ARCHAEOLOGY

The distribution of power and inclusiveness across deep time

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This study presents a global, deep-time comparative analysis of governance, questioning entrenched viewpoints about the origins and evolution of democratic institutions. Drawing on archaeological and textual data from 40 case observations across 31 polities, we develop a quantitative framework to assess governance along a collective-autocratic axis, defined by two key dimensions: concentration of power and citizen inclusiveness. Using bridging arguments and robust proxies, we construct an autocracy index to assess where cases fall on this axis and examine them in relation to population size, hierarchical complexity, geographic region, modes of fiscal financing, bureaucratic structure, ritual practices, and socioeconomic inequality. Neither polity population nor geographic region tightly correlates with the collective-autocratic axis of governance, challenging extant neoevolutionary models. Instead, the strongest associations for autocratic governance are with external financing, patrimonial bureaucracy, spectacular ritual, and high inequality. The study underscores the diversity and persistence of collective governance, offering a scalable methodology for future comparative research and reframing historical narratives.

INTRODUCTION

The word "democracy" was, of course, invented by the Greeks—*demokratia* meant simply that people (the *demos*) had power (*kratos*). This definition did not refer to any specific institutional mechanism, rather democracy was defined as an objective (*1*, *2*). Common wisdom and scholars rooted in Western social science (*3*) often presume that the core features of democratic governance—checks on concentrated power and citizen inclusiveness—were also exclusive to the Classical Mediterranean world, only to lie dormant for more than a millennium and be revived in Renaissance-age Europe and its colonies, from where it subsequently spread. Yet this widespread viewpoint, whereby what we refer to as collective (or democratic) forms of governance were exclusively born and spread in the West, has rarely been systematically assessed.

In modern societies, we generally attempt to achieve the goal of distributing power through the election of representatives under universal suffrage, but some scholars have proposed that societies over deep time, and particularly among cases from outside the Classical Mediterranean world, have practiced democracy in diverse ways (*4*–*8*). At a fundamental level, through the research presented here, we assess not only the global breadth of the spectrum that spans collective/democratic to autocratic forms of governance, but also whether variability in governance along this axis is a simple reflection of population scale or the hierarchical complexity of governmental institutions. For decades, neoevolutionary frameworks in the social sciences have been grounded in the idea that in the premodern world, demographic and political scale shifted in lockstep with increased concentrations of power and greater economic inequality (*9*–*14*). Although important theoretical refinements were made over the years, this basic framing stems back to 19th-century cultural evolutionary theories (*15*, *16*). We evaluate those presumed and deeply entrenched relationships. Likewise, we examine whether there was a unilinear evolutionary path (*14*, *17*), a consistent time since the advent of agricultural dependence that accounts for concentrated political power or whether temporal and regional sequences of change were more variable, forked, or cyclical. To understand governance—its underpinnings and effects, both past and present—we maintain and illustrate that more than one organizational parameter must be examined.

With numerous contemporary democracies on shaky ground today, it is more important than ever to understand the roots and historical breadth of the core features of collective or democratic governing institutions (as well as autocratic alternatives), what these political practices are associated with, and their related effects and consequences. Toward this end, we first define a suite of 27 proxies for key features of governance, then we assess the presence of collective-autocratic governing practices for a global sample of 31 polities (Fig. 1), some covering more than one time horizon (a total of 40 case observations). We develop bridging arguments that link the principal dimensions of governance (relative concentration of power and citizen inclusiveness) (*18*) with simple, robust proxies or indicators that can be assessed using multiple lines of evidence—spatial, representational, material, and textual—to evaluate governance

