

Parochialism, place-based identity and radical-right voting

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Abstract

What explains the radical right's electoral success? We propose that voters in "parochial" regions are more predisposed to voting for radical-right parties. We define "parochialism" as a geographic community where voters possess strong place-based social identities characterized by four attributes: low contact with outsiders; strong in-group ties; hostility towards outsiders; and, above all, high dialectal distance from the national standard language. We measure place-based social identity with 725,000 responses to a unique survey of regional German dialects. Using aggregate and individual-level data, we demonstrate that dialectal distance from the national standard language strongly predicts voting for the radical-right AfD party. Our contribution is two-fold. First, we clarify the concept of place-based social identity and its connection to parochialism as a source of radical-right voting. Second, drawing on recent research in socio-linguistics, we demonstrate that dialects are a useful measure of social identity not previously used to explain political behavior.

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1 Introduction

What explains the electoral success of the radical right? A rich body of research seeks to understand the various sources of radical-right voting in established democracies (Kriesi et al. 2008; Gidron and Hall 2017; Colantone and Stanig 2018b; Rydgren 2008; Dinas et al. 2019; Hangartner et al. 2019). This literature predominantly focuses on the relative importance of economic or cultural grievances in explaining individual-level voting outcomes—with some studies combining a focus on both. One area of inquiry that has been mostly absent in the comparative politics discussion is the consequences of *how voters themselves think about the particular geographic communities in which they live*, or what Katherine Cramer (2012, 2016) in her influential work on American politics calls “place-based social identity.”

In this paper we draw on several strands of literature to make the case that if individual voters’ place-based social identity is strong in a particular geographic community, parochialism — an attribute of geographic communities — can become a driving force of the radical right. First, we clarify that the classic notion of “parochialism” (Merton 1968; Gans 1962), which has recently been used in the social sciences with a variety of applications at the individual level of analysis, (Kustov 2020; Winter and Zhang 2018), is also an attribute of geographic communities. Second, we specify how the concept of place-based social identity (Cramer 2012, 2016; Enos 2017; Fitzgerald 2018) provides a useful micro-foundation linking the idea of “parochialism” to politics. Third, drawing on recent empirical work in the field of sociolinguistics that analyzes links between language and identity (Remlinger 2009; Becker 2009), we highlight the role of one key attribute of place-based social identity that political scientists to date have not explored: the role of language, accents, and, in particular, “dialectal distance” from a national standard language. Finally, we demonstrate the consequences of this form of identity and parochialism for voting behavior, providing a new answer to the question of why people vote for the radical right.

Our main contention is that voters are more likely to vote for the radical right in parochial geographic communities where a strong place-based social identity is present, sustained by four attributes: low contact with people outside the local area; strong social ties and identification with the local area; hostility and suspicion of individuals not from the area; and the presence of a high level of dialectal distance from the national standard language.

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We test our argument by studying the electoral rise of the radical-right *Alternative für Deutschland* (AfD) party in the 2010s in Germany. To measure the presence of parochial geographic communities, we rely on a cultural characteristic of strong place-based social identity that to our knowledge has not been closely studied in political science: the strength of local dialects. Regions which are, in dialectal terms, “closer” to the national standard language reflect the accumulation of a history of greater economic interaction and cultural exchange with the rest of a country. In the German context, for example, closeness to standard German acts as a marker of cosmopolitanism and indicates greater social contacts with other communities. By contrast, residents in regions with more distinct dialects are likely to be part of smaller social networks that do not extend far beyond their place of residence, and as a result possess stronger local place-based social identities.

Thus, while the four attributes identified above are associated with strong place-based social identity, we self-consciously elevate dialectal difference to the center of our analysis not only because its electoral consequences has not be studied before but also because, as a large body of research in sociolinguistics has demonstrated, dialect is different than the other dimensions of the concept; It *defines* local identity much more closely than any of its other attitudinal correlates.¹ To assess the strength of place-based identity, therefore, we measure the strength of local dialects by drawing on 725,000 geo-coded responses to an online dialect survey (Elspaß et al. 2018; Leemann, Derungs, and Elspaß 2019).

Building on the work of Elspaß (2005) who developed the measures of dialectal characteristics in Germany, the data collected by Leemann, Derungs, and Elspaß (2019) enables us to measure how distinct a given regional dialect is compared to standard German. We follow Falck et al. (2012) by counting the number of *dialect characteristics* that appear in a regional dialect and standard German, and then use the degree of overlap to calculate our distance measure. To substantiate the validity of dialectal distance as our main parochialism measure, we show that it correlates with the other three defining features of strong place based identity — individuals living in parochial communities have less contact with those outside of their region; stronger ties with, and greater willingness to contribute to their local in-group; and greater hostility towards outsiders.

To explore our hypothesis, we combine the Leemann, Derungs, and Elspaß (2019) dialectal dis-

¹See the literature that has demonstrated a link between local dialect and local identity, including (Labov 1963; Johnstone, Bhasin, and Wittkofski 2002; Remlinger 2009; Becker 2009)

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tance measure with electoral results from the 2017 federal elections and public opinion data from the German Longitudinal Election Study (GLES). We find support for the hypothesis that parochial communities are more predisposed to radical-right parties. In both county-level and individual data, greater dialectal distance to standard German is associated with a significant and substantively meaningful increase in voting for the radical-right AfD party. We then present suggestive evidence, consistent with existing theory (Enos 2014), that social identities are activated by an external threat: The correlation between parochialism and radical-right voting is strongest when refugee inflows were at their peak during the recent “refugee crisis”.

To ensure that our results are not driven by unobserved confounders, we conduct a range of additional tests. We show that our results are robust to the inclusion of standard economic and demographic covariates, both on the aggregate and the individual level. Our results remain unchanged when we control for nationalism, urbanization, migration, geographical isolation, and historical patterns of racism and Anti-Semitism, among a range of other controls. In addition, we include increasingly fine-grained fixed effects to demonstrate that unobserved regional heterogeneity does not underlie our findings. Following Imbens (2003), we conduct sensitivity analyses by estimating how strong an omitted confounder would need to be to control away the main finding (Cinelli and Hazlett 2020). We show that a hypothetical omitted variable as twice as strong as the unemployment rate would not change the substantive conclusions of our analysis. Taken together, these additional tests strongly suggest that our results are not a result of unmeasured confounding.

Most immediately, our findings contribute to a nascent strand of research on the impact of spatial variation and geography in advanced democracies. As local labor markets have become vulnerable to foreign trade shocks, for example, and an urban-rural divide has asserted itself as a force in democratic politics (Autor, Dorn, and Hanson 2013; Colantone and Stanig 2018a,b; Rodden 2019) coming to grips with why “left behind” regions tend to vote for the radical right is critical. Our account suggests that a focus on how exactly local roots of partisanship interact with economic geography should be at the center of ongoing research. Our findings also suggest a broader point: language, speaking, and dialect are not just linguistic phenomena but are inherently political, with consequences for electoral behavior and possibly for politics more generally.

2 Why people vote for radical-right parties and the case for parochialism

Research in political science and economics has analyzed why individuals vote for various types of political parties. A substantial amount of research seeks to understand when and why individuals vote for radical-right or fascist parties (Falter 1991; Norris 2005; Voigtländer and Voth 2012; Adena et al. 2015). A wide range of explanations have been proposed, including arguments focusing on economic grievances (Kriesi et al. 2008) and globalization shocks (Colantone and Stanig 2018a,b), cultural factors such as racial and gender resentment, age, historical legacies and religion (Voigtländer and Voth 2012, 2015; Ochsner and Roesel 2018; Homola, Pereira, and Tavits 2020; Inglehart and Norris 2016; King et al. 2008; Spenkuch and Tillmann 2018), immigration and xenophobia (Rydgren 2008) as well as the influence of the media (Adena et al. 2015).

We make the case that one underappreciated driver of the vote for the radical right is what political scientist Katherine Cramer (2012, 2016) has called “place-based social identity.” The core idea is that where people live shapes their identity and view of politics. Place-based social identity has not received as much attention in cross-national research on electoral politics (cf. Fitzgerald (2018)). But Cramer’s research has made clear especially in the American context that the geographic location of where people live matters for how people think about their status vis-à-vis others and politics. As Cramer (2016: 518) argues, place functions as a “lens” through which people view their relationship with others and their politics. A place-based social identity is built around a sense that a location and its way of life suffers some form of distributive injustice in terms of power, wealth, and prestige, in turn shaping residents’ perception of themselves, elites, and outsiders.

