Origins of Early Democracy Appendix

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Table A 1: Spatial Correlation and Varying Buffer Sizes

	[1] OLS	Conley S.E.
Any Council (0/1) - *0 Km*	0.037*	[0.0198]
	(0.0185)	
Any Council (0/1) - *20 Km*	0.058***	[0.0195]
	(0.0190)	
Any Council (0/1) - *40 Km*	0.059***	[0.0185]
	(0.0184)	
Any Council (0/1) - *60 Km*	0.059***	[0.0180]
	(0.0186)	
Any Council (0/1) - *80 Km*	0.060***	[0.0180]
	(0.0189)	
Any Council (0/1) - *100 Km*	0.068***	[0.0190]
	(0.0201)	

Note: Each cell reports a separate regression of *any council* on caloric variability ($0km$, $20km$, $40km$, $60km$, $80km$, and $100km$ buffers, respectively). Geographic controls include latitude, longitude, rainfall, and land gradient. Robust standard errors are reported in parentheses. Standard errors corrected for spatial dependence of an unknown form following Conley (1999) and Conley (2008) are reported in brackets. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level. Note that the magnitude of the effect varies slightly from the benchmark OLS results reported in Table 4 because we cannot include the full vector of geographic controls due to sample size constraints – certain covariates are either missing or undefined for a small fraction of SCCS socieities. Including the full set of controls critically reduces the size of our sample, preventing us from accurately estimating the degree of spatial correlation.

Table A 2: Robustness Check - Including Crop Fixed Effects

	Any Council (*=1 Council, 0 No Council*)			
	[1]	[2]	[3]	[4]
Caloric Variability	0.064***	0.052	0.052**	0.054
	(0.022)	(0.032)	(0.025)	(0.035)
Region Fixed Effects	Yes	Yes	Yes	No
Controls	Yes	Yes	Yes	Yes
Principal Crop Fixed Effects	No	Yes	No	Yes
Major Agricultural Staple Fixed Effects	No	No	Yes	Yes
Adj. R-squared	0.0991	0.157	0.177	0.192
Observations	158	128	156	126
Dep. Var. Mean	0.601	0.656	0.609	0.667

Note: Each cell reports a separate regression where *any council* is the dependent variable. The principal crop and major agricultural staple crop fixed effects represent variables *v4* and *v1123* from the SCCS. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

Table A 3: Comparing SCCS and Ethnographic Atlas Samples

	SCCS	Atlas	Difference	Std. Err.	Obs.
indicator that equals zero if gathering is 0%-5% and 1 if higher (6%-85%).	0.55	0.43	0.13***	(0.04)	1264
indicator that equals zero if hunting is 0%-5% and 1 if higher(6%-65%).	0.68	0.70	-0.02	(0.04)	1264
indicator that equals zero if fishing is 0%-5% and 1 if higher(6%-85%).	0.70	0.64	0.06	(0.04)	1264
Animal Husbandry variable (0-9 scale).	1.49	1.57	-0.08	(0.17)	1264
indicator on whether domestic animals are milked more often than sporadically.	0.30	0.31	-0.01	(0.04)	1156
Dependence on agriculture variable (0-9 scale).	4.05	4.52	-0.47**	(0.23)	1264
alternative index of dependence on agriculture (0-4).	1.77	1.78	-0.01	(0.12)	1162
indicator that equals one if polygyny is present and zero if not.	0.38	0.45	-0.07*	(0.04)	1237
alternative indicator for polygyny (as in Fenske).	0.42	0.35	0.08*	(0.04)	1265
indicator for clan communities (commuity marriage organization).	0.16	0.22	-0.06*	(0.03)	1077
variable reflecting the type of settlement patterns.	4.91	5.14	-0.23	(0.19)	1161
indicator for compact and complex settlements. (zeros indicate nomadic/sedentary	0.44	0.46	-0.03	(0.04)	1161
jurisdictional hierarchy at the local level; equals 2, 3, or 4	-0.11	-0.19	0.08	(0.05)	1141
dummy that equals one if there are patrilineal descent types.	0.30	0.49	-0.19***	(0.04)	1248
indicator for stratified societies (zero=egalitarian). as in Gennaioli-Rainer .	0.58	0.50	0.08*	(0.04)	1083
indicator on whether there are elections for the local headman.	0.15	0.10	0.05	(0.03)	910
indicator for presence of slavery. as in Fenske.	0.46	0.53	-0.07*	(0.04)	1095
indictaor for presence of some form or property rights. as in Fenske.	0.63	0.77	-0.14***	(0.04)	830

