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How the Strategic Purges of State Security Personnel Protect Dictators

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ABSTRACT

How can authoritarian leaders employ purges to maintain control over their security services? How can they prevent adverse collective action, such as coups, collusion, and cover-ups? The fundamental problem of repression is that the agents of repression, once empowered, can turn on their leaders, usurping their power or even deposing them. I argue that leaders can use purges to undermine collective action capacity within cliques by targeting both high and low-ranking individuals. I use newly compiled data on 36,896 low-ranking NKVD (People's Commissariat for Internal Affairs of the Soviet Union) officials under Stalin to show that officials with connections to purged officials were more likely to be purged themselves. This paper sheds light on the obscure workings of secret police organizations and how leaders control them. It also illuminates how authoritarian leaders prevent challenges and use repression to consolidate power.

Introduction

How can authoritarian leaders employ purges to maintain control over their security services? How can they prevent adverse collective action, such as participation in or failure to prevent coups, collusion, and cover-ups? The fundamental problem of repression is that the agents of repression, once empowered, can turn on their betters, usurping power or even deposing their leader. The question of why agents of domestic coercion do not turn on their leaders and what measures principals take to prevent this from happening is an important topic. Even today, President Vladimir Putin, once a Soviet state security official, has allegedly begun to repress members of his own military and security forces alongside ultra-nationalist civil society figures following the rebellion of Yevgeny Prigozhin.[1]

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[1]Mark Toth and Jonathan Sweet, "Putin's Purge of Allies Shows He Came Closer to Being Toppled Than Anyone Realized," July 2023, https://thehill.com/opinion/4109972-putins-purge-of-allies-shows-he-came-closer-to-being-toppled-thananyone-realized/.

Existing theoretical works have provided some explanations for when and to what extent an autocrat should engage in a purge of the members of the security apparatus. They rightly focus on important individual-level characteristics, such as motivation and performance or ascriptive characteristics, and whether they are first-generation elites who entered power with the leader.[2] Others focus on the principal-agent relationships between individual officials and the leader or the relationship between a single leader and a unitary military (or other armed organ of the state).[3] Research also sheds light on the effectiveness of elite purges; purging raises coup risk, but successful purges increase the incumbent's tenure.[4] Thus, many theorists, such as Svolik, explain why a leader may purge, but say less about who exactly gets purged.[5] Papers that focus on who gets purged largely focus on individual-level factors. Woldense and others focus on ties between officials whereas Montagnes and Wolton model the interdependence in effort and output between agents in purge selection.[6]

While such explanations reveal much about the reasons and mechanisms of purges, in contrast to qualitative descriptions of actual purges, they tend to lack specific explanations for how relationships between officials drive both the motivation to purge and who gets targeted in a purge.

In this manuscript, I focus on individual cases within the NKVD (People's Commissariat for Internal Affairs), the primary Soviet state security organ under Stalin. This case highlights puzzling instances not easily explained by existing theories. L. I. Reikhman, for example, was a high-ranking Soviet security official in charge of the important Kharkiv

[2]Kristen A. Harkness, "The Ethnic Army and the State: Explaining Coup Traps and the Difficulties of Democratization in Africa" [in Eng], *Journal of Conflict Resolution* 60, no. 4 (June 2016): 587–616, https://doi.org/10.1177/0022002714545332; Stan Hok-Wui Wong and Kelvin Chun-Man Chan, "Determinants of Political Purges in Autocracies: Evidence from Ancient Chinese Dynasties," *Journal of Peace Research* 58, no. 3 (2021): 583–98; Taekbin Kim, "Who Is Purged? Determinants of Elite Purges in North Korea," *Communist and Post-Communist Studies* 54, no. 3 (2021): 73–96; B. Pablo Montagnes and Stephane Wolton, "Mass Purges: Top-Down Accountability in Autocracy" [in Eng], *American Political Science Review* 113, no. 4 (November 2019): 1045–59, https://doi.org/10.1017/S0003055419000455; Edward Goldring and Austin S Matthews, "To Purge or Not to Purge? An Individual-Level Quantitative Analysis of Elite Purges in Dictatorships," *British Journal of Political Science*, 2021, 1–19.

[3]Wong and Chan, "Determinants of Political Purges in Autocracies: Evidence from Ancient Chinese dynasties"; Montagnes and Wolton, "Mass Purges"; Francisco Herreros, "'The Full Weight of the State': The Logic of Random State-Sanctioned Violence" [in Eng], *Journal of Peace Research* 43, no. 6 (November 2006): 671–89, + https://doi.org/10.1177/0022343306069189 (accessed November 9, 2018); Jun Koga Sudduth, "Strategic Logic of Elite Purges in Dictatorships" [in Eng], *Comparative Political Studies* 50, no. 13 (November 2017): 1768–801, https://doi.org/10.1177/0010414016688004 (accessed September 7, 2019).

[4]Vincenzo Bove and Mauricio Rivera, "Elite Co-Optation, Repression, and Coups in Autocracies," *International Interactions* 41, no. 3 (2015): 453–79; Malcolm R Easton and Randolph M Siverson, "Leader Survival and Purges After a Failed Coup D'etat," *Journal of Peace Research* 55, no. 5 (2018): 596–608.

[5]Milan W. Svolik, *The Politics of Authoritarian Rule, Cambridge Studies in Comparative Politics* (Cambridge, MA: Cambridge University Press, 2012).

[6]Josef Woldense, "The Ruler's Game of Musical Chairs: Shuffling During the Reign of Ethiopia's Last Emperor" [in Eng], *Social Networks* 52 (January 2018): 154–66, https://doi.org/10.1016/j.socnet.2017.07.002. + (accessed March 25, 2019); Montagnes and Wolton, "Mass Purges."

NKVD from 1937 to 1938. Because Reikhman was associated with the disgraced Soviet state security chief Yezhov, he was arrested in 1938 and executed in 1940.[7]

This is not surprising—important officials are often repressed in the process of authoritarian consolidation. However, repression also extended to the lower levels. Another victim was the low-ranking interrogator Ivan Drushliak, who worked under Reikhman in the Kharkiv NKVD. Drushliak was an exemplary NKVD worker, considered by both his bosses and his coworkers as a loyal and committed Communist. During the height of the Great Terror (1936–38), when Stalin used the NKVD to repress wide swathes of state, party, and society, Drushliak used violent torture to extract confessions in order for his office to keep up with ever-increasing repression quotas. Unlike Reikhman, who was an elite security officer and, therefore, a potential challenger to the regime, Drushliak seemed to be an asset for the regime, as an exceptionally loyal worker with a clean record. Yet, following Reikhman's arrest, Drushliak was also arrested and sentenced to death for the use of illegal violence (commuted). Interestingly, his ties to Reikhman were often brought up in the trial.[8]

Why, when such torture was universal, did the regime go after low-level officials who, if anything, over-performed on their expected tasks, were exceedingly reliable and loyal by all indications, and therefore should have been ideal agents for the principal? One explanation would be that the repressions were generally irrational or that they were random repressions designed to deter other officials from disobeying or challenging the regime.

This paper argues that leaders can target high and low-ranking individuals to preemptively undermine collective action capacity within cliques when purging the security apparatus. The principal can repress networks of individuals who can engage in adverse collective action rather than accurately detect and repress actual malfeasance. While other less violent and costly strategies are available and indeed were utilized, this internal mass purge strategy suits an environment characterized by low information about the agents and a willingness and ability to repress.

To test my theoretical argument, I analyze individual-level career data for 36,896 officials at the lower levels of the Soviet state security organization, or the NKVD (*narodnyi komissariat vnutrennikh del*, or the People's Commissariat for Internal Affairs) during the period of Stalinist mass terror, from 1935 to 1940. Of these officials, I classify 2,269 as purged. Fitting a Cox Proportional Hazards (CPH) model while controlling for

[7]Memorial, "Kadrovyj Sostav Organov Gosudarstvennoj Bezopasnosti SSSR. 1935-1939 [The Personnel of the StateSecurity Organs of the USSR. 1935-1939]" [in ru], 2017, https://tinyurl.com/y2odlb2s (accessed September 28, 2019).

[8]Lynne Viola, *Stalinist Perpetrators on Trial: Scenes from the Great Terror in Soviet Ukraine* (Oxford University Press, 2017), 56–71.

factors that are likely to have driven the purges, such as ethnicity, rank, region, location, and service branch, I find that factional ties to purged high-ranking officials drive the purges of low-ranking officials. This empirical test provides suggestive evidence that the relationships between officials are driving repressions alongside the existing explanations. Combined with qualitative evidence from the historical literature, such as Viola and Vatlin, Bernstein, and Khlevniuk, about the nature of personal relationships between low-level officials and the nature of these purges, points toward the importance of collective action capacity, or the ability of officials to work in concert in ways that may potentially undermine the leader.[9] The presence of factional ties that enable such collective action explains who gets purged and why purges target low-ranking officials alongside high-ranking officials. These results highlight the importance of individual relationships and potential collective action capacity in the study of purges and authoritarian consolidation.