A place-based social identity is sustained by a particular pattern of social ties with four attributes. First, residents have limited regular contact with those outside of their community (Merton 1968; Gans 1962). Second, embedded in smaller and more isolated social networks, the moral universe of those with strong place-based social identities is more circumscribed with a sense of obligation that is primarily focused on local in-groups (Enke, Rodríguez-Padilla, and Zimmermann 2019; Rodden 2020). Third, accompanying this local altruism, however, is suspicion and antagonism towards outsiders, whether the outsiders are elites or not. This pattern corresponds to a phenomenon that psychologists have described as “parochial altruism”—altruism towards in-group members but antagonism toward out-groups (Tajfel, Billig, and Bundy 1971; Bernhard, Fischbacher, and Fehr 2006;

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Baumgartner et al. 2014). Fourth, and finally, strong place-based identity is often defined by a linguistic or dialectal difference from a national standard language. Research in psychology, linguistics, and economics has shown that individuals with strong dialects or regional accents are less likely to be successful in job interviews (Giles, Wilson, and Conway 1981; Segrest Purkiss et al. 2006; Rakić, Steens, and Mummendey 2011), are more likely to face housing discrimination (Purnell, Idsardi, and Baugh 1999), tend to be less mobile (Falck et al. 2012; Agrawal, Cockburn, and McHale 2006), and more adherent to local social ties and culture (Tabellini 2010).

Geographic communities in which these four attributes are present can be described as parochial communities. Furthermore, these four attributes of place-based social identity provide the micro-foundations that link parochial communities, political resentment (Cramer 2016) and political mobilization against outsiders. Because of latent and preexisting resentment towards outsiders in parochial communities, these regions are more prone to vote for radical right parties. They provide the demand-side of radical right electoral success. In turn, radical right parties with their exclusionary policies can politicize these resentments, but especially so with the sudden influx of immigrants which creates an opportunity to activate antagonism towards outsiders, prompting even greater anti-immigrant radical-right voting.

If parochialism is at one end of a spectrum, at the other end are regions that have the qualities researchers have alternatively called cosmopolitan or universal (Merton 1968; Enke, Rodríguez-Padilla, and Zimmermann 2019). These communities are characterized by weak place-based social identities and a very different pattern of social ties: social networks are larger, with more regular contact extending further to other communities (Merton 1968). The consequence is less local in-group favoritism and a more extended universal sense of moral obligation (Enke, Rodríguez-Padilla, and Zimmermann 2019). Third, there is less animosity towards outsiders. And fourth, dialectal distance from the national standard language is lower in these communities often due to a long history of cultural and economic exchange with outside communities (Südekum 2018). In short, in these communities, the social raw materials for radical right party mobilization are lower.

Our central claim, then, is two-fold. First, individuals in parochial geographic communities are more prone to vote for the radical right because of the presence of high levels of place-based social identity as measured by the strength of regional dialects. Second, we expect consistent with

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recent experimental work (Enos 2014) that this tendency will be exacerbated when voters in these communities face an upsurge in outsiders (i.e. immigrants) in their communities. For both claims, we recognize that other traditional structural variables such as levels of education, income, urbanization, or even geographic distance from the political center of a country may predict individuals' likelihood of radical right voting. However, economic and social circumstances are not perfectly stable over time. We can imagine, for example, changes in the sectoral composition of a town as industries such as mining or agriculture become less important. Also, migration to and from a community affects its socio-economic composition.

Yet, we contend, the durability of dialectal communities and their associated place-based identities (Südekum 2018; Cramer 2016), mean that the character of place-based social identity within a community can remain relatively stable over even long spans of time. Thus, our goal here is to isolate the impact of this distinctly cultural variable: the degree to which, all else equal, the strength of local parochialism creates a ripe political environment for radical right mobilization.

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To test our argument, we combine electoral results from the two most recent German general elections with a new measure of place-based social identity. This new measure assesses the dialectal distance between German regions and standard German. To put it differently, we are measuring the strength of a dialect in a given region. As we have noted, a strong regional dialect can be a core part of strong place-based identity because it serves as a cultural marker of in-group membership, and partly reflects the degree to which a given region has interacted with other parts of the country. For measurement purposes, dialectal difference offers two further advantages over traditional survey-based measures for place-based social identity. First, while survey responses are often vulnerable to various forms of social desirability bias and can fluctuate from survey-to-survey, our data on dialect patterns reflect more fundamental and long-standing patterns. In fact, we show that dialectal patterns go back to the late nineteenth century. Second, the sample size of most surveys, unlike our comprehensive nation-wide dialect data, are generally too small to capture the fine-grained regional variation our linguistic data can. In this sense, our measure captures not just attitudes but a deeper behavioral attribute of parochialism that has a longer history. We also test below whether

or not our dialectal measure correlates with the other three characteristics we ascribe to parochial geographical communities; (1) low contact with outsiders, (2) strong social ties with and willingness to contribute to the local community, and (3) rejection of outsiders as a threat.

We employ two data sources to measure how distant a given dialect is compared to standard German. One of them is based on a contemporary data collected by the German magazine *Der Spiegel* (see: Elspaÿ et al. 2018; Leemann, Derungs, and Elspaÿ 2019), while the second relies on a linguistic survey of about 40,000 schools in the late 19th century (Lameli et al. 2014). We use the contemporary dialect data as a proxy for strong place-based social identity in our main analyses. The historical data serves as evidence for the validity of the contemporary dialect data.

3.1 Contemporary dialectal data

The most comprehensive mapping of current regional German dialects is a unique online survey conducted by the German magazine *Der Spiegel* (see Elspaÿ et al. 2018). In 2015, *Der Spiegel* created a publicly accessible dialect quiz, where individuals answer a number of questions related to regional differences in dialect.² Quiz respondents are shown a description of a verb, noun or adjective. They are then asked to select the regional version of the word from a list of choices. An example is a question on the informal version of the verb 'to chat': In East Germany, the majority of respondents use 'quatschen', speakers closer to the North-Western coast employ 'schnacken' and Bavarians use 'ratschen'.³ In total, respondents answer 24 questions, each aimed at the regional version of a specific noun, verb or adjective. While the quiz was not created for scientific purposes, the 24 questions are directly based on a prior linguistic research project aimed at describing regional differences in German dialects, the *Atlas der Deutschen Alltagssprache* (Atlas of Colloquial German, see Elspaÿ 2005).

After completing the quiz, a predictive algorithm estimates the region where the person is from. Finally, respondents are asked to evaluate the accuracy of the prediction, and can enter their hometown.⁴ About two thirds of all respondents enter their hometown, allowing us to trace responses to

²The quiz is not online anymore. A related article can be found at <https://www.spiegel.de/wissenschaft/mensch/dialekte-quiz-wo-spricht-man-so-wie-sie-a-1030362.html>. Our data spans the period from April 2015 to June 2019, when we received the data. We have no information on the date of each quiz response.

³The *Spiegel* quiz is partially based on a similar quiz created by the *New York Times*. In the American context, an example of regional lexical difference is the use of the words 'pop' and 'soda' to refer to a sweetened carbonated drink

⁴We expect that respondents will usually indicate the place where they grew up rather than their current place of resi-

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a specific location. In total, about 725,000 respondents indicate where they are from. We use this information to create a county-level measure of dialectal distance between a given county and region of Hannover, the area that is most strongly associated with standard German (for more elaboration on standard German and its relation to the Hannover dialect, see Mills 1985: 142; Polenz 2009: 123). Given the large sample, the number of respondents in each county is high. As we show in Figure A.1 in the Appendix, the majority of counties have more than 1,000 respondents.