Note: Each cell reports a separate regression of the outcome of interest on an indicator equal to one representing the SCCS sample and zero for the Ethnographic Atlas. Robust standard errors are reported in parentheses in column [4]. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

Table A 4: Trade and Caloric Variability

	Importance of Trade %			Trade as Food Source (0/1)		
	[1]	[2]	[3]	[4]	[5]	[6]
Caloric Variability	0.153	0.201	0.673	0.007	-0.002	0.018
	(0.354)	(0.396)	(0.415)	(0.016)	(0.015)	(0.017)
Region Fixed Effects	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	No	Yes
Adj. R-squared	-0.00450	0.0640	0.0610	-0.00452	0.204	0.239
Observations	182	182	178	179	179	175
Dep. Var. Mean	7.747	7.747	7.640	0.665	0.665	0.663

Note: Each cell reports a separate regression of the outcome of interest on the arcsinh transformation of caloric variability. The importance of trade and trade as a food source are derived using variables *v819* and *v1* from the SCCS. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

Table A 5: Determinants of Caloric Variability and Council Presence

	Caloric Variability						Any Council (*=1 Council, 0 No Council*)											
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
Caloric Variability							0.06**		0.06**		0.05**		0.07***		0.07***		0.07***	0.05**
							(0.03)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)	(0.02)
ln(Ruggedness)	0.40***					0.32***		0.03**	0.01									0.01
	(0.08)					(0.07)		(0.02)	(0.02)									(0.02)
Habitats (100 mi.)		0.40***				0.25*				0.06	0.03							0.03
		(0.13)				(0.13)				(0.04)	(0.04)							(0.04)
Ecological diversity			0.75			1.68**						0.03	0.06					0.04
			(0.64)			(0.71)						(0.16)	(0.16)					(0.18)
Major river				-0.49		-0.22								0.14	0.18**			0.20**
				(0.35)		(0.37)								(0.09)	(0.09)			(0.09)
Rainfall (s.d)					0.00**	0.00**										0.00**	0.00**	0.00**
					(0.00)	(0.00)										(0.00)	(0.00)	(0.00)
Region F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.346	0.273	0.248	0.250	0.150	0.307	0.0774	0.0700	0.0944	0.0824	0.112	0.0376	0.0961	0.0522	0.120	0.0356	0.109	0.129
Observations	178	169	175	175	175	166	135	162	158	149	149	160	156	160	156	160	156	147

Note: Each cell reports a separate regression of the outcome of interest on the arcsinh transformation of caloric variability. Habitats (100 mile radius), ecological diversity, and rainfall s.d. are derived using variables *v1888*, *ecodivfao*, and *rainsd* from Fenske (2013), respectively. Geographic controls include latitude, longitude, their product, rainfall, land gradient, and altitude. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

Table A 6: Area and Community Size

	Caloric Variability		Any Council (*=1 Council, 0 No Council*)				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Log - Area	-0.141	-0.243**	0.013	0.017	-0.000	-0.001	-0.200
	(0.099)	(0.105)	(0.023)	(0.022)	(0.028)	(0.027)	(0.187)
Caloric Variability				0.070***	0.062**	0.049**	0.038
				(0.022)	(0.028)	(0.022)	(0.031)
Caloric Variability × Log - Area							0.005
							(0.012)
Log - Ruggedness		0.342***				0.014	0.018
		(0.073)				(0.023)	(0.023)
Habitats (100 mi.)		0.141				0.032	0.030
		(0.125)				(0.042)	(0.048)
Ecological diversity		1.711**				0.038	-0.093
		(0.663)				(0.190)	(0.217)
Rainfall (s.d)		0.001				0.001**	0.001*
		(0.001)				(0.000)	(0.000)
Major river		0.070				0.196**	0.253*
		(0.364)				(0.093)	(0.136)
Region Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Area $\leq$ 20km sample	No	No	No	No	Yes	No	No
Adj. R-squared	0.253	0.400	0.0397	0.0989	0.0694	0.122	0.131
Observations	175	166	160	156	135	147	147