Understanding Purges within the Coercive Apparatus

In the literature on authoritarian politics, coup-proofing, and state security, many explanations theoretically imply the importance of network effects that enable collective action among officials, which empowers their patrons. They tend to model power-sharing between regime elites and the leader mainly as a collective action problem among regime elites, military units, militarized units, et cetera, depending on the focus of the research. As highlighted before, the literature on purges primarily focuses on a different binary—that of a principal-agent relationship problem between a principal (i.e., a leader) and individual agents (subordinates) to whom the leader delegates tasks.

What is the power of regime elites based on? What enables us to treat military units as unitary? It appears that the power of these elites is often based on networks of clients that they can mobilize. Unlike coteries of clients, militaries are explicitly organized to operate under hierarchical command; during times of crisis, units can often refuse to follow orders—thus, some collective action between junior officers and coup leaders is needed for a successful revolt, not only cooperation between different units or across services. In turn, the principal-agent setup alone ignores the aspect that, when push comes to shove, collective action (or the lack thereof) among these agents can make or break coup attempts and other internal threats to the leader.

[9]Ibid.; Alexander Vatlin, Seth Bernstein, and Oleg Khlevniuk, *Agents of Terror: Ordinary Men and Extraordinary Violence in Stalin's Secret Police* [in Eng] (Madison, WI: The University of Wisconsin Press, 2016).

Focusing on the ties that bind officials into factional groups allows us to explain the micro-foundations of elite power, the sources of collective action within units of analysis that we might otherwise assume to be unitary, and aspects of personnel control that cannot be explained by principal-agent relations alone.

The authoritarian coalitions literature explains how leaders interact and credibly share power with regime elites as well as how they consolidate their power vis-a-vis their ruling coalition through personalization.[10] An under-specified and under-analyzed aspect of these dynamics is the basis of this power outside of official positions such as cabinet appointments or command positions.[11] Works such as Woldense show that these elites appear to exercise power through their ability to command their people and mobilize them to seek rent, exercise power, and struggle against rival groups or, in extreme circumstances, against the leader.[12]

Research on Chinese politics has demonstrated such network dynamics more explicitly. Works have shown how anti-corruption campaigns have been used as vehicles of intra-factional competition,[13] and how patronage matters for junior career prospects.[14] These works further the understanding of the nature of authoritarian cliques in the civil bureaucracy, yet they cannot uncover the low-level logic of centrally directed purges. Li and Manion show how local officials respond to purge-like environments instigated by the center by going out of their way to promote candidates with a visible lack of factional ties.[15] These works strongly suggest that principals care deeply about the collective action potential of the informal ties within the civil bureaucracy—a concern that should be even more pressing in

[10]Bruce Bueno de Mesquita et al., *The Logic of Political Survival* [in Eng] (Cambridge, MA: MIT Press, 2005); Milan W. Svolik, "Power Sharing and Leadership Dynamics in Authoritarian Regimes" [in Eng], *American Journal of Political Science* 53, no. 2 (April 2009): 477–94, https://doi.org/10.1111/j.1540-5907.2009.00382.x (accessed November 2, 2018); Carles Boix and Milan W. Svolik, "The Foundations of Limited Authoritarian Government Institutions, Commitment, and Power-Sharing in Dictatorships" [in Eng], *Journal of Politics* 75, no. 2 (April 2013): 300–316, https://doi.org/10.1017/S0022381613000029 (accessed November 2, 2018). Barbara Geddes, Joseph Wright, and Erica Frantz, "Autocratic Breakdown and Regime Transitions: A New Data Set," *Perspectives on Politics* 12, no. 2 (2014): 313–31; Barbara Geddes, Joseph George Wright, and Erica Frantz, *How Dictatorships Work: Power, Personalization, and Collapse* (Cambridge University Press, 2018).

[11]Anne Meng, "Accessing the State: Executive Constraints and Credible Commitment in Dictatorship," *Journal of Theoretical Politics* 31, no. 4 (2019): 568–99.

[12]Woldense, "Ruler's Game"; Josef Woldense, "What Happens When Coups Fail? The Problem of Identifying and Weakening the Enemy Within," *Comparative Political Studies* 55, no. 7 (2022): 1236–65.

[13]Jiangnan Zhu and Dong Zhang, "Weapons of the Powerful: Authoritarian Elite Competition and Politicized Anticorruption in China," *Comparative Political Studies* 50, no. 9 (2017): 1186–220, https://doi.org/10.1177/0010414016672234.

[14]Victor Shih and Jonghyuk Lee, "Locking in Fair Weather Friends: Assessing the Fate of Chinese Communist Elite When Their Patrons Fall from Power" [in Eng], *Party Politics*, September 2018, 1–12, https://doi.org/10.1177/1354068818801143 (accessed March 25, 2019).

[15]Zeren Li and Melanie Manion, "The Decline of Factions: The Impact of a Broad Purge on Political Decision Making in China," *British Journal of Political Science* 53, no. 3 (2023): 815–34.

the case of the coercive organs, which retain the capability to use organized violence against the principal.

The coup-proofing literature has shown that leaders successfully employ measures such as counterbalancing, or the creation of units under separate command from the formal military to increase the cost of cooperation in the event of a coup, and stacking, the placement of co-ethnics, or the exclusion of potential rival ethnicities, even at the cost of increasing the likelihood of civil war, or family members in key command positions to decrease coup risk, even at the expense of competence.[16] Sudduth integrates both the coup-proofing and autocratic coalitions literature, finding that autocrats tend to purge senior military officials when they are temporarily weakened as a step toward consolidation and personalization of power—an explanation that fits neatly into the case of Stalin's rise to power.[17]

While studies abound of elite purges, the mechanism behind purges within security forces at the lower levels has been less studied, as the literature tends to take military formations as unitary. However, the success of coups frequently rests on whether junior officers and even enlisted personnel will follow the incumbent or the coup plotters. Coup-proofing measures in the literature are mostly cogent in preventing coups from senior officers and other high-level elites. They tend to underplay the role that junior officers and their cliques play, even if these coups are less likely to be successful, rarer, and more likely to be violent.[18] For example, De Bruin shows that around 39% of coup leaders are generals, 30% are majors or colonels, 18% are below, and 13% are nonmilitary.[19] However, for a coup attempt to be successful, not only do coup plotters have to induce the majority of senior fence-sitters to go along with the plot, but they also have to secure the cooperation of the junior officers. This was a key factor, for example, in the failure of the 1991 Soviet coup attempt, whereupon military and state security elites conspired against Gorbachev in a final attempt to preserve the Union. According to some accounts, junior KGB officers disobeyed orders to storm Yeltsin's anti-coup forces,

[16]James T. Quinlivan, "Coup-proofing Its Practice and Consequences in the Middle East," *International Security* 24, no. 2 (1999): 131–65, https://www.jstor.org/stable/2539255; Erica De Bruin, "Preventing Coups d'etat: How Counterbalancing Works" [in Eng], *Journal of Conflict Resolution* 62, no. 7 (August 2018): 1433–58, https://doi.org/10.1177/0022002717692652 (accessed November 9, 2018); Harkness, "The Ethnic Army and the State: Explaining Coup Traps and the Difficulties of Democratization in Africa"; Philip Roessler, "The Enemy Within: Personal Rule, Coups, and Civil War in Africa," *World Politics* (Cambridge, UK) 63, no. 2 (2011): 300–46; Ulrich Pilster and Tobias Boehmelt, "Coup-Proofing and Military Effectiveness in Interstate Wars, 1967–99" [in Eng], *Conflict Management and Peace Science* 28, no. 4 (September 2011): 331–50 https://doi.org/10.1177/0738894211413062 (accessed October 23, 2016).

[17]Sudduth, "Strategic Logic."

[18]Naunihal Singh, *Seizing Power: The Strategic Logic of Military Coups* (Baltimore, MD: JHU Press, 2014); Erica De Bruin, "Will There Be Blood? Explaining Violence During Coups d'etat," *Journal of Peace Research* (London, UK) 56, no. 6 (2019): 797–811, https://doi.org/10.1177/0022343319839449.

[19]De Bruin, "Will There be Blood," App. 9.

foiling the plot.[20] This example highlights the importance of mechanisms, such as networks, that may enable elites to prevent such insubordination from the junior ranks during coup attempts and other turbulent moments.

This research also shows the importance of studying different facets of the security services rather than just the military for coup-proofing. While militaries instigate and lead the vast majority of coups, this is often done with cooperation or at least the lack of opposition from state security.[21] In the Soviet case, while no coup attempt led by the state security services materialized until the very end, historical episodes allude to the perceived and actual threat these state security organs posed. The MVD, successor to the NKVD, was seen as enough of a threat during the deposition of state security chief Beria shortly after the death of Stalin such that the anti-Beria faction resorted to deploying regular army units in the capital during Beria's arrest and trial to prevent Beria's MVD paramilitary and special forces from staging a rescue and counter-coup.[22] The KGB, the final successor to the NKVD under Soviet power, likewise proved pivotal in the launch and failure of the August Coup attempt in 1991, as previously mentioned. These episodes demonstrate both the threat posed by state security organs and the pivotal roles played by junior state security officials during coup attempts.