In a first step, we obtain the most common (modal) answer in each county for each of the 24 dialect questions that are part of the Spiegel quiz. For each county i , the modal answer to quiz item k takes on the value X_i^k . In the following, we will refer to the modal answer in each county as a county-specific dialect characteristic. Depending on the dialect characteristic, X_i^k can take between 2 and 24 different values. In standard German, the k^{th} dialect characteristic takes on the value $X_{\text{Standard German}}^k$. We define the distance between a given regional dialect and standard German as follows:

$$d_i = f \dots \sum_{k=1}^{24} \mathbb{1}_{X_i^k \neq X_{\text{Standard German}}^k} \quad (1)$$

The sum on the right hand side counts the number of times a region shares a dialect characteristic with standard German, which can be at most 24. We then reverse this measure such that d_i measures dialectal distance between a given county and standard German. It can range from 0 (a dialect that is equal to standard German) to 24 (shares no characteristics with standard German). We chose this measure of dialectal distance in accordance with prior work on the effect of dialects, chiefly Falck et al. (2012), who use the same definition of distance in conjunction with the 19th-century data described in Section 3.2.

A potential drawback of our method is that it requires dialect characteristics to be exactly the same to count towards the distance measure. To ensure that the results are not driven by our choice of the dialectal distance measure, we also calculate the dialectal distance using the average Jaro-Winkler distance between the prototypical characteristics. The Jaro-Winkler distance accounts for cases when dialect characteristics are similar, but not exactly the same (for more details see Cohen et al. 2003). The two measures are highly correlated, and our main results are similar across the two

distance, if the two are not the same. The quiz

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Figure 1: Dialectal distance from standard German by county.

Note: Greater values indicate that the local dialect is more distant from standard German. The region shaded in white in the Northern central part of the country is Hannover, the region that most closely approximates standard German.

dialectal distance measures.

In Figure 1, we present the county-level distance from standard German across Germany. Unsurprisingly, the counties surrounding the Hannover region (shaded in white) are most similar to standard German. We also observe a pronounced North-South divide: Southern German dialects are markedly more different from standard German than in the Northern part of the country. The two Southernmost states, Bavaria and Baden-Wuerttemberg exhibit the greatest distance to standard German. To ensure that our results are not driven by the apparent North-South divide, we estimate all models with state fixed effects. The fixed effects allow us to analyze dialectal variation within states, rather than across states.

3.2 Historical dialectal data

As a secondary data source, we use historical dialectal data from the *Deutscher Sprachatlas* ('Atlas of the German Language', see Falck et al. 2012; Lameli et al. 2014), a survey conducted in the late 19th century. The data serves two purposes. First, we use it to validate the contemporary dialect data. By extension, we are able to measure the degree to which patterns of place-based social identity have endured since the late 19th century.

To create the *Deutscher Sprachatlas*, the linguist Georg Wenker surveyed over 40,000 elementary schools across the German Empire, asking students and teachers to translate 40 German sentences into their local dialects. Akin to the 24 dialect characteristics in the *Der Spiegel* data, Wenker's successor Ferdinand Wrede used Wenker's surveys to identify 66 'prototypical characteristics' of the German language. Much like the 24 characteristics in the Leemann, Derungs, and Elspaÿ (2019) data, we can use those 66 characteristics to construct a 19th-century distance measure between county-level dialects and standard German.⁵

Before turning to our main results, we use the historical dialectal data to validate our contemporary measure. We emphasize that the contemporary measure, while based on linguistic research (Elspaÿ 2005), was intended to serve mainly journalistic purposes. In contrast, the historical measure was the result of one of the most significant linguistic surveys ever conducted in Germany (Lameli et al. 2014). To ensure the quality of the data collected through the *Der Spiegel* online survey, we examine the correlation between the contemporary and the historical dialectal distance. While we expect that dialects change over time, they will likely not diverge completely. Indeed, the correlation between the 19th-century Wenker data and the *Spiegel* quiz data is 0.84. We visualize the relationship between the two measures in Figure A.2 in the Appendix. The high correlation confirms that the contemporary dialectal distance indeed picks up on variation in dialects as measured in prior linguistic research.

3.3 Can we capture parochialism with dialectal differences?

One of our main contributions is to argue that location-specific dialects are often a central component of place based social identity and have political consequences. But the question still arises:

⁵We elaborate more on the details of the Wenker data in Section A.7 in the Appendix.

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how well do linguistic patterns in Germany actually capture the broader phenomenon we aim to study? Below we report evidence that other survey-based measures of place-based social identity are in fact associated with our area of primary interest: local dialectal differences.

To shed light on whether, and to what extent, our measure corresponds with other features of place-based social identity, we rely on evidence from four different large-scale surveys in combination with aggregate data. We use the Ethnic Diversity and Collective Action Survey (EDCAS, see Schaefer et al. 2011), the German Socio-Economic Panel (SOEP, see Wagner, Frick, and Schupp 2007), the German Longitudinal Election Study (GLES, see Schmitt-Beck et al. 2010) as well the German sample of the Comparative Study of Electoral Systems (CSES, see Klingemann 2009). We discuss the data in more detail in the Appendix (section A.3). From each of the four surveys, we select a number of potential features of place-based social identity. We then regress each feature on dialectal distance from standard German as well as a number of standard socio-economic controls and state fixed effects. To ease comparison between models, we standardize both the dialectal distance measure, as well as all features of place-based social identity. We present the results in Table 1, where each row displays the coefficient from regressing a given characteristic of place-based social identity on distance from standard German.

We begin by examining the relationship between individuals' dialects and the level of contact with those outside their region. We aim to assess whether individuals embedded in more geographically isolated social networks where there is less contact with those outside the region also live in locations of greater dialectal distinctiveness. We draw on two sources of data for this purpose: citizen residential registration data for 2017 collected by Germany's Federal Statistical Office that tracks annual per-capita in-flow and out-flow of residential moves within Germany at the county level. Second, we use Germany's Federal Statistics Office data on average commuting distance also measured in 2017 at the county level. We find that in counties where dialects are more distant from standard German, a lower share of the population moved to, or from, a different county. In addition, individuals are more likely to commute shorter distances to their workplace. Together, these county-level measures suggest that parochial communities are significantly less integrated into the country as a whole, marked by a lower degree of residential mobility and a greater likelihood of working close to home.

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Table 1: Correlates of dialectal distance

Characteristic	Estimate	SE	Source
1. Scope of contact outside of region			
In-migration ^a	0.121	0.089	Official data
Out-migration ^a	-0.355	0.123	Official data
Avg. commuting distance (in) ^a	-0.093	0.107	Official data
Avg. commuting distance (out) ^a	-0.265	0.098	Official data
2. Social ties & contribution to community			
Friends in neighborhood	0.047	0.03	EDCAS
Years in the neighborhood	0.062	0.025	EDCAS
Active in the cultural realm	0.045	0.017	EDCAS
Active in politics	0.026	0.015	EDCAS
Active in the social realm	0.026	0.024	EDCAS
Voluntary service	0.048	0.018	EDCAS
Generalized trust	-0.05	0.0237	SOEP
3. Hostility towards outsiders			
Immigration of foreigners should be limited	0.256	0.13	GLES
Salience of immigration	-0.069	0.079	GLES
Support for multiculturalism	-0.181	0.108	GLES
Diversity is conflictual	0.075	0.028	EDCAS
Local culture is harmed by immigrants	0.076	0.075	CSES
Refugees enrich German culture	-0.066	0.032	SOEP
Minorities should adapt to the customs and traditions of the majority	0.086	0.101	CSES

Notes: The table shows results from regressing selected survey items on dialectal distance from standard German. The results are from separate models, where the independent variable is always the standardized dialectal distance from standard German. All outcomes are standardized. Estimates are given in first column, standard errors are given in the second column. All models include socio-economic and demographic covariates as well as state fixed effects. For more information on the model specifications and data sources, see section A.3 in the Appendix.