Note: Each cell reports a separate regression of the outcome of interest on the arcsinh transformation of caloric variability. Area is derived using the *area* variable from Fenske (2013). Where indicated, the geographic controls are interacted with the natural log of area to flexibly control for any heterogeneous effects of geography that may be correlated with both caloric variability and council presence. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

Table A 7: Pre-1500 Caloric Variability and Impact of Columbian Exchange

	Any Council (*=1 Council, 0 No Council*)			
	[1] (20km)	[2] (40km)	[3] (60km)	[4] (80km)
Pre-Columbian Caloric Variability	0.062***	0.058***	0.062***	0.069***
	(0.022)	(0.020)	(0.019)	(0.019)
Adj. R-squared	0.0941	0.0973	0.106	0.120
Observations	158	160	161	162
Columbian Exchange: Δ Caloric Variability	0.029*	0.037**	0.033**	0.033**
	(0.015)	(0.015)	(0.015)	(0.015)
Region Fixed Effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Adj. R-squared	0.0552	0.0763	0.0683	0.0695
Observations	158	160	161	162
Dep. Var. Mean	0.601	0.600	0.596	0.593

Note: Each cell reports a separate regression of the outcome of interest on the inverse hyperbolic sine transformation of caloric variability. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

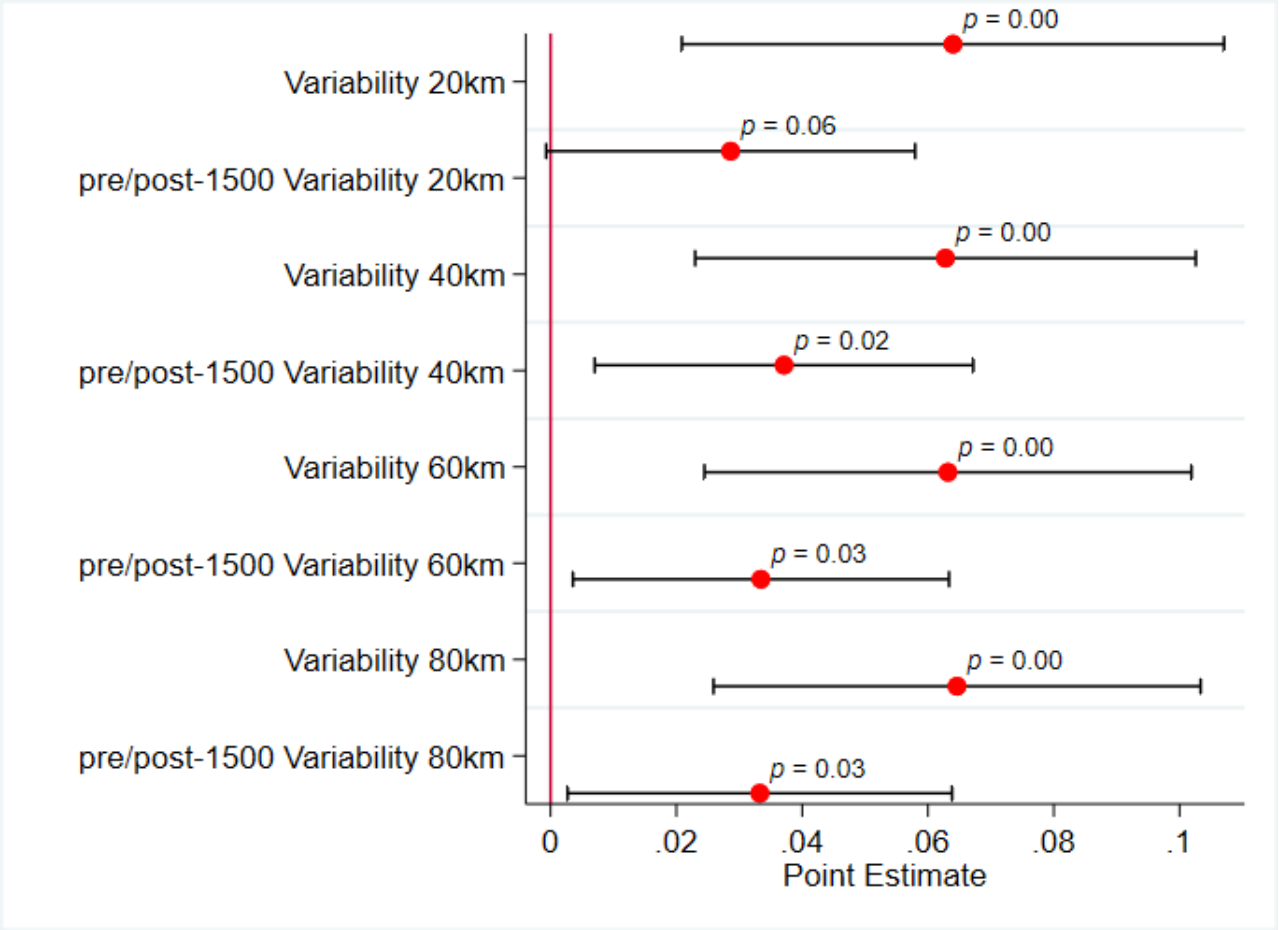

Figure A 1: Any Council (0/1), Columbian Exchange & post-1500 Caloric Variability

Table A 8: Agricultural Risk and Risk Sharing

	Any Council (0/1) *Agricultural Risk*			Any Council (0/1) *Risk Sharing*		
	[1]	[2]	[3]	[4]	[5]	[6]
Food Scarcity (0/1)	-0.135	-0.048	0.662			
	(0.144)	(0.148)	(1.597)			
Non-kin food sharing (0/1)				-0.075	0.005	-1.784
				(0.139)	(0.150)	(1.662)
Caloric Variability		0.068**	0.149		0.074**	-0.011
		(0.030)	(0.121)		(0.033)	(0.130)
Food Scarcity (0/1) × Caloric Variability			-0.047			
			(0.126)			
Non-kin food sharing (0/1) × Caloric Variability						0.099
						(0.134)
Region Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.111	0.162	0.162	0.0256	0.0940	0.0633
Observations	79	77	77	77	75	75
Dep. Var. Mean	0.570	0.584	0.591	0.545	0.560	0.560