In this paper, I will demonstrate that networks of cliques that form the basis of potential plotting and collective action likely exist inside a security apparatus. Patterns associated with the structure the purge victimization of state security officials at the individual level. This explanation has implications for our understanding of the specific strategies that principals employ when targeting victims in a large-scale purge within security organs and presents an answer that includes the relationships among subordinates rather than focusing solely on the binary relationships between the principal and its agents.

Logic of Purging by Association

The logic of preventing collective action by dismantling social structures that have the potential to engage in collective action against the leader explains the purges of low-ranking security officials. An autocratic principal requires certain forms of collective action from the security apparatus but not others. In particular, the apparatus must maintain security and repress enemies but not revolt against the principal or undermine its prerogatives.

[20]John B Dunlop, *The Rise of Russia and the fall of the Soviet Empire* (Princeton University Press, 1995), 239–42.

[21]De Bruin, "Will There Be Blood."

[22]Amy Knight, *Beria: Stalin's First Lieutenant* (Princeton, NJ: Princeton University Press, 1993), 199.

To this end, principals must enable and motivate agents to conduct security tasks controlled through a formal hierarchy. To do so, he delegates monitoring to high-ranking officials who manage subordinates. On paper, these officials have power by virtue of their assigned rank, and control their subordinates through formal, hierarchical relationships, indicated by the solid black lines in Figure 1. These officials may, however, form networks of relationships that cut across the official hierarchy for material gains and mutual protection, as indicated by the dotted blue and red lines in the same figure. Historical literature describes these networks in the following manner:

> Despite party purges and repression, bureaucratic cliques full of "our people" constantly expanded to guard against external foes. In each clique, members knew enough about one another to cultivate an atmosphere of mutual respect and fear. Moreover, clan activities did not stop at the office but extended into members' free time, too.[23]

Such networks potentially enable them to engage in collective action against the leader, from outright coups and subversive activities to more mundane forms of adverse collective action, such as collusion for collective personal gain, shirking, stealing, and covering up malfeasance.

In the pre-purge period, these workers are incentivized to form and participate in such networks for both material gains and safety, which may become a liability when the situation changes.

Once a purge begins, prompted from above, it will become difficult for an individual worker to hide his past relationships, especially if they are inferred from professional ties. From a leader's point of view, these cliques can pose a structural threat. Potential remedies include non-repressive methods such as forced retirements, rotation, and counterbalancing. However, a leader with sufficient skill and cunning may repress security officials without being threatened by adverse collective action from the coercive organs.

The relationships between the officials were a mixture of patron-client relations as well as ordinarily mutually beneficial horizontal relations that enabled collective action among clique members through repeated transactions. Getty shows how Soviet politics (including state security) was driven by groups surrounding patrons, who organized themselves into cliques and "clans" not only through patron-client relationships but also repeated horizontal interactions among clique members.[24] From the perspective of a lower-ranked official, the clique is useful under normal times because of the material benefits and protection it gives him through mutual

[23]Vatlin et al., *Agents of Terror*, 14.

[24]J. Arch Getty, *Practicing Stalinism: Bolsheviks, Boyars, and the Persistence of Tradition* [in Eng] (New Haven, CT: Yale University Press, August 2013).

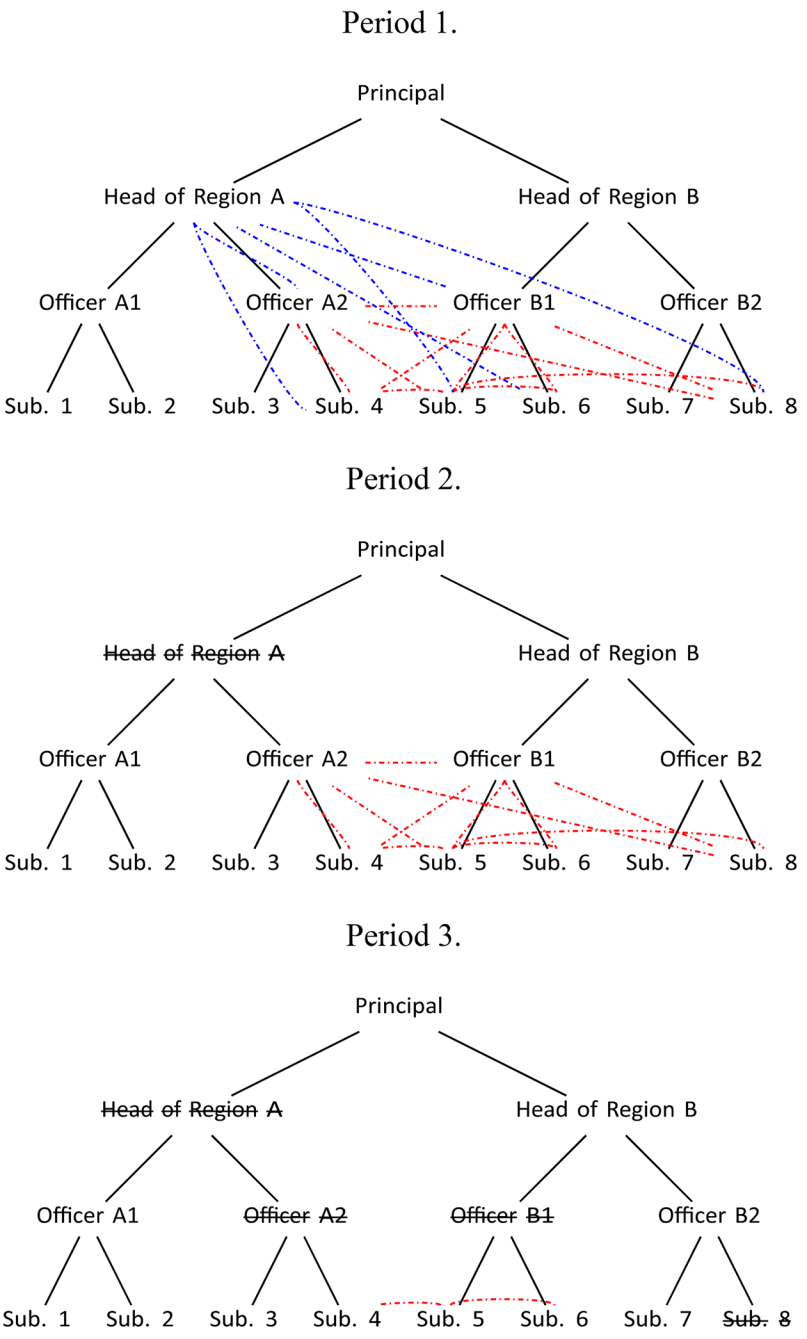

Figure 1. Diagram to illustrate the factional logic of purging by association.

aid and the influence of his higher-ranked patron. Horizontally, these officials often engaged in repeated interactions, deals, and mutual favors, mutually covering up malfeasance and working together to protect themselves from other groups and the center. They also enforced cohesion

through means such as mutual threats, i.e., mutual knowledge of blackmail material, such as suspect family backgrounds.[25] Such a view was not only common among the officials themselves but was also how Stalin saw much of his apparatus.[26] In extreme circumstances, such groups can form the basis of plots, since these relationships can form the basis of collective action.

How do such cliques contribute to collective action against the leader? As the literature on mass revolts and preference falsification has shown, a key component behind an individual's willingness to participate in risky behavior is how much he thinks others will do likewise.[27] In a repressive environment, loyalty pledges will be near-universal; even if one is inclined to intrigue, signaling disloyalty is deadly. Thus, openly engaging in adverse collective action proves difficult due to preference falsification. Yet, if private cliques exist where members maintain strong mutual relationships, the collective action problem can be solved within the clique. If individuals are grouped in cliques, which have solved their internal collective action problems, it becomes easier to organize them, compared to organizing among unconnected individuals. Works such as Crabtree, Darmofal, and Kern suggest that in addition to dyadic or individual-level variables, such networks enhance mass opposition by providing a conduit for opposition-inducing information.[28]

If a higher-ranking official plots against the principal, this very clique structure enables the official to find a sufficient number of coconspirators. The greater and surer such a structure is, the more effectively it will oppose the principal. Ideally, the autocratic principal would either prevent the cliques from forming at all or optimally purge nascent cliques to maintain the loyalty and effectiveness of the coercive apparatus. However, given the secretiveness of such cliques, a principal can be none the wiser as the cliques engage in adverse collective action. He can suddenly face the consequences of subterfuge or be undermined in the longer run through other forms of collusion that undermine control over the security organs. In a large and dispersed apparatus, quotidian workers are too numerous, and connections among them are barely discernible from the heights of power. Furthermore, in preventing subterfuge as it occurs,

[25]Vatlin et al., *Agents of Terror*, 75.

[26]Getty, *Practicing Stalinism*, 168.

[27]Timur Kuran, "Sparks and Prairie Fires: A Theory of Unanticipated Political Revolution" [in Eng], *Public Choice* 61, no. 1 (April 1989): 41–74, https://doi.org/10.1007/BF00116762 (accessed September 29, 2019); Timur Kuran, "Now Out of Never: The Element of Surprise in the East European Revolution of 1989," *World Politics* 44, no. 1 (1991): 7–48, https://doi.org/10.2307/2010422 (accessed September 29, 2019).