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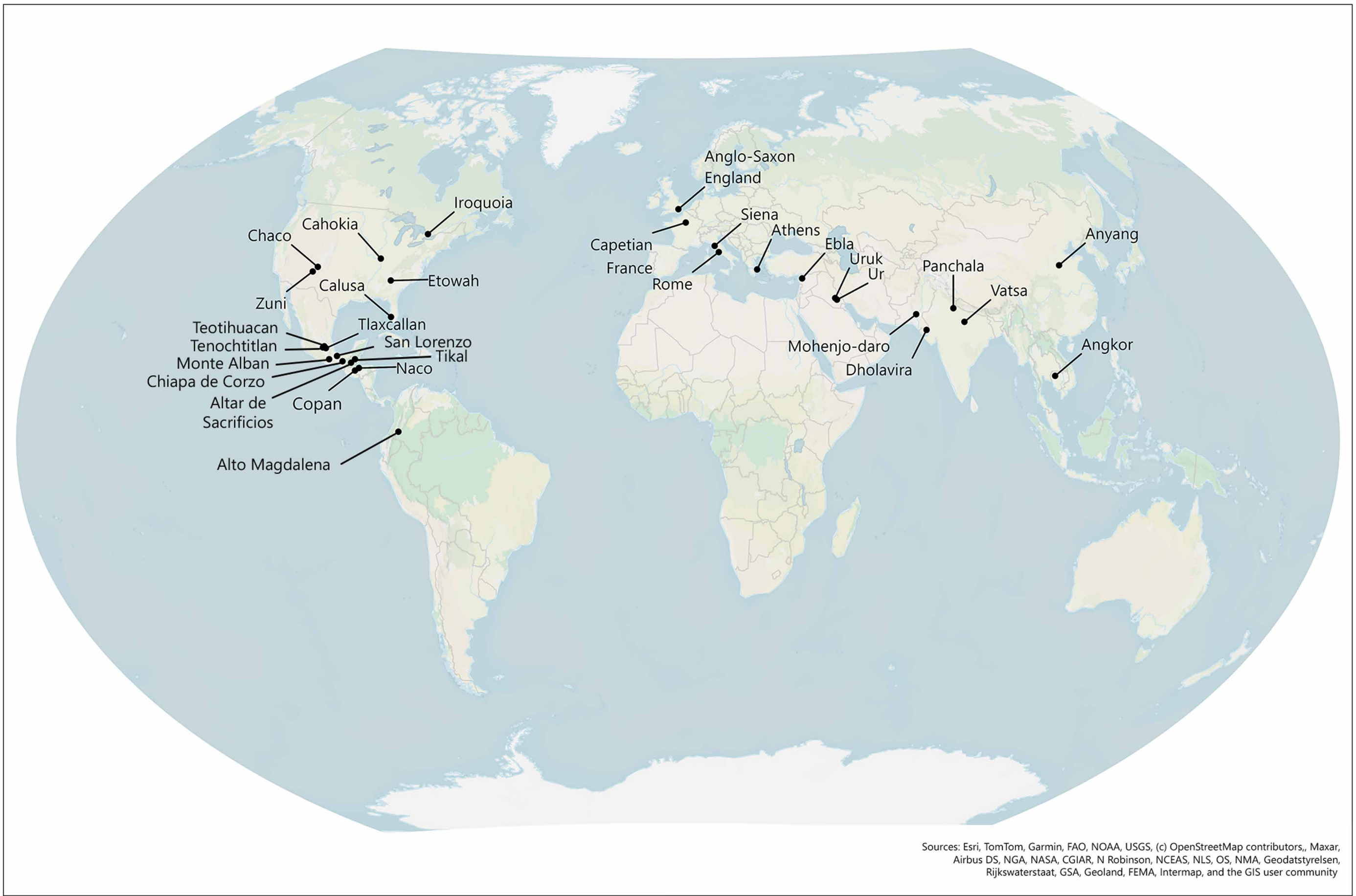

Fig. 1. World map. Geographic distribution of 31 localities examined in this study. This figure was created using ArcGIS software by Esri. ArcGIS and ArcMap are the intellectual property of Esri and are used herein under license. Copyright Esri. All rights reserved. For more information about Esri software, please visit www.esri.com.

quantitatively along a collective-autocratic axis or continuum. For example, we assess and compare the scale and spatial layout of monumental architecture to examine the seats of power and the central institutions of decision-making (Fig. 2). On the basis of a consistent set of empirically derived proxies and bridging arguments (Table 1), we calculate an autocracy score for each case by summing values for relative concentration of power and citizen inclusiveness. A higher autocracy score indicates more autocratic governance, thus greater concentration of power and reduced citizen inclusion. These calculated values allow us to compare the degree of autocracy with features of civic-ceremonial practice, including variance in both ritual and political functionaries, as well as associated factors such as the degrees of economic inequality (Table 2).

The bridging arguments and proxies that we use to assess where each case falls on the democratic-autocratic continuum as well as associated variables, listed in Tables 1 and 2, draw on broad bodies of literature of which key references are furnished in the tables. Our aim was to construct an analytical protocol that could be applied widely and consistently to evaluate a diverse suite of cases, whether the predominant empirical record is archaeological, textual, or some combination of the two.