Note: Each cell reports a separate regression of the outcome of interest on the inverse hyperbolic sine transformation of caloric variability. The agricultural risk and risk sharing variables are derived using food sharing *v1718* and food scarcity *v1719* from the SCCS. Where indicated, the geographic controls are interacted with the dummy variable for food scarcity and non-kin food sharing, respectively, to flexibly control for any heterogeneous effects of geography that may be correlated with both caloric variability and council presence. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

Table A 9: Centralized Societies and Council Presence

	Any Council (0/1) *Centralized Society*		
	[1]	[2]	[3]
Centralized Society (0/1)	0.332***	0.299***	0.183
	(0.098)	(0.099)	(0.500)
Caloric Variability		0.051**	0.048
		(0.022)	(0.031)
Central Society (0/1) × Caloric Variability			-0.014
			(0.045)
Region Fixed Effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Adj. R-squared	0.122	0.156	0.151
Observations	162	158	158
Dep. Var. Mean	0.593	0.591	0.601

Note: Each cell reports a separate regression of the outcome of interest on the inverse hyperbolic sine transformation of caloric variability. The centralized societies and statehood variables are derived using political integration *v157* variable from the SCCS. Where indicated, the geographic controls are interacted with the dummy variable for centralized society to flexibly control for any heterogeneous effects of geography that may be correlated with both caloric variability and council presence. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

Table A 10: Roots/Tubers Vs Cereals

	Any Council (0/1) *Roots/Tubers Principal Crop*			Any Council (0/1) *Roots/Tubers Vs Cereal Suitability*			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Roots/Tubers Principal Crop (0/1)	0.175	0.222	1.788**				
	(0.165)	(0.159)	(0.877)				
Caloric Variability		0.079**	0.078**			0.077**	0.088**
		(0.030)	(0.036)			(0.030)	(0.043)
Roots/Tubers (0/1) × Caloric Variability			-0.084				
			(0.082)				
Roots/Tubers Variability				0.045**		-0.015	
				(0.021)		(0.026)	
Cereal Variability					0.048**		-0.023
					(0.018)		(0.035)
Region Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	-0.0201	0.0588	0.113	0.0686	0.0809	0.0939	0.0943
Observations	84	82	82	158	158	158	158
Dep. Var. Mean	0.619	0.622	0.622	0.601	0.601	0.601	0.601