[28]Charles Crabtree, David Darmofal, and Holger L Kern, "A Spatial Analysis of The Impact of West German Television on Protest Mobilization During the East German Revolution," *Journal of Peace Research* 52, no. 3 (2015): 269–84, https://doi.org/10.1177/0022343314554245.

discerning genuine reports from those imagined or contrived can be futile. Given this possibility, a sufficiently well-organized clique is a structural threat against the principal, even if no adverse collective action exists.

In the presence of such cross-cutting clique structures, the principal must detect and undermine the effective cliques spread through all levels of the apparatus. When purging perceived potential enemies in the higher ranks, detecting and purging a high-ranking target's associates at the lower level allows the autocrat's agents to imperfectly infer members of the cliques described earlier. A further reason why leaders may purge in this manner is the possibility that, once decapitated, others from a given clique will inevitably climb the ranks while maintaining these cross-cutting relationships and still have access to the networks that supported a previous high-ranking clique member, rather than the whole network falling apart with the annihilation of its central member. Empirically, this paper demonstrates the role of vertical ties, while horizontal ties are not explicitly tested due to data limitations. However, it is difficult to explain why Stalin would perceive decapitated client networks as dangerous and repress the remaining members without invoking the role of horizontal ties, which are well attested in the qualitative descriptions of state security cliques.

Figure 1 illustrates how such purges may play out. The solid lines show the official hierarchy in a bureaucratic apparatus. However, if cross-cutting ties exist between officials in different ranks, these groups may engage in collective action that is difficult to control for the principal. Imagine that the "Head of Region A" is purged for suspicion of treason, and his immediate ties (shown in blue in the top diagram) are severed. However, as the middle diagram shows, the red ties between the lower-level officials remain, and they can still engage in collective action. Therefore, those who are thought to be tied to "Head of Region A" are further purged, for example, "Officer A2," "Officer B1," and "Sub. 8." While this does not eliminate the entire clique, it nonetheless severs enough of the ties between low-level officials to undermine the threat posed by this clique, as seen in the bottom diagram.

The solid lines represent official chains of command. The nodes are crossed out as they are repressed in each period. The dotted lines represent informal ties. The red dotted lines represent horizontal ties, while the blue dotted lines represent vertical ties.

Siegel presents a similar logic for when decapitation does not work in preventing collective action.[29] In a purely hierarchical network, decapitation, i.e., simply removing the high-ranking officials in a faction, prevents collective action in a network. Yet, network structures with more horizontal

[29]David A. Siegel, "When Does Repression Work? Collective Action in Social Networks" [in Eng], *Journal of Politics* 73, no. 4 (October 2011): 993–1010, https://doi.org/10.1017/S0022381611000727 (accessed September 8, 2019).

ties maintain collective action capacity even after removals of leadership (described as a "village" network), necessitating the repression of lower-level individuals. This logic applies even when the selection of elites is arbitrary since the threat does not merely come from the perceived treachery of the elite official but rather is multiplied by the structural threat that his clique poses.

Thus, an observable implication would be that a low-ranking official's risk of facing repression should increase if this official's higher-ranking connections face purges. Empirically, one would expect to see lower-level officials who have blue vertical ties to Head of Region A be more likely to be purged than those who are not connected to the repressed region head. In a counterfactual situation where these ties do not matter, one would either expect the purges to not extend past the leadership level or for these lower-ranked purges to be uncorrelated with the blue vertical factional ties (or for such a correlation to arise mechanically through phenomena such as regional differences in repression rates, rather than the ties).

What are the scope conditions for such targeted purges? They are likely to occur when the leader has reason to purge and at least has a reasonable expectation he can implement it. Costly measures such as purges could be avoided if alternative forms of control, such as appointments, rotation, and the placement of political officers are relatively efficient.[30] Alternatively, leaders can appoint loyalists to crucial positions, such as swing districts, in an electoral authoritarian context.[31] In contexts where elections are less crucial, leaders can appoint loyalists, such as those with regional and family ties, to strategic positions that have the potential to cause or prevent coups.[32] Examples include the appointment of direct relatives by Saddam Hussein to lead key paramilitary formations, both to prevent coups by the paramilitaries themselves and to forestall coups by other armed formations.[33] Finally, if more information about individual motivations and actions is available, punishment may be more individually targeted, whereas less individual-level information leads to collective punishment.[34]

[30]Mai Hassan and Thomas O'Mealia, "Uneven Accountability in the Wake of Political Violence: Evidence From Kenya's Ashes and Archives" [in Eng], *Journal of Peace Research* 55, no. 2 (March 2018): 161–74, https://doi.org/10.1177/0022343317751836 (accessed October 20, 2019); Woldense, Josef. "The Ruler's Game of Musical Chairs: Shuffling during the Reign of Ethiopia's Last Emperor," *Social Networks* 52 (2018): 154–66; Matthews, Austin S. "Don't Turn Around, der Kommissar's in Town: Political Officers and Coups d'état in Authoritarian Regimes," *Journal of Peace Research* 59, no. 5 (2022): 663–78.

[31]Mai Hassan, "The Strategic Shuffle: Ethnic Geography, the Internal Security Apparatus, and Elections in Kenya," [in Eng], *American Journal of Political Science* 61, no. 2 (2017): 382–95, https://doi.org/10.1111/ajps.12279.

[32]Quinlivan, "Coup-proofing."

[33]Lisa Blaydes, *State of Repression: Iraq under Saddam Hussein* (Princeton University Press, 2018), 42.

[34]Ibid., 13.

While it may be possible to rotate higher-ranked individuals to undermine their ties with their subordinates, they frequently brought "their people" along with them and maintained ties across postings based on earlier connections. For example, the memoirs of Mikhail Shreider, a Chekist (secret police worker) and policeman who served across the Union in the 1930s, allude to such networks that spread as officials were rotated across different regions, which undercut local cliques but created new, bureaucratic ties that cut across territorial units.[35] Furthermore, the lower in the organization one goes, the more difficult and costlier it is for the leader to rotate officials. If one believes that cliques go down to these levels, then it becomes much more costly to use rotations and much more difficult to restrict appointments to those with assured loyalties to the leader.[36] In the Stalinist case, these strategies of rotation and appointment of loyal group members, be they people with shared ethnicity or spotless records, were widely utilized from the start. However, during and immediately following the Great Purges, Stalin demanded additional measures to maintain control over the coercive organs. Given the patterns of the purges that extended down to the lower ranks demonstrated in this paper, the evidence points toward a strategy from above to structurally eliminate threatening cliques that was used to undermine collective action capacity on top of the baseline use of appointments and rotations.

An autocrat also faces a loyalty-competence tradeoff, where loyalty comes at the cost of skill and effectiveness.[37] Therefore, whether a leader chooses to purge depends on the leader's assessment of current cadres and the quality of the replacements.[38] Here, the quality of the replacements increased over time as the Soviet state educated more individuals, in contrast to the problem of purging qualified officers in the Red Army. The "Old Chekists," who became security officials during the 1918–22 Civil War era, were generally less educated; many were barely literate, with the caveat that other sources describe the new recruits as "untested."[39] Thus, the internal NKVD purges provides an example in which the loyalty-competence tradeoff is less acute, enabling a more focused and precise study of how social connections drive purges.

[35]Mikhail Shreider, *NKVD iznutri: Memoirs of a Chekist* (Moscow: Vozvrashchenie, 1995), 38.

[36]Woldense, "What Happens."

[37]Georgy Egorov and Konstantin Sonin, "Dictators and Their Viziers: Endogenizing the Loyalty–Competence Trade-Off" [in Eng], *Journal of the European Economic Association* 9, no. 5 (October 2011): 903–30, https://doi.org/10.1111/j.1542-4774.2011.01033.x (accessed December 7, 2016).

[38]Montagnes and Wolton, "Mass Purges."

[39]Robert W. Pringle, "Modernization of Terror: The Transformation of Stalin's NKVD, 1934–1941" [in Eng], *International Journal of Intelligence and CounterIntelligence* 17, no. 1 (January 2004): 113–23, https://doi.org/10.1080/08850600490252687 (accessed November 3, 2018); Viola, *Stalinist Perpetrators*, 175.

NKVD during and after Stalin's Great Purge

Historians, political scientists, and other scholars alike have cited Stalin as the canonical autocrat and his Great Terror as the prototypical purge for generations. Yet only recently have qualitative and quantitative analyses begun to uncover the details, mechanisms, and logic of the events that unfolded. Thus, analyzing this case allows us to better understand an important and less studied aspect of these world-historical events—the "purge of the purgers" or the repressions against the apparatus that unleashed terror on the rest of the state, party, and society. This case also provides a fruitful example to test the proposed logic of purging officials. Stalinism may have been an outlier in terms of its breadth and severity of repression. However, it was not exceptional in terms of its underlying logic of who got targeted, at least for the NKVD purges. History abounds with examples of leaders purging their own security apparatus, from Imperial Russia, Feudal Japan, Titoist Yugoslavia, Ba'athist Iraq, to contemporary Turkey.[40] The logic of these purges will have to be tested with further research, but the factional logic is likely at play in many of them.