Our comparative approach draws on data from a deep, multiregional historical past to operationalize collective and autocratic governmental practices, not as labels or abstract categories but as a continuum (*19*, *20*). By focusing on the key dimensions of inclusiveness and the concentration of power, we operationalize the democratic-autocratic axis as a sliding scale of relations between governors and the governed [(*21*), p. xviii], conceptualizing democratization and autocratization as obverse processes (*22*). We draw on a broad set of cases to understand the roots of power sharing and degrees of inclusiveness in governance as well as to examine and decouple those dimensions from other important societal dimensions, such as demographic scale and the hierarchical complexity of political formations. The approach we take leverages deep history, a wide geographic lens, and awareness of outcomes to assess relational patterns across time and space. This allows us to address longstanding assumptions that smaller societies always were more collectively organized than larger ones and that European societies in the past generally were more collective/democratic than those in Asia or the Americas.

Although our cases are heavily weighted to three continents (Europe, Asia, and North America, see Fig. 1) due to data availability

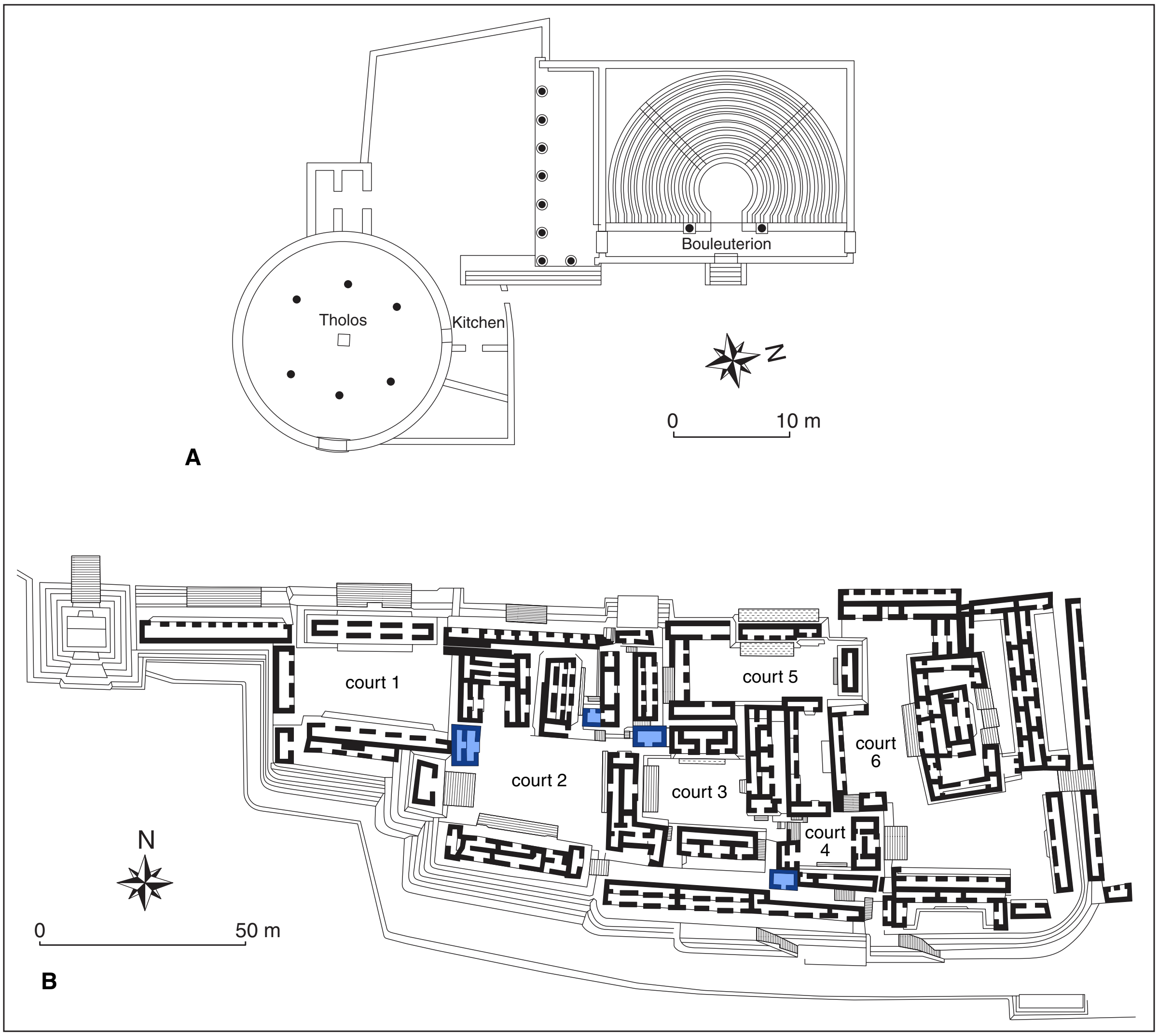

Fig. 2. Buildings where decisions were made. (**A**) The bouleuterion and tholos in Athens (more collective); (**B**) the Central Acropolis in Tikal (more autocratic), with throne rooms shown in blue.