Note: Each cell reports a separate regression of the outcome of interest on the inverse hyperbolic sine transformation of caloric variability. The roots/tubers variable is derived using *v683* from the SCCS. Where indicated, the geographic controls are interacted with a dummy variable for roots/tubers to flexibly control for any heterogeneous effects of geography that may be correlated with both caloric variability and council presence. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

Table A 11: Ethnolinguistic Diversity and Communal Heterogeneity

	Any Council (0/1)							
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Contact Languages (*none, one, 2 or more*)	-0.058	-0.091	-0.078					
	(0.077)	(0.078)	(0.084)					
Community links (*no links, some links, many links*)					0.069	0.086	0.050	
					(0.071)	(0.074)	(0.084)	
Caloric Variability			0.076***	0.011			0.050	0.149***
			(0.023)	(0.054)			(0.038)	(0.032)
1 Contact Language change present (0/1)				0.347				
				(1.094)				
2 or more Contact Language changes present (0/1)				11.155***				
				(2.455)				
1 contact lang. change (0/1) × Caloric Variability				0.087				
				(0.064)				
2 or more contact lang. changes (0/1) × Caloric Variability				-0.781***				
				(0.167)				
Some links								0.014
								(1.524)
Many links								-0.979
								(2.379)
Some links (0/1) × Caloric Variability								-0.041
								(0.132)
Many links (0/1) × Caloric Variability								-0.133
								(0.094)
Region Fixed Effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Adj. R-squared	-0.00355	0.140	0.209	0.216	-0.000748	0.0573	0.0697	0.325
Observations	121	120	117	117	76	75	73	73
Dep. Var. Mean	0.562	0.567	0.581	0.581	0.592	0.587	0.603	0.603

Note: Each cell reports a separate regression of the outcome of interest on the inverse hyperbolic sine transformation of caloric variability. Contact languages and community links are derived using variables *v1832* and *v788* from the SCCS. Community links defines the number of politically relevant cross-cutting ties within and/or across communities. Contact languages represents a measure for the number of distinct changes to the communal language (e.g. introduction of foreign words, pidgin languages, vocabulary distortions) following interactions among various communities. No change implies relative communal isolation and ethnic homogeneity, while 2 or more contact language changes implies greater complexity and ethnic heterogeneity. Where indicated, the geographic controls are interacted with community link and contact language measures, respectively, to flexibly control for any heterogeneous effects of geography that may be correlated with both caloric variability and council presence. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

Table A 12: Specification Check - Ordered Logit

	Political Integration			
	[1]	[2]	[3]	[4]
Caloric Variability	0.069	0.042	0.120	0.068
	(0.064)	(0.076)	(0.075)	(0.094)
Caloric Suitability	0.229*	0.408**	0.470**	0.526**
	(0.136)	(0.177)	(0.187)	(0.229)
Region Fixed Effects	No	Yes	No	No
Controls	No	No	Yes	Yes
Adj. R-squared				
Observations	179	179	175	175

Note: Each cell reports a separate regression of the outcome of interest on the inverse hyperbolic sine transformation of caloric variability. Political integration is derived using variables *v157* from the SCCS. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

Table A 13: Neolithic Revolution, Diffusion of Agriculture, and Council Presence

	Any Council [0,1]										
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Time elapsed (1000 yrs) - Neolithic Revolution	0.028	0.025			-0.013	0.023	0.037			0.081	0.128
	(0.026)	(0.036)			(0.061)	(0.028)	(0.038)			(0.075)	(0.119)
Time elapsed × Caloric Variability											-0.010
											(0.017)
Caloric Variability						0.042	0.066**	0.089***	0.082**	0.113**	0.150
						(0.036)	(0.028)	(0.031)	(0.038)	(0.053)	(0.096)
Intermonth temperature s.d. 1901 - 2000			0.144*	0.267	0.290			0.216***	0.213	0.046	0.038
			(0.077)	(0.203)	(0.276)			(0.066)	(0.208)	(0.310)	(0.318)
(Intermonth temperature s.d. 1901 - 2000)^2			-0.016*	-0.029*	-0.031			-0.024***	-0.026	-0.014	-0.013
			(0.008)	(0.016)	(0.021)			(0.007)	(0.016)	(0.023)	(0.024)
Continent Fixed Effects	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	Yes	Yes	No	No	No	Yes	Yes	Yes
Adj. R-squared	-0.000697	0.127	0.160	0.295	0.264	0.0115	0.189	0.282	0.360	0.361	0.335
Observations	46	45	45	44	44	46	45	45	44	44	44