From 1936 to 1938, Stalin conducted the Great Terror, a bloody purge of both state and society. Many citizens were falsely accused and executed or sent to forced labor camps.[41] The NKVD, which ran the police, security services, and the camps, implemented this terror.

On paper, the NKVD followed a strict, rational bureaucratic hierarchy with varying degrees of oversight by the parallel party hierarchy at different points in time; under the law, it was subordinated to the People's Commissar of Internal Affairs, who reported directly to Stalin. The GUGB (Main Directorate of State Security) and the local UGB (State Security Directorate) offices were the main organs carrying out arrests and repressions.[42] Offices corresponding to the different levels of territorial administration comprised the territorial organs of the local bodies, with offices established down to the district level in some cases.

As with all other Soviet state organs, factional politics and relationships of mutual interest ran rampant throughout the entire apparatus, with

[40]Andrej P. Pavlov and Maureen Perrie, *Ivan the Terrible* [in Eng], Profiles in Power (London, UK: Pearson/Longman, 2003); Susumu Ike, "Competence over Loyalty" [in Eng], in *War and State Building in Medieval Japan*, ed. John A. Ferejohn and Frances McCall Rosenbluth (Redwood City, CA: Stanford University Press, April 2010), 53–70; Bojan Dimitrijevic, "Intelligence and Security Services in Tito's Yugoslaviá 1944–1966," *Istorija* 20. veka 37, no. 2 (2019): 9–28; Burak Bekdil, "Turkey's Slide into Authoritarianism" [in Eng], *Middle East Quarterly* 24, no. 1 (January 2017), https://www.meforum.org/6398/turkey-slideinto-authoritarianism (accessed March 25, 2019); Max Fisher, *Iraq's Security and Intelligence Gutted in Political Purges, New Cables Show* [in Eng-US], December 2010, https://www.theatlantic.com/international/archive/2010/12/iraqssecurity-and-intelligence-gutted-in-political-purges-new-cables-show/67431/ (accessed October 6, 2019).

[41]Mr J. Arch Getty and Oleg V. Naumov, *The Road to Terror: Stalin and the Self-Destruction of the Bolsheviks, 1932-1939* [in Eng], trans. Mr Benjamin Sher (New Haven, CT: Yale University Press, April 2002), 71–3, 209.

[42]Memorial, "Foreword."

various cliques that cut across the official hierarchy struggling for influence and security. For low-ranked officials, these cliques served as a vehicle for obtaining promotions and favorable transfers, as well as for avoiding repression through providing mutual cover. In turn, high-ranked officials could rely on their low-ranked clients for support against their rivals.[43] Such factionalism (with varying combinations of material and ideological motivation) was not limited to the Soviet case; similarly structured cliques and patronage networks are depicted in analyses of the contemporary Chinese Communist Party, contemporary Turkish security forces, and the Imperial Japanese Army in the 1930s.[44]

While it terrorized the rest of society, the NKVD also purged its own. NKVD chiefs Yagoda and Yezhov were successively deposed until Stalin settled on fellow Georgian Lavrenty Beria, who was not purged until after Stalin's death in 1953. Under Yezhov, high-ranking security officials were also replaced frequently, and many were subsequently shot.[45]

> Memorial's study suggests that 2,273 security officers were arrested in the twenty-three months that Yezhov commanded the service, 1,973 for alleged counterrevolutionary crimes. Of the more than 250 senior Staire Chekisti (Old Chekists) identified in the Memorial study as members of the Yagoda generation, few survived the blood-letting of 1937–1938.[46]

Many low-ranking NKVD officials were also arrested and sent to camps or shot outright, though many survivors were released to serve in WWII. These officials were largely sentenced in trials presided over by military trials at the regional level following directives from the center.[47] The official rationale for these arrests was that these workers had contravened Soviet law by abusing suspects during the Great Terror or engaged in treasonous activities, as the following quote from an official reproduced in Khlevniuk shows: "We have purged the NKVD only of those who, in

[43]Vatlin et al., *Agents of Terror*, 14.

[44]Simon Waldman and Emre C,alıs,kan, "Factional and Unprofessional: Turkey's Military and the July 2016 Attempted Coup" [in Eng], *Democracy and Security*, March 2019, 1–28, https://doi.org/10.1080/17419166.2019.1593831 (accessed September 15, 2019); Franziska Barbara Keller, "Moving Beyond Factions: Using Social Network Analysis to Uncover Patronage Networks Among Chinese Elites" [in Eng], *Journal of East Asian Studies* 16, no. 1 (March 2016): 17–41, https://doi.org/10.1017/jea.2015.3 (accessed November 3, 2018); Junyan Jiang and Muyang Zhang, "Friends with Benefits: Patronage Networks and Distributive Politics in China," *Journal of Public Economics* 184 (2020): 104143; Junyan Jiang, "Making Bureaucracy Work: Patronage Networks, Performance Incentives, and Economic Development in China," *American Journal of Political Science* 62, no. 4 (2018): 982–99; James B. Crowley, "Japanese Army Factionalism in the Early 1930's" [in Eng], *Journal of Asian Studies* 21, no. 3 (May 1962): 309–26, https://doi.org/10.2307/2050676 (accessed March 30, 2019).

[45]Pringle, "Modernization."

[46]Ibid., 118.

[47]Lynne Viola and Marc-Stephan Junge, *Laboratories of Terror: The Final Act of Stalin's Great Purge in Soviet Ukraine* (Oxford University Press, 2022), 5–6.

committing such offences, had demonstrated initiative and malice and were motivated by selfish and hostile intentions."[48]

However, given that illegal procedures were universally used, almost all NKVD officials were guilty of violating Soviet law. Thus, these purges were *not* due to lapses of performance, as can be plausibly argued for civil officials in charge of production with more informative quotas. Hence, Stalin's purges provide a good case for exploring this paper's theoretical question. Given an already high rate of repression during the mid- to late-1930s, it was not difficult for the local state security offices to over-fulfill "production quotas" of repression since each additional repression carried a relatively low marginal cost, even if the absolute cost of repression as such was often quite high. This analysis can, therefore, examine the roles of factional ties in these purges.

Of course, Stalin could not have chosen every low-level target personally. Still, qualitative studies of these tribunals show that while genuine testimonies of abuse by victims figured prominently, so too did allegations of collusion, conspiracy, and collective malfeasance, where ties to disgraced bosses were part of the accusation. A smaller share of the accusations purported participation in treasonous plots against Stalin, often alongside the accusations of abuse. Here, too, the presence of genuine social ties was used to accuse victims of participation in explicit conspiracies.[49]

To operationalize the logic of purging by association in this context, I take the purges of high-ranking officials as given and examine whether the structural logic plays out in the lower ranks. Suppose the theoretical framework presented is valid and applies to the case of the NKVD. In that case, it should follow that a purged leader is seen as a threat—not just as an individual with command over the official hierarchical apparatus that could be used against the principal, but as a focal point in a network capable of adverse collective action. Therefore, lower-ranking associates of this individual would be purged, even those who were not directly under their command at the time. Conversely, from the perspective of the lower-ranking official, the risk of repression increases as connections to repressed superiors increase, thereby raising the likelihood of being considered as part of a potential conspiratorial coalition network. Thus, political connections with purged high-ranking officials should predict the purges of lower-ranked individuals.

Hypothesis: Lower-ranking security officials are likelier to be purged if they are politically connected to purged higher-ranking officials.

[48]Oleg Khlevniuk, "Party and NKVD: Power Relationships in the Years of the Great Terror" [in Eng], in Stalin's Terror, ed. Barry McLoughlin and Kevin McDermott (London, UK: Palgrave Macmillan UK, 2003), 32, https://doi.org/10.1057/9780230523937 (accessed November 2, 2018).

[49]Vatlin et al., *Agents of Terror*; Viola and Junge, *Laboratories of Terror*.

Data

In the following analysis, personnel data come from the information on Great Purge era NKVD personnel compiled by A. N. Zhukov as *Personnel of the USSR State Security Agencies. 1935–1939*.[50] The data are compiled in wiki-format by NGO Memorial, with a page for each recorded individual detailing career advancement and purge information available from personnel documents. A time-series dataset is generated from these entries, with one row for each official year. The year range was selected due to the availability of reasonably complete data and to conduct analysis across periods with consistent rank and hierarchical systems.

The dataset profiles 39,950 security personnel scraped from the Memorial website, but some consist of single mentions that provide insufficient information for this study. Out of the total, 37,277 provide reasonably complete information on their career history, and 36,757 on locations and ranks, which are used in the main analysis. Data on important variables such as ethnicity are scanter, with the number of individuals with complete data diminishing to 9,826 when including ethnicity. Nonetheless, the main results still hold. The dataset on low-ranking officials is in a time-series format where each row is a unique combination of an individual and a year. The dataset on high-ranking officials is a list of all officials that served as republic-level or oblast-level executives by location. It records the date at which they were repressed if they were repressed. If an official is in the high-ranking dataset, he is excluded from the low-ranking official dataset.