^aThese results are based on county-level official statistics rather than survey data. Data was obtained from the German Federal Statistical Office.

p < .01; * p < .05; † p < .1

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Next, we turn to the structure of local ties and willingness to contribute to the local community. The relevant correlates of dialect strength are listed under item 2 in Table 1. The first two items—the number of friends that respondents report having in their neighborhood and the number of years they report having lived in their neighborhood—assess the intensity of local social ties. These two survey items are drawn from the EDCAS study. We observe that stronger dialects correlate with a larger number of friends and more years within the local area.⁶ The other five measures are taken from the EDCAS and SOEP survey, and relate to collective action, social capital and voluntary activism. The third, fourth and fifth items ask respondents to indicate whether they engage in voluntary activities in the cultural, political or social realm. The sixth survey item, 'voluntary service' captures voluntary activities of any kind. We observe that all four measures of individual engagement are positively correlated with distance from standard German. Consequently, respondents in regions where dialects are stronger display a greater willingness to contribute to the common good, which can also be interpreted as a trait of altruism. Unfortunately, none of the surveys distinguishes between collective action benefiting local communities rather than society more broadly. However, prior research has shown that voluntary activism largely focuses on the immediate local community (McLeod et al. 1996; Putnam 2000). As a result, our measures of voluntary engagement likely are not measures of universal, but rather local altruism. The final correlate in this subset further corroborates this observation. We examine generalized trust, which measures trust in society rather than trust in family, friends or the local in-group. While individuals in regions with stronger dialects more frequently contribute to the common good, their generalized trust in society is less pronounced compared to individuals with in communities that are closer to standard German.

Finally, we examine the third characteristic of parochialism: patterns of attitudes towards outsiders. The data show that dialectal distance from standard German does not predict changes in the perceived salience of immigration as a policy issue in communities. But the correlations suggest that stronger dialects are nonetheless associated with greater hostility towards immigrants. Based on a CSES survey item, we show that individuals with stronger dialects are more likely to believe that immigrants harm their local culture. Stronger dialects predict a greater degree of opposition

⁶To clarify, when we refer to 'stronger dialects', we mean communities where dialects are more distant from standard German. Since the dialect measure in all our regression measures distance from standard German, positive coefficients always indicate that a given outcome increases as dialects become stronger. Conversely, a negative coefficient indicates that an outcome decreases as dialects become stronger.

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towards future immigration, increased preferences for immigrant assimilation rather than multiculturalism as well as a tendency to state that diversity of any kind is inherently con ictual, suggesting that opposition is directed not just towards immigrants but rather any outsiders.⁷

Taken together, the correlations reported in table 1 strongly suggest that distance from standard German captures a number of characteristics that we ascribe to parochialism. Since we standardize the dialectal distance and all characteristics of parochialism, we can directly compare the magnitude of the coefficients. This, in turn, enables us to gauge for which characteristics the relationship between dialects and place-based social identity is most pronounced. Relatively speaking, we observe that coefficients are largest for outgroup attitudes (section 3 in the table) as well as for the county-level migration and commuting measures, suggesting that along with strong cultural marker of dialectal difference, circumscribed social contact and animosity towards outsiders are core features of parochialism.

4 Empirical strategy

We model the electoral success of the radical-right AfD party as a function of parochialism, as approximated by the dialectal distance between a given county and standard German. County-level AfD vote shares in the most recent federal elections (2017) are our dependent variable.⁸ In addition, we add a number of relevant covariates as well as fixed effects to account for unexplained regional heterogeneity. We focus on potential confounders that have previously been shown to predict voting for radical-right parties. To complement the aggregate electoral results, we use data from the German Longitudinal Election Study (GLES). The relevant outcomes in the GLES are a binary measure of AfD vote intentions as well as a 11-point AfD likability scale.

Using ordinary least squares, we estimate a set of models which can be represented as follows:

$$y_{i;j} = \gamma_j + \gamma_{d_{i;j}} + \gamma_{\alpha_{i;j}} + \gamma_{\mu_{i;j}}$$

Here, $y_{i;j}$ is the outcome of interest for unit i in state j , which is either radical-right voting or in-

⁷Providing some additional evidence of this last point, the last two rows in Table A.2 in the Appendix report that dialectal distance correlates with not only with animosity towards immigrants but also with distrust towards political elites in general.

⁸2017 is the first year that the AfD ran on an explicit anti-immigration platform. In the 2013 general election, the AfD was most strongly associated with Eurosceptic and economics issues.

5 Results

dividual attitudes. Our main independent variable is $d_{i;j}$, the dialectal distance between a given county i and standard German. We always standardize $d_{i;j}$ such that coefficients can be interpreted as the effect of a one standard deviation increase in dialectal distance. We also include a vector of covariates $X_{i;j}$ as well as state fixed effects γ_j .⁹ For all county-level models, we control for regional GDP/capita, average wages, population density, unemployment rates, total population, % Catholic, the share of commuters, the physical distance to the state capital and the CDU/CSU vote share in the 2013 general election. We provide summary statistics for all outcomes and explanatory variables in Table A.1 in the Appendix.

We concede that causal identification is difficult in the context our research question. We rely on the assumption that dialectal distance is independent of the potential outcomes, conditional on county covariates and fixed effects. The strongest threat to identification is omitted variable bias, namely that unobserved factors drive our findings. In a series of robustness checks, we address confounding through additional controls variables, more fine-grained geographical fixed effects, a design-based weighting approach as well a causal sensitivity analysis. As we elaborate in section 5.3, the additional analyses leave us with little reason to believe that our results are driven by unobserved confounding.

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5.1 Aggregate electoral results

In Table 2, we demonstrate that there is a significant and positive association between dialectal distance from standard German and the electoral success of the AfD. Depending on the specification, a one standard deviation increase in distance from standard German is associated with a 0.78-1.17 percentage point decrease in the voting for the AfD. The observed effect corresponds to a decrease of about 0.2 standard deviations in AfD voting¹⁰, confirming that dialectal distance is a substantively meaningful predictor of radical-right voting. This relationship holds both when comparing across German states (model 1, no state fixed effects) and within states (model 2, including state fixed

⁹The notation we use refers to counties, which form the basis for our main result. For counties, the level of observation is the same as the level at which dialectal distance is measured. Given the structure of the GLES data, the dialectal distance for survey analyses is measured at the level of the electoral district—survey respondents are nested within districts.

¹⁰The standard deviation of the dependent variable in model 2 is 5.3

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effects). In addition, we also examine the relationship between the 19th-century dialect data and radical-right voting in models 3 and 4. We find comparable results, both in terms of direction and magnitude.¹¹ In both models, we account for time-invariant regional differences by including state fixed effects. As a consequence, the effect is not simply an artifact of a North-South or East-West divide. Taken together, the results suggest that dialectal distance is a significant and substantially meaningful predictor of radical-right voting.

Table 2: Effects of dialectal distance on radical right voting in 2017.

	DV: AfD Vote share, 2017			
	Contemporary data		Historical data	
	(1)	(2)	(3)	(4)
Dialectal distance	0.778 (0.264)	1.172 (0.354)	0.898 (0.188)	0.478 (0.230)
Mean of DV	13.39	13.33	13.4	13.34
N	400	392	399	391
R ²	0.021	0.828	0.028	0.810
State FE		D		D
Covariates		D		D

Notes: Standard errors are shown in parentheses. The dialectal distance is standardized. The first two models use the contemporary dialectal distance measures, while the latter two models use the 19th-century measure. The county-level covariates are GDP/capita, average wages, population density, unemployment rate, total population, % catholic, commuters per capita and distance to the respective state capital. $p < .01$; $p < .05$; $p < .1$

Given its history as a divided country, the radical right's fortune has significantly differed between East and West Germany. Since the fall of the Berlin Wall in 1989, the East has voted in higher numbers for radical right parties such as the 'Nationaldemokratische Partei Deutschlands (NPD)' and the 'Republikaner' and a similar pattern holds true for the AfD. This might suggest that the relationship between parochialism and AfD voting is particularly strong in East Germany. However, as we show in the Appendix Table A.3 this is not the case. Splitting the sample into East and West shows that the association between parochialism and AfD voting holds in both parts of the country.

¹¹We stress that all covariates and the state boundaries used for the fixed effects are post-treatment with respect to the historical dialectal distance measure. Therefore, the results in model 4 should be treated with caution.

5.2 Individual-level results

We now examine the relationship between dialectal distance and political preferences on the individual-level. We begin with panel evidence of the German Longitudinal Election Survey (GLES, see Schmitt-Beck et al. 2010). We use the survey data to complement the aggregate electoral results discussed in the previous section. While aggregate data is informative to study actual behavior, survey data also allows to incorporate additional individual-level controls such as income, education, social class as well as nationalism. A second advantage is that there are 18 GLES waves between 2013 and 2018. This allows us to gauge whether place-based identities were 'activated' as communities experienced an unprecedented influx of outsiders during the 2010s refugee crisis.

