			
3	1334.73	0.26	3	1334.73	0.26			
4	1339.57	0.26	4	1339.57	0.26	0	4599.26	0.88
5	581.93	0.11	5	624.94	0.12	1	624.94	0.12
6	43.01	0.01						
$n = 5224.20$								

Table 6: Effect estimates, dependent variable antidem

Variable	Estimate	Median	2.5 Perc	97.5 Perc	MWR	Rho
* trust	−0.40	−0.40	−0.51	−0.29	−0.11	−0.12
female	0.10	0.09	0.01	0.19	0.06	0.04
oage	−0.26	−0.26	−0.40	−0.11	−0.08	−0.06
* eduhi	−0.36	−0.35	−0.47	−0.27	−0.11	−0.12
τ_1	0.05	0.04	−0.06	0.16		
R^2_E	0.26					
R^2_P	0.01					

Note: * The effect of the variable marked like this is statistically significant and strong enough; Regression link function: Probit.

Table 7: Conditional (female) effect estimates, dependent variable antidem

	female=0		female=1	
Variable	Estimate	MWR	Estimate	MWR
trust	−0.52 *	−0.12	−0.29 *	−0.12
oage	−0.32	−0.08	−0.22	−0.08
eduhi	−0.24	−0.09	−0.46 *	−0.14
τ_1	−0.02		−0.01	
R^2_E	0.28		0.25	
R^2_P	0.01		0.02	

Note: * The effect of the variable marked like this is statistically significant and strong enough; Regression link function: Probit.

people trust these institutions, the less they reject the political and social system that supports them. The results from the anti-democracy model back this up (table 6). The effect of trust on antidem is negative, just like the hypothesis predicts; it's not super strong, but it's noticeable and statistically significant.

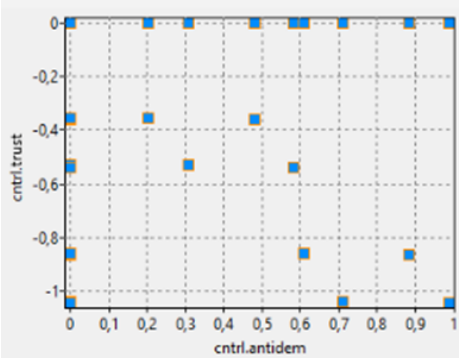
The estimation model labels all non-female individuals (female=0) as at most democratic in their attitudes (antidem=0). So, all the other predictors only affect the antidem classification for women. At the same time, the effect of being female is so weak that it's basically negligible. Overall, this hints that the model actually does fewer mistakes if a noticeable chunk of non-female individuals is misclassified as antidem – but in exchange, trust and eduhi still provide a solid explanation. This also suggests that the explanatory power of trust and eduhi mainly comes from women, since the model predicts antidem=0 for non-females no matter their trust or eduhi values. Separate model runs for female=0 and female=1 support this idea (table 7).

Even though the model's findings fit the hypothesis, we have to keep in mind that causality could actually go the other way too—like, anti-democratic

Table 8: Modeling antidem and trust (Y each), with regression just on the control variables X (Rho coefficients)

$\downarrow X \quad \diagdown \quad Y \rightarrow$	**antidem**	**trust**
female	0.04	−0.06
oage	−0.06	0.00
eduhi	−0.14	0.17

Figure 1: Scatter plot of antidem vs trust, controlling for female, age, and eduhi



attitudes might affect trust. People who aren't that into democracy might have bought into the story that institutions in democratic systems are inefficient. This side of the effect isn't ruled out theoretically. And, looking at the data, it seems possible since trust in science is often split along ideological (Altenmüller, Wingen, and Schulte, 2024) or value cleavages (Anderson, 2011). If the control variables (female, oage, eduhi) can reasonably be seen as independent from both main variables, antidem and trust, then a partial correlation can show the link between antidem and trust without claiming any causation, but still accounting for those control variables.

After taking out the effects of the control variables (table 8), the bi-variate distribution of antidem and trust (figure 1) with $r = -0.12$ shows a weak negative link.

4.4 Results

There might be a *slight negative connection* between *trust in science or the higher education system* and *rejecting democracy. Education can act as a kind of shield against stories that try to strategically delegitimize* democratically hosted institutions in general and science in particular.: the more educated someone is, the more they tend to support democracy, and the more they trust science and higher education.

References

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Romod Terminal input

This code is available online: https://foerster-m.de/Nexus/databunker/SvsF/SvsF_romod.html

```
$seed 46699693

import  //ZA8833_v1-0-0.csv

compute antidem6 $RECODE($IS(pd12;<;0);1;.;pd12)                  //ordinal 1..6
compute trust7 $RECODE($IS(pt11;<;0);1;.;pt11)                    //scale 1..7
compute educ $RECODE($IS(educ;<;0);1;.;educ)                      //nominal 1..7
compute educ1 $IS(educ;==;1)
compute educ2 $IS(educ;==;2)
compute educ3 $IS(educ;==;3)
compute educ4 $IS(educ;==;4)
compute educ5 $IS(educ;==;5)
compute educ6 $IS(educ;==;6)
compute educ7 $IS(educ;==;7)
compute sex $RECODE($IS(sex;<;0);1;.;sex)                         //nominal 1..3
compute sex1 $IS(sex;==;1)
compute sex2 $IS(sex;==;2)
compute sex3 $IS(sex;==;3)
compute agec $RECODE($IS(agec;<;0);1;.;agec)                      //ordinal 1..6

freq antidem6
freq trust7
freq educ
freq sex
freq agec

compute antidem3 $RECODE($IS(antidem6;>;3);1;3;antidem6)          //ordinal 1..3
compute agec5 $RECODE($IS(agec;==;6);1;5;agec)                    //ordinal 1..5

//weightby wghtpew
//xlc C antidem3 trust7 sex1 sex2 sex3 agec5 educ1 educ2 educ3 educ4 educ5 educ6 educ7 /Q:0,6
//compute wu1 $RECODE($IS(C;==;1);1;wghtpew;.)
//compute wu2 $RECODE($IS(C;==;2);1;wghtpew;.)
//weightby wu1
//freq antidem3
//freq trust7
//freq sex
//freq agec5
//freq educ
//weightby wu2
//freq antidem3
//freq trust7
//freq sex
//freq agec5
//freq educ

compute antidem $IS(antidem3;>;1)
compute trust $IS(trust7;>=;5)
compute female $IS(sex;==;2)
compute oage $IS(agec5;==;5)
compute eduhi $IS(educ;==;5)

weightby wghtpew
model antidem trust female oage eduhi
estimate /beta

compute wfem0 $RECODE($IS(female;==;0);1;wghtpew;.)
compute wfem1 $RECODE($IS(female;==;1);1;wghtpew;.)

model antidem trust oage eduhi

weightby wfem0
estimate /beta /dref

weightby wfem1
estimate /beta /dref

weightby wghtpew
mmod antidem trust | female oage eduhi /RES
scatterplot ~res.antidem ~res.trust
coma ~res.antidem ~res.trust /pm
```