The 39,950 individuals documented on the website constitute a near-comprehensive list of personnel given "special ranks" under the hierarchy from 1935 to 1943. These ranks were given to security workers as a separate system from other organizations such as the army. Such ranks were also awarded to some non-security officials, such as firefighters, who were subordinated to the NKVD; conversely, they excluded some individuals associated with state security, such as low-ranking camp guards and clerical/technical staff. To illustrate, 67 percent of UGB-GUGB-NKVD (main state security organ) employees received special ranks.[51] However, core cadres of the state security apparatus were almost always awarded special ranks.

In principle, almost all assignments of "special ranks" were recorded in the dataset, resulting in almost 40,000 individuals. However, details on transfers and positions for lower-level officials require documents from the NKVD of the Union republics and the UNKVD of *Kraii* and *Oblasti*,

[50]Memorial, "Foreword."

[51]Memorial.

which are not always available.[52] For example, Alfredov, Nikolay Dmitrievich was awarded the rank of Sergeant GB (State Security) on April 25, 1938, according to Order NKVD SSSR Nr. 1002 OT 25.04.1938. However, we do not know where or in what capacity he served, meaning we would discard entries like this from our analysis. These lacunae naturally result in higher exclusion rates for those working in the lower ranks of the territorial organs. Given that this is purely based on the availability of local documents, instead of attempts to hide repressions or misrepresent the bureaucratic record, this sample has no reason to systematically bias the results.

The outcome variable is deduced from records of dismissals, restricted by the reason for dismissal.

The foreword to the database in the Memorial website states that those dismissed according to Art.38 (a) or (b) of the Main Directorate of State Security (GUGB) regulations at the period were most likely purged: "in addition, in some cases, the reasons for dismissal may be: (a) the verdict of the court or the decision of the Special Meeting of the NKVD of the USSR (b) arrest by judicial authorities … The indication of articles 38 A or 38B in the orders of dismissal meant dismissal in connection with a conviction or arrest." Other forms of removal are considered in the Appendix and do not seem to be positively associated with factional ties, which shows that other factors are not driving the empirical relationship, such as some unobserved factor that may render more connected officials less employable.[53]

This outcome variable provides a conservative measure of repression since not all purged individuals would be recorded under articles 38(a) and (b). For example, if a worker was first dismissed according to other articles and then shot or purged extra-judicially, he would not show up according to this measure. Works such as Viola as well as Vatlin, Bernstein, and Khlevniuk that focus on detailed qualitative analyses of internal purges in local branches show that the repressions were conducted as official judicial punishments for contravening Soviet law, either for counterrevolutionary plotting or for contravening official regulations for investigation, indicating that most repressed security workers were not repressed extra-judicially.[54]

From printed and online resources, I then obtained information on the identities and fates of most

[52]Memorial.

[53]NKVD, *Polozhenie O Sluzhbe V GUGB [Regulations on Service in GUGB] 16.10.1935*, October 1935, https://tinyurl.com/4x8kdbvy; Memorial, "Foreword."

[54]Viola, *Stalinist Perpetrators*; Vatlin et al., *Agents of Terror*, 77.

of the Krai/Oblast (sub-republican administrative units) level NKVD executives within the Russian Soviet Socialist Republic (SSR) and the Republican-level NKVD executives for other constituent republics of the Soviet Union during that period.[55]

Using these data, I use a measure developed in the Chinese bureaucratic promotions literature to measure political connections between higher- and lower-ranked officials. Kelle[r60] infers factional ties from promotion, coding a low- or high-ranked official as having ties if a superior promotes a subordinate. I infer a connection between a low-ranking official and the incumbent regional boss if the former is promoted during the latter's tenure. A low-ranking official is tied to a purged high-ranking official if any of the connected high-ranking officials are purged, and ties to purge officials also carry on over time. Alternatively, ties to purged high-ranking officials are also measured as the proportion of low-ranking officials connected to high-ranking officials who have been purged. A section in the Appendix illustrates how this would work from an example in the dataset.

Such a measure is an appropriate proxy for both the genuine social ties between officials, as well as the perception of ties from above. Stalin himself proclaimed in a 1937 Central Committee meeting:

> Many people have received promotions not as a sign of their loyalty to the party, ability or knowledge, but as a sign of servility and toadying. As a result, various sections of [the organs of] state security have been penetrated by alien and criminal elements.[56]

Promotion ties, as operationalized, are noisy signals for genuine relationships, which only reveal vertical ties, not horizontal ones. That being said, those in charge of purging will also likely have noisy information regarding such ties. In actual cases, persecutions of subordinates on the basis to purged factional bosses were conducted based on various forms of evidence, including testimony, confessions (both volunteered and forced), and mutual recriminations. In some cases, promotions were indicative of factional ties; for example, Dolgushev, chief of the Kyiv regional NKVD was promoted by Uspenskii, the chief of the republican-level Ukrainian NKVD. Dolgushev was later repressed based on his ties to Uspenskii after Uspenskii's fall from grace; Dolgushev indeed defended himself by, among other things, claiming he was *not* one of Uspenskii's people.[57] Furthermore, an empirical link may mis-identify a case where there is no genuine connection, and a genuine tie may be missed by this measure. This is likely to generate downward bias in the estimated effects unless the data sys-

[55]Keller, "Moving Beyond."

[56]Vatlin et al., *Agents of Terror*, 15.

[57]Viola, *Stalinist Perpetrators*, 31, 49.

tematically over-identify false connections for individuals who are purged or under-identifies connections for individuals who are not purged. While not possible to rule out entirely, further specifications in the Appendix that subset the data by rank and republic finds that the results do not appear to be driven by systematic over-representations of individuals in lower or higher ranks, or by observations from constituent republics outside of the Russian SSR. This dataset is summarized in Figure 2.

Analysis

Using a CPH model, I model the effect of promotion ties on individual purges. A CPH model predicts the time left until an individual experiences an event, based on individual-variant characteristics; the individual falls out of the sample once the event happens.

Here, the unit of analysis is the individual lower-ranked official. The dataset is restricted to 1936–39 period, given that the focus of the Memorial dataset. A large number of fixed effects are employed to control for the possibility that locations and individual characteristics systematically affect repression. Control variables include location, ethnicity, current party membership, and rank. The location information refers to the individual's assignment location for that year. It is coded as Republic, which is a high-level territorial unit of the USSR, and available for most observations. Alternatively, it is coded as Location or Branch, which classifies the service to which the individual belonged at the time. The branch categories excluding territorial organs are as follows: NKVD Schools, Railways, Troops, Concentration Camps, Military Okrugs (war-time military districts), Central Organs, Political Officers attached to military units, Prison service, and Okrugs (territorial districts for border guards). If he belongs to the territorial organs of the NKVD, at the lowest administrative level at which data is available, which for most cases is Krai or Oblast. Krai and Oblast are at the same administrative level; other district categories at this level include Autonomous Oblast and Autonomous Republic. A full list of ranks, ethnic groups, and republics included in the dataset is provided in the Appendix.

$$\lambda(t \mid Z(t)) = \lambda_0(t) exp\left(\beta' Z(t)\right) \tag{1}$$

The CPH model with time-variant covariates is specified in Equation (1), where $\lambda_{(t|z(t))}$ is the hazard at time t, which depends on the value of the covariates at the time $(Z_{(t)})$(in this case, year), and the effects βs, which are constant over time.[58] The hazard models the risk of an event

[58]Zhongheng Zhang et al., "Time Varying Covariates and Coefficients in Cox Regression Models," *Annals of Translational Medicine* 6, no. 7 (April 2018): 2, https://doi.org/10.21037/atm.2018.02.12 (accessed March