Note: The unit of analysis is at the country level. Data on the timing of the Neolithic Revolution and geographic controls are derived from Ashraf and Michalopoulos (2015). Controls include log distance to frontier, absolute latitude, land area, Olsson-Hibbs index of suitability of climate for agriculture, orientation of land mass, size of landmass, domesticable plant and animal species, mean elevation, ruggedness, % of land in Koppen-Geiger tropical zones and temperate zones, and dummies for small island and landlocked countries. Where indicated, the geographic controls are interacted with the time elapsed (in years) since the Neolithic Revolution to flexibly control for any heterogeneous effects of geography that may be correlated with both caloric variability and council presence. Robust standard errors are reported in parentheses. *** is significant at the 1% level, ** is significant at the 5% level and * is significant at the 10% level.

B Data Appendix

Data Description and Sources		
Variable	*Description*	*Source*
Any Council	Indicator taking a value of 1 if either local or central council present, 0 otw	Author's Calculation
Local Council	Indicator taking a value of 1 if political organization involves either *single local leader and council* or *local council*, 0 otw	Murdock et al. (1972)
Central Council	Indicator taking a value of 1 if political organization involves either *executive* or *executive or council*, 0 otw	Tuden et al. (1972)
Political Integration	Ordinal index (0 - 4) representing political complexity beyond the local level	Murdock et al. (1973)
Centralized Societies	Indicator equal to 1 if political integration is above the level of the local community (inclusive), 0 otw	Author's calculation
Caloric Potential	Potential crop yield across the globe, as measured in calories per hectare per year for a 5' × 5' grid cell	Galor et al. (2016)
Caloric Variability	Standard deviation of caloric potential in a sample of nine 5' × 5' grid cells	Author's calculation
Bureaucracy	Indicator equal to 1 if full time bureaucrat unrelated to government head present, 0 otw	Whyte (2015)
Writing	Indicator equal to 1 if writing/record (including true written, non-writing, and mnemonic devices) present, 0 otw	Murdock et al. (1971)
Trade Importance	Ordinal index indicating the percent contribution of trade to subsistence	Barry et al. (1982)
Food Source	Indicator equal to 1 if food source involves any inter-community trade, 0 otw	Murdock et al. (1970)
Food Sharing	Indicator equal to 1 if food shared among non-kin members within or outside local community, 0 otw	Lang (1998)
Food Scarcity	Indicator equal to 1 if any food scarcity experienced, 0 otw	Lang (1998)
Roots/Tubers	Indicator equal to 1 if roots/tubers recorded as principal crop, 0 otw	Whyte (2015)
Contact Languages	Ordinal index (0 - 2) capturing number of language changes (*none, one, 2 or more*) following inter-communal interactions	Divale (2000)
Communal Links	Ordinal index (1 - 3) measuring the number of politically relevant cross-cutting ties within/between communities	Divale (2000)
Neolithic Revolution	Time elapsed ('000 years) since the Neolithic Revolution	Ashraf et al. (2015)
Rainfall Variation	Coefficient of variation in mean annual rainfall (interannual variation of n sampled years)	Cashdan (2001)
Lowest/Highest Yearly Rainfall	Lowest/Highest yearly rainfall in the n years sampled	Cashdan (2001)
Max-Min Rainfall Difference	Difference between maximum and minimum rainfall	Cashdan (2001)
Rainfall (s.d.)	Rainfall Variance	Fenske (2013)
Slope	Land gradient	FAO/UNESCO (1971-8)
Altitude	Altitude (m)	Whiting (1982)
Land area	Land area (km^2)	Fenske (2013)
Ecological Diversity	Index measuring Ecological diversity (FAO classes)	Fenske (2013)
Habitats	Number of habitats in 100 mile radius	Fenske (2013)
Ruggedness	Measure of terrain ruggedness (elevation distance b/w grid cell & neighbors)	Nunn et al. (2012)
Major River	Indicator equal to 1 if major river present, 0 otw	Fenske (2013)

C Was the Effect of Caloric Variability Persistent?