The GLES survey includes information on the electoral districts where respondents reside. Accordingly, we aggregate the Elspaÿ et al. (2018) dialect quiz responses to the level of the electoral districts. There are 299 electoral districts in Germany, which means that each district contains, on average, about 1.3 counties. Aside from the changing level of aggregation, the definition of the dialectal distance measure remains the same as discussed in section 3.1. From the GLES, we select (1) two items asking about vote intentions in the next general election and (2) an item that asks respondents to report positive or negative feelings towards the AfD party. The vote intention items simply ask respondents to indicate their most likely vote choice for both the district candidate and the party vote choice in the next general elections. The party attitude item asks respondents to rate the AfD party on a 11-point scale.¹² In a first step, we pool 18 GLES waves between June 2013 and March 2018. We then estimate the effect of dialectal distance on individual vote intentions and attitudes towards the AfD party.

We present the results from the pooled sample in Table 3. Across 18 waves of the GLES, we find that dialectal distance predicts an increase in the likelihood to vote for the AfD party. Likewise, respondents are more likely to rate the AfD favorably when dialects in their electoral district are stronger. We control for respondents' gender, age, education, employment status, income, the urbanity of their location and separately also for their self-rated nationalism. The main results are statistically different from zero and mirror the findings in section 5.1, where we document similar

¹²The exact wording is 'Was halten Sie so ganz allgemein von [der AfD]?', which translates to 'What do you think of / what is your attitude towards the AfD party'. Respondents answer on 11-point scale, ranging from very negative to very positive.

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patterns on the aggregate level.

We emphasize that our conclusions remain unchanged when we control for nationalist attitudes. In two GLES waves, respondents are asked to share their opinion on three items relating to nationalistic ideology. To form a composite scale of nationalism, we sum those three items.¹³ By controlling for nationalism among the GLES respondents, we show that place-based identity and nationalism are two distinct concepts. Our results remain substantively meaningful even when we condition on nationalism.

Table 3: Effects of dialectal distance on radical right voting intentions and likability.

	AfD vote intentions				AfD scalometer	
	Candidate vote		Party vote		Range: 1 11	
	(1)	(2)	(3)	(4)	(5)	(6)
Dialectal distance	0.011 (0.004)	0.023 (0.007)	0.010 (0.004)	0.016 (0.007)	0.225 (0.050)	0.253 (0.064)
Mean of DV	0.06	0.12	0.07	0.13	3.31	2.93
N	31,019	3,414	31,019	3,414	33,104	3,581
Unique respondents	2,089	1,992	2,089	1,992	2,089	2,065
R ²	0.017	0.073	0.017	0.063	0.047	0.120
East-West FE	D	D	D	D	D	D
Covariates	D	D	D	D	D	D
Covariate: nationalism		D		D		D

Notes: The first two models are linear probability models that predict the likelihood of intending to vote for the AfD in the next general election. The third model uses dialectal distance to predict positive attitudes towards the AfD party. We pool 18 waves of the German Longitudinal Election Study (GLES). Standard errors, clustered by respondent, are shown in parentheses. The dialectal distance is standardized. The covariates are respondent gender, age, education, employment status, income, nationalistic attitudes and urbanity of the place of residence. $p < .01$; $p < .05$; $p < .1$

Finally, we exploit the panel structure of the GLES data to better understand how the correlation between place-based identity and favorable attitudes towards the AfD varies across time. We focus on a pivotal time period in recent German history, the German refugees crisis. Instead of pooling all 18 waves, we estimate model 3 from Table 3 separately for each GLES wave. In Figure 2, we report the association between dialectal distance to standard German and favorable attitudes towards the AfD party, across all 18 waves.

We find suggestive evidence for a stronger correlation between place-based identity and favorable attitudes towards the AfD as the refugee crisis becomes more salient. In 2013, political elites

¹³The index is a 15 point scale based on three questions. The questions are: (1) how important is being German for your identity, (2) how likely are you to use the word 'we' versus 'they' when speaking of the German people and (3) how well does the adjective 'German' suit you? Each item allows respondents to pick from five answer categories, each measuring different levels of agreement with the survey question. As a result, our composite index ranges from one to fifteen, with greater values indicating higher degrees of nationalism

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Figure 2: Effects of standardized dialectal distance on AfD likability scale over time.

Note: We plot coefficients and 95% confidence intervals from models estimated separately for each GLES wave. On the x-axis, we indicate the first day of data collection for each wave. The models follow the specification in model 5 in Table 3.

and the media did not heavily engage with questions of migration, the term 'refugee crisis' was not yet topical at the time. In our results, we find that the effect of dialectal distance in 2015 is more than twice as large as in 2013.¹⁴ The first public reports about a large influx of refugees to Europe and Germany started in 2014, when the amount of asylum-seekers started to increase significantly in comparison to 2013 with 627,000 people seeking asylum across Europe. Thus, the findings we report here can be read as suggestive evidence in line with the mechanism that the increase in "outsiders" and the perception of crisis leads to a stronger relationship between place-based identity and voting for radical-right parties. Most importantly, refugees in Germany are assigned proportionally to the population size of each state making refugee influxes in relation to population sizes almost equal across states. This means that we have little reason to assume that the influx of refugees had

¹⁴To formally test this, we run an interaction model with a dummy variable indicating the waves surveyed prior (up until wave 7) and during the refugee crisis. We find a significant difference between the coefficients prior to the refugee crisis and the first wave during it.

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stronger direct effects for certain communities. Instead, it appears that the perceptions of the in ux differentially activated parochial social identities across regions.

5.3 Robustness

In addition to the main results, we conduct several additional checks to ensure that our results are not driven by unobserved confounding, idiosyncrasies in the sample, the choice of covariates or the operationalization of the outcome.

In a first step, we show that the results are robust to including two additional controls. To ensure that our measure of place-based identity is not confounded by a history of nationalism or racism, we add the a indicator for a history of pogroms in the 1920s (taken from Voigtländer and Voth 2012) and the NSDAP (Nazi party) vote share in 1933 as additional controls. In columns 2 and 3 in Table A.3 in the Appendix, we show that the effect size and significance remains unchanged when we include these controls.

Second, we demonstrate that our results are robust to an alternative operationalization of the outcome. As shown in section 3.1, our dialectal distance measure requires exact matches between characteristics of regional dialects and standard German. We relax this requirement in Table A.4. Here, we instead use the Jaro-Winkler distance, which takes into account words that are similar, but not exactly the same.¹⁵ We show that the choice of dialectal distance measure does not change our conclusions. Substantively, the effect sizes are similar to what we show in our main specification in Table 2.

Third, we add fixed effects for Regierungsbezirke (administrative districts), the administrative level below federal states.¹⁶ While state fixed likely already account for a large degree of unobserved regional heterogeneity, the smaller administrative districts allow us to account for an even greater amount of spatial confounding. As we show in Table A.5 in the Appendix, adding administrative district fixed effects does not change our substantive conclusions.

Finally, we use an alternative, design-based approach to estimate treatment effects. In doing

¹⁵See Cohen et al. (2003) for a precise definition. As before, we calculate the distance for each of the 24 dialect characteristics and then average them, such that $d_i^{J-W} = \frac{1}{J} \sum_{k=1}^J d^{J-W}(X_i^k; X_{\text{Standard German}}^k)$, where d^{J-W} is the Jaro-Winkler distance.

¹⁶The 'administrative district' unit only exists in the four large states of Bavaria, Northrhine-Westfalia, Hesse and Baden-Wuerttemberg. For all other states, the administrative districts unit is not distinct from the federal state. Taken together, there are 31 administrative districts.

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so, we rely on the covariate balancing propensity score for continuous treatments (see Imai and Ratkovic 2014) to (1) estimate a propensity score model for treatment assignment and (2) obtain covariate balancing weights. The propensity score uses all covariates and state fixed effects that we include in our main model. While the dialectal distance treatment remains correlated with some of the covariates, CBPS weighting greatly improves balance. In Table A.6, we present the results. In the weighted models, the estimated effect of dialectal distance on AfD voting is comparable in magnitude and significance to our base models.

5.3.1 Sensitivity to unobserved confounding

As an alternative approach to address confounding, we implement an additional sensitivity analysis (Imbens 2003). Although we already control for several social, demographic and economic variables, it is logically impossible to account for all possible confounders. One alternative approach would be to find a suitable instrument for our dialectal measures. Yet, finding an instrument that fulfills the exclusion restriction for dialectal distance – which has deep cultural and historical roots in communities – seems unlikely.