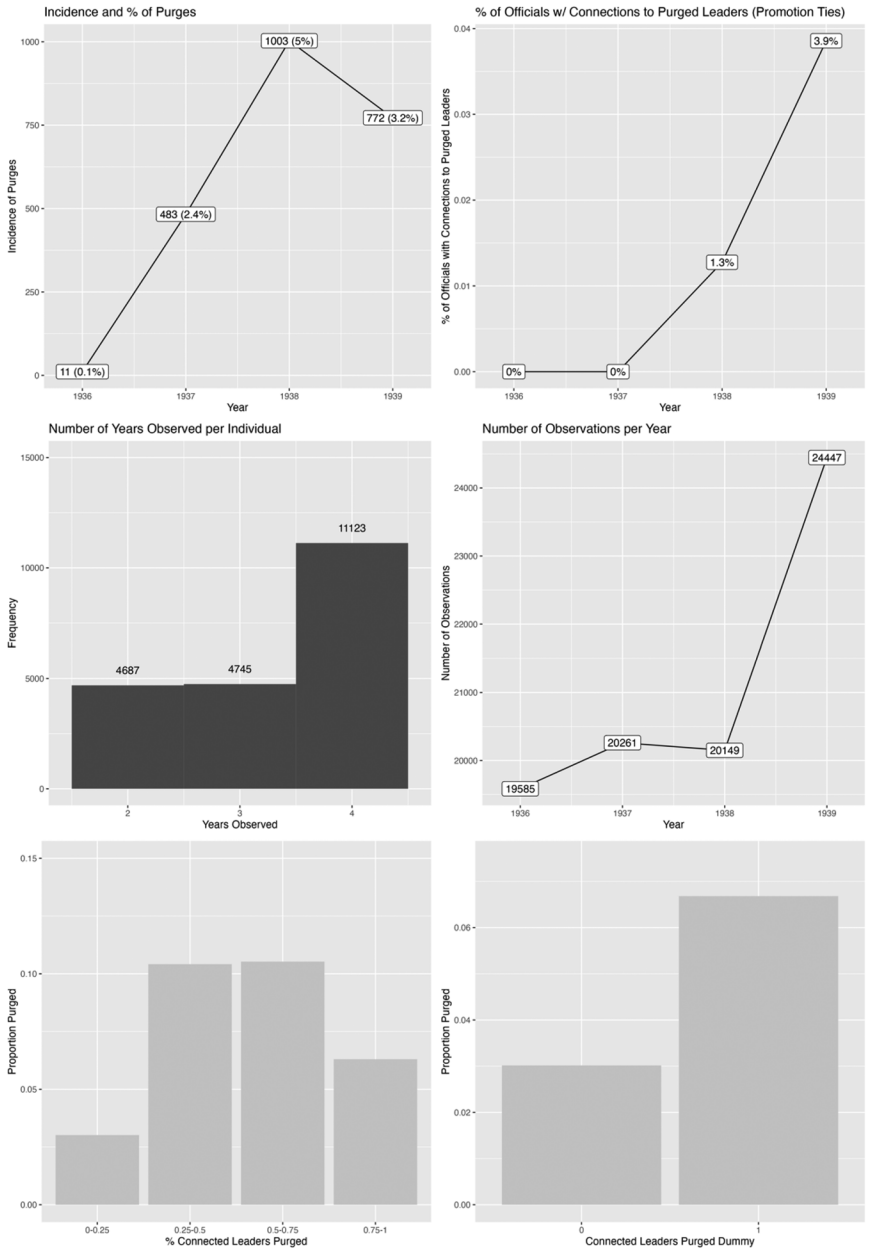

Figure 2. Summary (frequency of observations and purge events).

The upper right diagram shows the distributions of years observed per individual, that is, how long an individual shows up in the dataset. The upper left diagram shows the number of individuals observed for each year. The middle two figures show the frequency of low-ranking purges and the percentages they make up of observations present that year. The middle right figure shows the percentages of low-ranking officers present that year who have at least one connection to a high-ranking officer who has been purged. The figures in the bottom row show the different rates of purge (including purges that happened after 1939) for those present in 1939, across the presence/absence of connections to purged high-ranking officials, and across different proportions of connections to purged high-ranking officials (as of 1939).

occurring (i.e., getting purged) in a given period of time; the model estimates a baseline hazard for given points in time and then the estimated hazard for observations based on covariates. The hazards can be used to compare the relative risk of facing a purge at a given point in time between different individuals. Standard errors are clustered at the individual.

Results

The estimation yields a strong, positive relationship between ties with purged officials and the hazard of being purged. These results are mostly robust to alternate specifications, which can be seen in the Appendix. The independent variables are either a dummy variable, which equals 1 if any connected high-ranking official has been purged, or the proportion of connected high-ranking officials who were purged. To illustrate the proportion measure, if the current year is 1939, one is connected to four high-ranking officials a connected official was purged in 1938, and another connected official was purged in 1939, the measure would be =0.5. Further explanation is given in the Appendix in the section titled "Example to Illustrate Promotion Ties."

The reported coefficients are exponents of the estimated βs, which indicate hazard ratios. They show the proportional increase in the hazard for a one unit increase in the independent variable. Thus, in Model 4 of Table 1, the hazard increases by a factor of 1.46 when at least one of the official's past bosses has been purged. The first two models in Table

Table 1. Effect of promotion ties to purged leaders on low-ranking purges.[a]

	Dependent variable:							
	Dismissed under Art.38(a) or (b)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of connected leaders purged	2.31***		1.49***		1.94***		2.03***	
	(0.12)		(0.13)		(0.15)		(0.15)	
Connected leaders purged dummy		2.30***		1.46***		1.75***		1.82***
		(0.11)		(0.11)		(0.13)		(0.13)
Clustered at individual	X	X	X	X	X	X	X	X
Republics			X	X	X	X		
Location or branch							X	X
Ethnicities					X	X	X	X
Party membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of individuals	36896	36896	36757	36757	9826	9826	9821	9821
Observations	84,442	84,442	83,651	83,651	27,574	27,574	27,576	27,576

Note: [a]Cox Proportional Hazards model. The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

$*p < 0.1$. $**p < 0.05$. $***p < 0.01$.

11, 2019).

1 show strong correlations between the measure of connected bosses getting purged and the purge of low-ranking state security workers, absent other covariates. The third and fourth models control for location at the republic level, current party membership, and rank dummies; the results remain significant at conventional levels, except when all controls are used and the purge connection is measured as a dummy. The fifth and sixth models show that the results hold even when controlling for ethnicity, which may be significant given the alleged ethnic background (e.g., campaigns against foreigners such as Germans and Poles or national minorities such as Balts and Jews) for some of the purges. However, controlling for ethnicity significantly reduces the sample size since a large portion of the individuals in the dataset lack ethnicity information. The seventh and eighth models show that the previous results are somewhat robust to location-fixed effects at a lower level. For this specification, controls for republic are not included since they are constituted by linear combinations of the lower-level location fixed effects. Controlling for location guards against the possibility that Stalin was ordering the NKVD to simply purge by location (e.g., randomly purge individuals stationed in Moscow without worrying about connections); that alternative would result in similar correlations since the boss would be purged along with current subordinates. These results are significant and reject the null hypothesis of no associations between ties to purged higher-ranking officials and the purges of lower-ranked officials.

The prediction plots in Figure 3 show that the predicted hazards increase significantly with the proportion of purged bosses for model 3 in Table 1. This is also the case for the purged boss dummy for model 4, where the baseline is a Lieutenant GB, Russian SSR, in 1938. These risks can be interpreted as hazards ratios. For example, the risk of repression increases

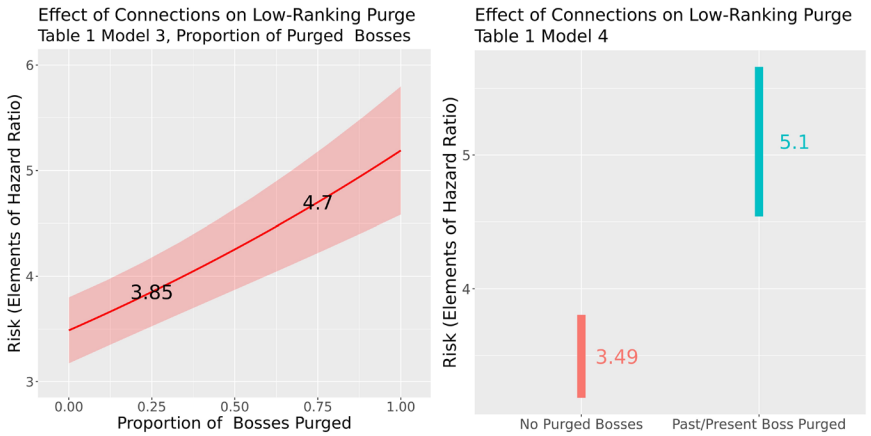

Figure 3. Prediction plots for promotion ties.

from 3.85 to 4.7 as the proportion of present and bosses purged increases from one-quarter to three-fourths, meaning that the probability of purge increases by 1.22. For Model 4 in Table 1, those with purged connected bosses are 1.46 times as likely as those without purged connected bosses to become purged, with the risk increasing from 3.49 to 5.1. Additionally, the Kaplan-Meier plots in the Appendix show that by the end of the period, the differences in the chance of survival for the entire period between the group with connections and without connections is about 5 to 10 percent, depending on the model specification.

Robustness checks

The CPH model relies on the proportionality assumption, which assumes that individuals all share the same hazard function. Section D of the Appendix tests for the proportional hazards assumption and, while finding violations of these assumptions, finds that they hold for the variables of interest.

Furthermore, as analysis in the Appendix shows, the results are robust to fitting a linear probability model instead of a hazards model, limiting the analysis to observations in the Russian SSR, where republic-level documents should be more easily available to central archives, demonstrating that the results are not being driven by a systematic lack of data outside of Russia. Another possible source of bias is rank; given the distribution of ranks in the dataset, it is clear that higher-ranked individuals are over-represented. These individuals are also more likely to be purged; results in the Appendix show that the main results are largely robust to limiting the sample to different rank levels. I also deal with the possibility that the purges simply targeted bosses and their immediate subordinates by controlling for immediate bosses in the Appendix. The results still hold, though the purge of one's immediate current boss also increases one's likelihood of being purged. The results also hold when controlling for the level of purge in a given branch or location in a given year. A section in the Appendix also demonstrates how alternative explanations, such as type selection, opening up the ranks for promotion, and inter-factional conflict, are insufficient to explain the empirical results or are compatible with my thesis.

Alternative explanations

Given that we lack a way to manipulate or precisely measure the underlying informal networks, causal claims regarding this explanation are fraught with difficulty, and other explanations may seem plausible. Yet, certain alternative explanations can be ruled out or shown to be compatible with my thesis.