The theoretical mechanism that we have proposed does not imply any lock-in or long term persistence running from geography to early democracy to democracy today. As the information constraints to which leaders are subject evolve in response to exogenous (or endogenous) changes, we should expect patterns of council governance to evolve as well. Technological change making it easier to observe production is one reason this might happen. In the previous section we explored a reason why endogenous change could impact prospects for council governance if a leader builds a bureaucracy that can be used to better assess taxation, or in other words reduce information asymmetries. Another reason for non-persistence is that in many cases SCCS societies located within a country no longer exist or have been marginalized, and so it is implausible that their political traditions would have been transmitted to the current period. Canada is not a democracy today because the Huron used councils to govern themselves. With all this said, authors of two recent papers have considered the specific issue of whether political practices observed in societies in Murdock's *Ethnographic Atlas* are correlated with political practices today. In current countries where past societies had leaders that were elected, there tends to be a higher level of democracy today.[50]. The most appropriate current institutional measure for us to consider is the seven point "executive constraints" index from the Polity data set. Just as our *anycouncil* variable is intended to capture the extent to which an executive shares power with another group, the executive constraints index is designed to capture the extent to which individual executives cannot make decisions on their own.

Table A14 reports the results of three alternative specifications where we regress the value of the executive constraint index in a given country in 2016 on either our *any council* or our *political integration* variable from the Standard Cross Cultural Sample. One immediate problem with this strategy is that the SCCS societies and current country boundaries match very imperfectly. Some current countries have multiple SCCS societies

[50]Giuliano and Nunn (2013) and Bentzen et al. (2017)

Table A 14: Early Councils and Executive Constraints Today

	Polity Index		
	[1]	[2]	[3]
Any Council (0/1)	1.138**		1.081**
	(0.480)		(0.530)
Political Integration		0.194	0.070
		(0.203)	(0.267)
Region Fixed Effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Adj. R-squared	0.247	0.238	0.234
Observations	73	81	73

Note: Each cell reports a separate regression where the Executive Constraints index from the Polity dataset is the dependent variable. Geographic controls include latitude, longitude, their product, rainfall, land gradient, and altitude. Robust standard errors are reported in parentheses.

within them while others have no SCCS societies. Also, a number of SCCS societies are located in small Pacific Island countries that the Polity dataset does not cover. The strategy we adopted was to average SCCS political institutions values for each country. We then regressed this on either our *any council* variable or our *political integration* variable, or the two of them simultaneously together with a set of region fixed effects and coordinate fixed effects.

The results of the Table A14 regressions suggest that previous governance by council is indeed associated with a higher level of executive constraints today. They provide no indication that the prior degree of political integration either helped or hindered democracy today.[51]

In the first and third specifications the implied magnitude of the effect of having

[51] Jacob Hariri (2012) has previously shown evidence that a high degree of early state development tends to be correlated with lower levels of democracy today.

had council governance is large, equivalent to a one step on the seven point executive constraints scale, or more than one half of a standard deviation. Taken together, the Table A14 estimates provide some indication of persistence in the degree of consent-based decision-making.

D Variability by Region in the Correlation Between Council Presence and Caloric Variability

Using a set of pre-defined regions from the SCCS (the same as those shown in Table 1) we ran an interactive model where the the coefficient on *caloric variability* was allowed to vary by region. There were significant differences in these interaction term coefficients between regions (a test of the null that they were jointly equal was rejected). This is not at all surprising. Our theoretical model, for one, predicts that caloric variability should only matter in instances where the revolt (or exit) constraint is sufficiently tight, and this is something that may vary across regions. There is no indication in this data that the positive correlation between *any council* and *caloric variability* was specific to one region instead of being a broader phenomenon.[52]

[52]The coefficients and standard errors on the interaction terms in this model were Middle Old World 0.084 (0.056) Southeast Asia/Insular Pacific 0.176 (0.075) Sahul 0.040 (0.099) North Eurasia/Circumpolar 0.126 (0.496) Northwest Coast North America 0.0306 (0.073) North and West of North America -0.028 (0.111) Eastern Americas 0.255 (0.075) Mesoamerica/Andes 0.203 (0.056) Far South America 0.232 (0.034) Africa -0.029 (0.043).