Instead, we implement a sensitivity analysis to gauge how strong an unobserved confounder would have to be to invalidate our findings (for a more in-depth discussion of such methods, see Imbens 2003). We implement the sensitivity using the method and package developed by Cinelli and Hazlett (2020). We use the main results from the second model in Table 2 as the baseline model for the sensitivity analysis.

In Figure 3, we present the results of the analysis. A point in the plot represents a hypothetical unobserved confounder. The x-coordinate represents the partial R^2 of the confounder with respect to the treatment (dialectal distance) and its y-coordinate represents the partial R^2 with respect to the outcome (radical right voting). For reference, we have included the partial R^2 values for the unemployment rate as well as hypothetical confounder that is twice as strong as the unemployment rate (see also table A.7 in the Appendix, where we show the same quantities for all covariates). The numbers shown next to the variable names in the plot indicate the effect size if an unobserved confounder with the same strength were included in the model. If we had failed to include a confounder that is as twice as strong as the unemployment rate – by far the strongest predictor in our models

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Figure 3: Sensitivity analysis

Notes: Results from the sensitivity analysis proposed by Cinelli and Hazlett (2020). The plot indicates how strongly confounders would have to be correlated with the treatment and the outcome to reduce the estimated effect size to zero (dashed red line). The original effect size from table 2 is shown in the bottom left corner – the scenario where there is no unmeasured confounding. The red diamond shape indicates partial correlations for unemployment rates and a hypothetical confounder that is twice as strong as the unemployment rate. The interpretation of the two controls variables is as follows: if we were to include a confounder as strong as the unemployment rate, the estimated effect size would drop to 0.95.

the estimated effect size would drop to 0.73. To put it differently, even if there was an unmeasured confounder as twice as strong as the unemployment rate, adding it would not change the substantive conclusions of our paper.

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Explanations for the demand side of radical right party electoral success typically focus on how voters' economic status and cultural resentments generate disaffection with establishment political parties (Gidron and Hall 2017; Inglehart and Norris 2016; Hangartner et al. 2019). As useful as these approaches are, political science has not given equivalent attention to the question of how the structure of local social ties – where voters actually live, shape their predisposition to vote for the radical right. While many other factors are at work in explaining the radical right, we have found, all else equal, voters are more likely to vote for the radical right in parochial geographic communities

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where a strong place-based identity is present, sustained by four main attributes: low contact with outsiders, strong local ties, hostility towards outsiders and the presence of a high level of dialectal distance from the national standard language.

We have demonstrated this in the German setting, based on a unique online dialect survey of 725,000 respondents and a 19th century linguistic survey, which allowed us precisely to map variation in local dialect strength across the country. We in turn find that regions where the local dialect is further from standard German are more likely to vote for radical-right parties. We draw on electoral results and survey data to show that the association between this pattern of place-based identity and radical-right voting holds both on the aggregate and on the individual level.

Furthermore, we observe a robust positive correlation between 19th-century dialectal distance and current radical-right voting. We regard this as evidence that place-based identity is an enduring phenomenon that persisted over the 20th century, a period of unsettling conflict, social change and political upheaval. This itself suggests that dialects can be a useful empirical measure for social identity even for historical periods before systematic research on political attitudes and behavior were easily available.

In addition to its methodological value, our perspective also suggests broader theoretical applicability. Our focus on how dialect affects local identity, and thereby voting, represents a new perspective in the study of electoral behavior. A long-standing field of sociolinguistics has repeatedly demonstrated that speaking is more than a linguistic act; it is a social act, and correlates with different patterns of self-presentation and identification (Labov 1963). We have demonstrated that language can be political too. All else equal, regions where dialects are stronger are regions where there is less contact with outsiders, local ties are stronger, hostility towards outgroups is greater, and, as result, voting looks different. Given the enduring importance of regional dialects in many national settings around the world (Garrett 2010; Upton and Widdowson 2013: 200-224), the electoral consequences of location-specific dialects are a promising area of research

This line of research, we believe, is relevant, furthermore, because one of the emerging dynamics within established democracies is the return of geography (Autor et al. 2016; Rodden 2019). The drivers of radical right populism, it has become clear, do not always unfold evenly across a country's territory but instead have a spatial component – some locations are more prone to political radical-

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ization than others. Existing research has made clear the economic roots of this. In the United States, for example, locations that experience employment shocks due to international trade are more likely to vote populist (Autor et al. 2016; Herrera, Morelli, and Sonno 2017; Colantone and Stanig 2018 b). Likewise, in established democracies, growing economic inequality, it has been argued, has activated the type of reactionary identity politics that fuels nativism and right wing radicalism (Piketty 2020). Less fully appreciated, however, to date is how economic geography interacts with non-material social patterns local patterns of social identification that predispose certain communities to vote more for the radical right than others. As this paper has made clear, understanding the interaction of economic geography and these less-studied attributes of local communities in cross-national perspective remains a promising area for future research.

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A Appendix

A.1 Summary statistics

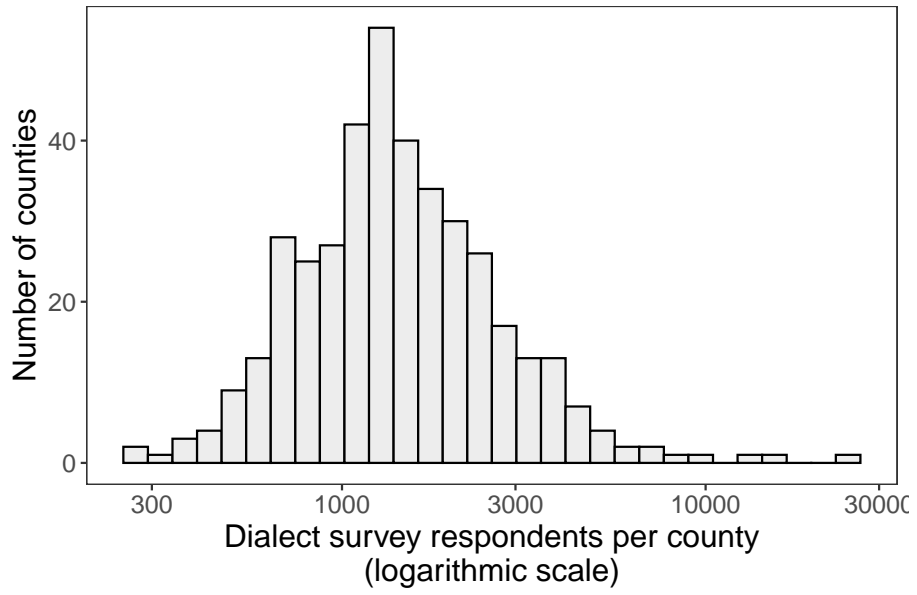
Table A.1: Summary statistics, county-level

	Mean	SD	Min	Max	Valid obs.
Dialectal distance					
Distance from standard German	10.60	4.69	0.00	18.00	401
Distance from standard German (Jaro-Winkler)	0.17	0.09	0.00	0.33	401
Aggregate voting outcomes					
AfD vote share 2017 (% , party)	13.39	5.33	4.94	35.46	400
AfD vote share 2017 (% , candidate)	12.09	5.91	0.00	37.40	400
County-level covariates					
CDU/CSU vote share 2017 (% , party)	43.29	7.41	25.98	63.47	400
Tot. population (1000s)	206.46	242.16	34.27	3613.49	401
Pop. density / km ²	533.60	702.71	36.00	4686.00	401
Nominal GDP (EUR)	7269.56	9094.59	1087.70	109571.23	399
Nominal wage (EUR)	3698.72	4567.90	530.08	52825.89	399
Share Catholic (2011)	0.33	0.24	0.02	0.88	392
Unemployment rate (%)	6.46	3.15	1.40	16.70	392
Out-migration / capita (internal, 2017)	0.04	0.02	0.02	0.20	398
In-migration / capita (internal, 2017)	0.04	0.01	0.02	0.12	398
Combined migration / capita (internal, 2017)	0.08	0.03	0.04	0.31	398
In-commuters / capita (2017)	0.15	0.11	0.03	0.75	399
Out-commuters / capita (2017)	0.16	0.05	0.05	0.31	399
Avg. in-commuting distance (km, 2017)	48.51	17.14	14.73	122.15	398
Avg. out-commuting distance (km, 2017)	54.64	20.27	19.69	158.11	398
Dist. to state capital (km)	84.95	57.26	0.00	267.02	400
Pogroms in 1920s (0/1)	0.79	0.41	0.00	1.00	401
NSDAP vote share, 1933 (%)	45.31	11.03	15.60	78.21	396

Notes: The table shows summary statistics for all dependent and independent variables on the county level. The total number of counties is 401. The last column gives the number of counties for which the variable in question is not missing.