Montagnes and Wolton construct a formal model that explores the determinants of the scope and brutality of a mass purge. It suggests that purges can be used to motivate officials and decrease the numbers of the "bad" type (mere opportunists instead of those intrinsically motivated to serve the regime), provided the replacement pool is sufficiently high-quality and performance is a sufficient indicator of type. Montagnes and Wolton also find that the scope and severity of a purge depend on the quality of information available, the proportion of "bad" types in the system, and the quality of the "replacement pool."[59]

However, under the framework of Montagnes and Wolton, discriminate purges are impossible when information quality is low or when performance is a poor indicator of type.[60] The arbitrary mass repression of the Great Terror meant that neither the magnitude of the repressions nor the investigation files were good measures of ability. The NKVD forced false confessions to fulfill quotas. Thus, there was a sharp tradeoff between reaching mass repression targets and producing "quality" repressions, either in the sense of repressing genuine opposition (Vatlin, Bernstein, and Khlevniuk describe how purges undermined preexisting informant networks), or even in "correctly" repressing individuals who belonged to prescribed categories.[61] For example, there were cases where quotas forced officials to identify Ukrainians as members of a Polish conspiracy and peasants as Kulaks to meet targets.[62] Thus, when NKVD officials were first arrested for anti-Soviet conspiracies and later for violating Soviet law, the former was entirely fabricated, and the latter involved arresting specific officials for universal abuses. While the magnitude of repression may be used and was perceived at the time as a signal for loyalty and competence, these officials were pressured to perform to the point of physical and mental exhaustion, with many NKVD officials committing suicide due to the mental strain. Under such pressure, the magnitude of repression can hardly be a signal for loyalty, and it is not clear what sort of competence can be measured by the number of individuals who officials could round up and implicate for entirely fabricated charges. These facts imply that the leadership did not have dependable information about the loyalties and abilities of their agents.

Association with a purged high-ranking officer may simply signal the low-ranking officer's undesirable qualities, such as laziness or disloyalty ("type selection"). I argue that the type selection explanation is compatible with the present paper's proposed theory and that it is difficult for this

[59]Montagnes and Wolton, "Mass Purges."

[60]Montagnes and Wolton, "Mass Purges."

[61]Vatlin et al., *Agents of Terror*, 41.

[62]Viola, *Stalinist Perpetrators*, 118; Vatlin et al., *Agents of Terror*, 41–2.

motivation to drive the results we see without incurring the collective action logic.

An alternative explanation would be that purging autocrats interpret low-ranking officials associating with or being exposed to bad types (i.e., agents whose preferences do not align with those of the principal or inherently lack in skill or motivation, depending on the argument) in the higher ranks either as (a) homophily, where bad types associate with each other on their own, or (b) infection, where bad types transform their associates into bad types. Both are plausible, since cliques of mutual interest are bound to form between agents sharing interests or preferences, and anti-party sentiments can spread through exposure. This explanation does not challenge our theory since these bad types pose a threat both on their own and as a network. A purging autocrat is likely to account for the effect of proximity in enabling collective action by bad types beyond their mere presence. It is possible but not plausible for autocrats to worry only about bad types who do not produce dangerous network effects. Examples of bad types that produce no adverse collective action-promoting network effects may include laziness and incompetence. However, given that the overwhelming majority of repressed security officials were indicted with universally practiced violations, this, too, is unlikely. Furthermore, an important driver of low performance was the networked collective action in which networked officials would cover for each other and hide information from superiors—already a form of adverse collective action.

In a related possibility, trivial patterns of guilt by association may arise if it is more facile to build cases against those who had ties to other repressed officials. Indeed, in the qualitative evidence on the trials conducted against low-level security officials at the end of the Great Terror, such connections were often brought up in the court proceedings when indicting the accused.[63] However, again, almost all defendants were tried for crimes that were universally practiced, that of violating socialist legality[64]—falsifying cases, using torture to obtain confessions, and similar actions. Thus, there was no shortage of witnesses who could attest to any given official's complicity with violations of socialist legality, so it should not have been more difficult to build a case against any particular person involved in the operations. Yet, only around six percent of the NKVD officials in my dataset were repressed—showing that the repressions against particular security officials were quite selective.

Another explanation offered for the purges of officials is that they were used to open up the higher ranks to credibly guarantee promotion for lower-ranking officials; the underlying objective was ostensibly to induce

[63]Vatlin et al., *Agents of Terror*; Viola, *Stalinist Perpetrators*; Viola and Junge, *Laboratories of Terror*.

[64]Viola and Junge, *Laboratories of Terror*, 10.

service and loyalty from young officials at a stage when their compensation was low.[65] Yet, this explanation says nothing about the identity of purge victims other than their seniority. In any case, during the 1930s, the NKVD was a growing service with plenty of promotion opportunities, especially for lower-ranked members entering the service. In 1935, the NKVD employed 22,893 persons;[66] by 1940, this number had grown to 32,163.[67]

A common alternative explanation is that the low-level purges resulted from inter-factional conflict.[68] This phenomenon is likely one of the factors that enabled the factional purge logic outlined in this paper. As Getty[69] shows, Stalin intervened in such conflicts both to maintain the NKVD's effectiveness and to use these rivalries to combat clique strength, as when he used Beria and his clique to combat the clique of his predecessor, Nikolai Yezhov, in 1938. Undoubtedly, inter-factional rivalries enabled these purges, but these struggles were also exploited as a part of Stalin's strategy to implement the logic of purges explored in this paper.

A similar concern with the previous two concerns is that the purges of the lower ranks might simply be a way for the winning clique leader to bring his entourage with him, which was a common and well-documented occurrence at all levels. Additional analysis in the Appendix shows that this was indeed a systematic occurrence. However, the results are still robust to controlling for the purge of a current boss, demonstrating that the explanation presented in this paper holds the net of the entourage issue. Furthermore, the Appendix contains the frequency of transfers across ranks, finding the lowest two ranks to have considerably fewer regional transfers than higher ranks.

The foregoing alternative considerations all capture aspects of the phenomena. Yet, neither individually nor collectively do they rule out the explanation offered here.

Implications for Research and Policy

Whereas past studies on purges to control authoritarian coercion have not applied the logic of collective action through social ties, this study reveals how purges based on social network ties were used to control low-ranking

[65]Svolik, *Politics*, 177.

[66]Nikita Petrov and Aleksandr Kokurin, "NKVD – Struktura, Funkcii, Kadry, Stat'ya Pervaya [NKVD – Structure, Functions, Cadres, First Article]," *Svobodnaya Mysl [Free Will]* 6, no. 1463 (1997): 108.

[67]Nikita Petrov and Aleksandr Kokurin, "NKVD – Struktura, Funkcii, Kadry, Stat'ya Vtoraya [NKVD – Structure, Functions, Cadres, Second Article]," *Svobodnaya Mysl [Free Will]* 7, no. 1464 (1997): 112.

[68]Getty, *Practicing Stalinism*, 170–80.

[69]Ibid., 174.

security officials. The analysis suggests that the purges of low-ranking security workers are systematically related to their factional relationships. The study thus elucidates the mechanisms underlying the logic of clique-based purges of the coercive organs. This is a perennially recurring phenomenon in the interaction between autocratic principals and their coercive organs.

It also contributes to the literature on authoritarian institutions and authoritarian elite coalitions by offering a micro-level test of the implications of existing elite coalition theories, suggesting that cliques are a basis for elite power in a state. It extends the literature on coup-proofing by examining methods of undermining collective action within a given security apparatus at the lowest levels. It provides a first glance into purges of coercive state security organs, a phenomenon that has been scarcely studied on a systematic basis in authoritarian politics literature. As such, the paper contributes to a new research agenda focusing on modeling the management and control of coercion under authoritarianism.

Future research must explore the micro-logic of purges in other regimes to gain an understanding beyond the especially notorious Marxist-Leninist cases. There is also a need to explore the individual-level logic of collective action within security forces. For example, the internal workings of attempted coups and conspiracies, how and when individuals join in, and how such connections are correlated with underlying networks that enable collective action. The paper raises the question of whether initial coup coalitions correspond to preexisting clique networks.

Furthermore, future theoretical and empirical research must clarify the scope conditions to specify when leaders are likely to implement purges that target clique structures down to the lower levels. In the present case, targeted purges occurred parallel with other common strategies such as stacking, counterbalancing, and rotations. However, the security apparatus was quite consolidated in the NKVD, unlike other cases where the security organs would be spread across multiple organizations with unclear and overlapping responsibilities.[70] Would similar purges occur in security organizations organized along such lines? Furthermore, in cases with even stronger ethnic stacking or the appointment of family members, such as in the case of Syria under the Assads, would we expect to see similar strategies—or are such security organs the result of targeted purges for such regimes? The present paper shows the logic of purging down to the lower levels. It demonstrates a case in which this occurs—yet this result is insufficient to understand the conditions under which purges extend

[70]Sheena Chestnut Greitens, *Dictators and Their Secret Police* [in Eng] (Cambridge University Press, August 2016).

to the lower levels and when they remain elite purges, highlighting the need for future cross-case analysis.

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