A.2 Respondents per county

Figure A.1: Spiegel dialect survey responses per county



Note: The Figure shows the number of respondents per county.

A.3 Correlates of dialectal distance - details

Table A.2: Correlates of dialectal distance

Characteristic	Estimate	SE	N	Year	Source
1. Scope of contact outside of region					
In-migration ^a	-0.121	0.089	392	2017	Official data
Out-migration ^a	-0.355	0.123	392	2017	Official data
Avg. commuting distance (in) ^a	-0.093	0.107	392	2017	Official data
Avg. commuting distance (out) ^a	-0.265	0.098	392	2017	Official data
2. Social ties & contribution to community					
Friends in neighborhood	0.047	0.03	3665	2011	EDCAS
Years in the neighborhood	0.062	0.025	3761	2011	EDCAS
Active in the cultural realm	0.045	0.017	3773	2010	EDCAS
Active in politics	0.026	0.015	3775	2010	EDCAS
Active in the social realm	0.026	0.024	3772	2010	EDCAS
Voluntary service	0.048	0.018	2472	2010	EDCAS
Generalized trust	-0.05	0.0237	17831	2018	SOEP
3. Hostility towards outsiders					
Immigration of foreigners should be limited	0.256	0.13	1869	2017	GLES
Salience of immigration	-0.069	0.079	1879	2017	GLES
Support for multiculturalism	-0.181	0.108	1876	2017	GLES
Diversity is conflictual	0.075	0.028	3659	2010	EDCAS
Local culture is harmed by immigrants	0.076	0.075	1524	2017	CSES
Refugees enrich German culture	-0.066	0.032	17680	2018	SOEP
Minorities should adapt to the customs and traditions of the majority	0.086	0.101	1527	2017	CSES
4. Attitudes towards elites					
People, not elites, should make policy decisions	0.119	0.059	1518	2017	CSES
Elites are trustworthy	-0.09	0.096	1518	2017	CSES

Notes: The tables shows results from regressing selected survey items on dialectal distance from standard German. The results are from separate models, where the independent variable is always the standardized dialectal distance from standard German. All outcomes are standardized. Estimates are given in first column, standard errors are given in the second column. All models include socio-economic and demographic covariates as well as state fixed effects. For more information on the model specifications and data sources, see section A.3 in the Appendix.

^aThese results are based on county-level official statistics rather than survey data. Data was obtained from the German Federal Statistical Office.

p < .01; p < .05; p < .1

A.4 Correlates of dialectal distance - data sources

Table A.2 is a more detailed version of table 1 in the main body of the paper. In addition to the coefficients and standard errors reported in the main body, we also report sample sizes and the year in which survey data was collected. As before, we standardize the dialectal distance variable, as well as all correlates of parochialism. Coefficients reported in the table can be interpreted as follows: a one standard deviation increase in dialectal distance from standard German, we observe a standard deviation change in the corresponding correlate.

As described in section 3.3, we rely on four different survey data sets to establish the relationship between dialect strength and a range of characteristics of parochialism. The principle for these analyses is similar across data sets. We regress a given feature of parochialism on dialectal distance from standard German, which is measured on the county level. To account for unobserved individual and geographic heterogeneity, we add standard economic and demographic controls, as well as state fixed effects. We have tried to make all models as comparable as possible by always including the same set of controls. When controls differ between surveys, the reason is that some demographic or economic controls are not present in some surveys. We are constrained in the choice of data sets since we need to observe the place of residence of the survey respondents at a sufficiently small geographic unit. Therefore, we cannot make use of a number of commonly used studies, such as the World Values Survey or the European Social Survey. We now describe all four data sets in turn.

Our first data source is the 2010 **Ethnic Diversity and Collective Action Survey** (EDCAS, see Schaeffer et al. 2011). With an effective sample size of around 5,200, EDCAS is a large and comprehensive survey that includes, in addition to socio-economic and demographic information, a large number of survey items related to attitudes towards immigrants, social capital, social cohesion and trust. From EDCAS, we select survey items that ask respondents to report on civic engagement, local contact with natives and migrants as well as the amount of time a respondent has lived in the local area. For each respondent, we also observe the zip code area where he or she resides. Since German zip code areas are smaller than counties, we could theoretically disaggregate the Spiegel dialect survey responses to the zip-code level. However, we refrain from doing so since (1) we want to keep the unit of measurement constant and (2) smaller geographic disaggregation comes at the cost of imprecise measurement. In addition to the county-level dialectal distance measure, the EDCAS models include controls for gender, age, education, county-level population density, county-level unemployment rate as well as state fixed effects.

The second data source is the **German Longitudinal Election Study** (GLES, see Schmitt-Beck et al. 2010), which was conducted during the 2017 general election. GLES was created to capture political attitudes, be-

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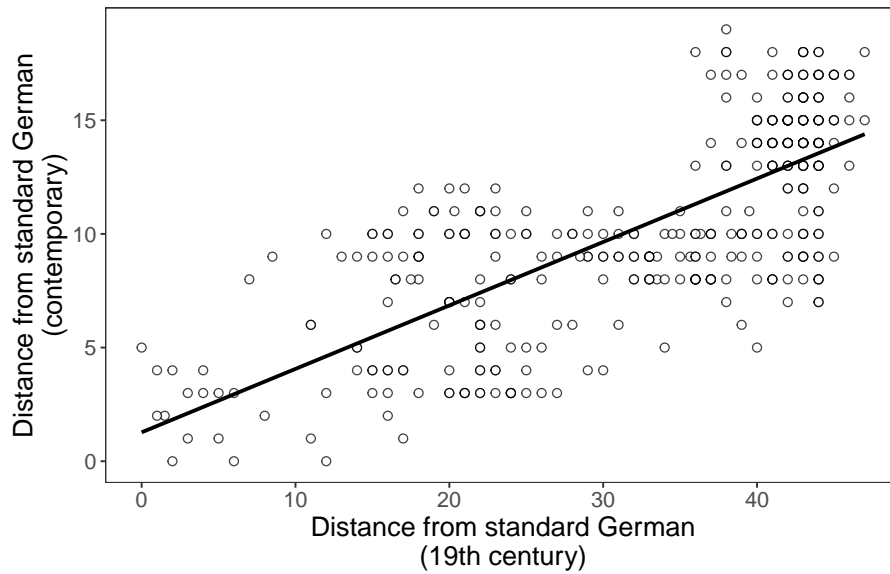
havior and knowledge among the German population. From GLES, we obtain a number items that relate to attitudes towards immigration. These include preferences for future immigration policy, perceived salience of immigration as a policy issues as well as support for multiculturalism as opposed to assimilation of immigrants. Unlike the other three surveys, GLES does not include information on the county where respondents live. Rather, it reports the electoral district. Therefore, we aggregate the dialectal distance measure to the electoral district rather than the county level. Electoral districts are slightly bigger than counties, but remain roughly comparable in size. There are about 300 electoral districts and about 400 counties, and electoral districts frequently consist of just one county. The GLES consists of multiple waves. We generally only include the last wave for which a given correlate of parochialism was measured, i.e. all models are cross-sectional. In addition to the county-level dialectal distance measure, the EDCAS models include controls for gender, age, education, income, a rural/urban dummy as well as state fixed effects.

The third data source is the **Comparative Study of Electoral Systems** (CSES, see Klingemann 2009). A cross-national study, we use the German CSES sample. We select three characteristics, two of them related to attitudes towards elites, and a third one related to whether immigrants should adapt to the customs and traditions of the majority. As with the GLES data, the unit at which dialects are measured is the electoral district rather than the county. All CSES models include the following covariates: gender, education, employment status, household income, population density, unemployment rates as well as state fixed effects.

The last data source for the models shown in Table 3.3 is the **German Socio-Economic Panel** (SOEP, see Wagner, Frick, and Schupp 2007). The SOEP is a large annual panel study with about 20,000 respondents per wave. We use two items from the 2018 SOEP. One of them asks respondents to rate how much they trust others in general (generalized trust). The other asks respondents whether they agree with the statement that refugees enrich the German culture. The covariates used in the SOEP are gender, education, household income, age, employment status as well as state fixed effects.

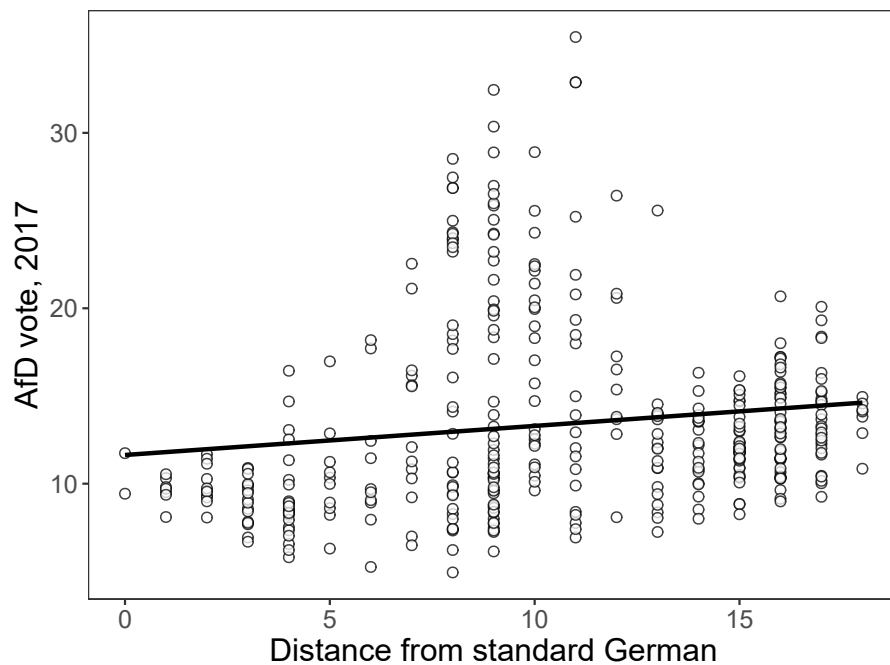
A.5 Dialectal distance measures – additional information

Figure A.2: Correlates between historical and contemporary measures of dialectal distance



Note: The Figure shows the relationship between the 18^{text}-century Wenker dialectal distance and the Spiegel measure. Greater values on both axes indicate greater dialectal distance from standard German. Note that both measures have different ranges. The solid line represents the predicted relationship from a linear model.

Figure A.3: Dialectal distance and AfD vote shares in 2017



Note: Greater values on the x-axis indicate greater dialectal distance from standard German. The solid line represents the predicted relationship from a linear model.

A.6 Robustness and sensitivity

Table A.3: Effects of dialectal distance on radical right voting – robustness

DV: AfD vote share, 2017					
	Baseline	Control: 1920s pogroms	Control: NSDAP vote share	West Ger- many	East Ger- many
Dialectal distance	1.172 (0.354)	1.171 (0.354)	1.168 (0.356)	1.028 (0.331)	2.382 (1.590)
Mean of DV	13.33	13.33	13.36	11.37	22.36
N	392	392	388	322	70
R ²	0.828	0.828	0.828	0.530	0.701
State FE	D	D	D	D	D
Covariates	D	D	D	D	D

Notes: Standard errors are shown in parentheses. The dialectal distance is standardized. The first model is the same baseline model as in Table 2. In the second model, we additionally control for whether a current county experienced pogroms in the 1920s. In the third model, we control for the per capita number of new NSDAP members between 1925 and 1933. In the fourth model, we control for the per-capita number of internal out-migrants. The last two models split the sample into East and West Germany. The county-level covariates are GDP/capita, average wages, population density, unemployment rate, total population, % catholic, commuters per capita and distance to the respective state capital. $p < .01$; $p < .05$; $p < .1$

Table A.4: Effects of dialectal distance on radical right voting – Jaro-Winkler distance

DV: AfD Vote share, 2017						
	Baseline		Jaro-Winkler		J-W, West Germany	J-W, East Germany
Dialectal distance	0.778 (0.264)	1.172 (0.354)	0.713 (0.265)	1.288 (0.349)	1.165 (0.326)	1.938 (1.432)
Mean of DV	13.39	13.33	13.39	13.33	11.37	22.36
N	400	392	400	392	322	70
R-squared	0.021	0.828	0.018	0.830	0.535	0.716
State FE		D		D	D	D
Covariates		D		D	D	D

Notes: Standard errors are shown in parentheses. The dialectal distance measure is standardized. The first and second models are the same as in Table 2. The third and fourth models use standardized Jaro-Winkler distance instead of the distance measure given in section 3.1. The last two models split the sample into East and West Germany, using the standardized Jaro-Winkler distance as the independent variable. The county-level covariates are GDP/capita, average wages, population density, unemployment rate, total population, % catholic, commuters per capita and distance to the respective state capital. $p < .01$; $p < .05$; $p < .1$

Table A.5: Effects of dialectal distance on radical right voting –administrative district FE.

DV: AfD Vote share, 2017				
	Baseline distance		Jaro-Winkler distance	
Dialectal distance	0.778 (0.264)	1.607 (0.407)	0.713 (0.265)	1.397 (0.406)
Mean of DV	13.39	13.33	13.39	13.33
N	400	392	400	392
R ²	0.021	0.872	0.018	0.871
Admin. district FE		D		D
Covariates		D		D

Notes: Standard errors are shown in parentheses. The first two models use the baseline dialectal distance measure, while the third and fourth model use Jaro-Winkler distance. Both distance measures are standardized. Instead of state fixed effects, we use lower-level administrative district fixed effects. The county-level covariates are GDP/capita, average wages, population density, unemployment rate, total population, % catholic, commuters per capita and distance to the respective state capital. $p < .01$; $p < .05$; $p < .1$

Table A.6: Effects of dialectal distance on radical right voting – CBPS weights.

DV: AfD Vote share, 2017				
	Baseline (weighted)		West Ger- many	East Ger- many
Dialectal distance	2.024 (0.251)	1.592 (0.233)	1.752 (0.203)	0.675 (0.426)
Mean of DV	13.92	13.92	11.32	22.28
N	392	392	322	70
R ²	0.860	0.896	0.585	0.755
State FE		D	D	D
Covariates		D	D	D
CBPS weights	D	D	D	D

Notes: Standard errors are shown in parentheses. The dialectal distance measure is standardized. The first two models are similar to the baseline models in Table 2. We weight each observations using weights given by the CBPS method (see Imai and Ratkovic 2014). The last two models split the sample into East and West Germany. The county-level covariates are GDP/capita, average wages, population density, unemployment rate, total population, % catholic, commuters per capita and distance to the respective state capital. $p < .01$; $p < .05$; $p < .1$

Table A.7: Sensitivity analysis – full results.

Variable	Partial R^f w.r.t. treat- ment	Partial R^f w.r.t. out- come	Adjusted es- timate	Adjusted SE	Adjusted t-stat
Pop. density / km ²	0.01	0.01	1.10	0.35	3.12
Tot. population	0.00	0.00	1.17	0.35	3.31
Nominal GDP	0.00	0.01	1.13	0.35	3.20
Nominal wage	0.01	0.01	1.12	0.35	3.16
Share Catholic (2011)	0.03	0.03	0.96	0.35	2.70
Unemployment rate	0.01	0.20	0.95	0.32	2.98
CDU/CSU vote share 2017 (party)	0.00	0.03	1.16	0.35	3.31
Commuters / capita (2017)	0.01	0.00	1.15	0.36	3.24
Dist. to state capital (km)	0.00	0.03	1.12	0.35	3.22

Notes: Full results from the sensitivity analysis outlined in section 5.3. Each row outlines the reduction in effect sizes for a hypothetical unobserved confounder with the same partial correlations w.r.t radical right voting and dialectal distance from standard German as the current covariates.