and the expert knowledge of our assembled authorship, this study's results do not conform with the widely held presumption that Europe was an exclusive bastion of democratic governance across time (*3*, *23*), nor do we find that polity population is a strong determinant of the concentration of political power. Population and the hierarchical level at which top-tier governance decisions were made are at best weakly correlated with the autocracy index.

Rather, how the institutions of governance and power are financed (*4*) is the strongest indicator of where cases fall on the index of autocracy. Modes of ritual and the nature of bureaucratization (patrimonial-meritocratic) are also closely linked to this index. Further, we find a significant relationship between lower degrees of inequality and more collective forms of governance.

Our study provides conceptual and methodological scaffolding for future analyses by specialists in other spatial and temporal contexts than those presented here and enumerated in Supplementary Text. We expect that future additions to this sample could potentially modify our findings to some extent; nevertheless, we strongly suspect that the core challenges to conventional wisdom that we present will remain.

RESULTS

Analytical parameters

To assess the axis of collective-autocratic governance, an autocracy score is calculated for each case based on the concentration of power (the degree of power sharing) and citizen inclusion (the extent to which a polity's populace is given access to or ability to affect governing decisions). These dimensions capture key processes widely acknowledged to define differences between more democratic and more autocratic governing regimes in both the past and the present. Dahl (*18*) wrote of democracy as having two dimensions of competitiveness and inclusion. Like him, we also focus on citizen inclusion as one of our two key dimensions of collective governance. For Dahl, competitiveness referred to an electoral context, whereas many of the collectively governed societies in our sample used institutions

Table 1. Two dimensions of governance. The first dimension is concentration of power: Are rulership, decision-making, and political power highly concentrated (limited to one or a few entities) or distributed (shared across various individuals and/or institutions)? All proxies for concentration of power are worded so that 1 = concentrated power (autocratic) and 0 = distributed power (democratic). Intermediate scores (0.5) are possible for some proxies. The second dimension is inclusion: To what degree could the population participate in governance? How much of a role or opportunity do citizens or society members have in decision-making, providing input, receiving information, and influencing governing decisions? All proxies for inclusion are worded so that 1 = low inclusion (autocratic) and 0 = high inclusion (democratic). Intermediate scores (0.5) are possible for some proxies. There are four bridging arguments for concentration of power and two for inclusion.

Proxy	Metric	References
Bridging argument 1 for concentration of power: Where are governing decisions of broad-scope, wide impact made? Is deliberative space (where governing decisions are made) highly restricted (one or few hard to access locations) or distributed/accessible (many locations, relatively open settings, or redundant facilities)?		(*4*, *24*, *25*, *85*)
Is there a centrally walled, closed, or restricted (exclusive) central precinct?	Y = 1, N = 0	
Is there a definable central palace?	Y = 1, N = 0	
Size of palace relative to average residence (palace size/average residence size)	Sq. m.	
Is palace (or largest elite house) more than 5 times larger than average residence?	Y = 1, N = 0	
Decision location: palace (Y = 1), semirestricted (e.g., administrative building, temple =0.5), or council house/hall (N = 0)	1, 0.5, 0	
Are deliberative spaces absent in rural contexts?	Y = 1, N = 0	
Bridging argument 2 for concentration of power: Who makes broad-scope governing decisions? Are key decisions highly personalized, made by one individual/family (concentrated), or are they made more broadly by multiple decision-makers (distributed)? How are these individuals selected?		(*4*, *24*, *86*, *87*)
Are there personalized/ruler monuments?	Y = 1, N = 0	
Is there evidence of a ruler (Y = 1) or other important persons (=0.5) who make decisions, or no clear or represented leader (N = 0)?	1, 0.5, 0	
Ratio of deliberative space to total population (m^2 per person)	Sq. m.	
Is succession lineal/patrimonial?	Y = 1, N = 0	
How many semiautonomous hierarchical (governance, religious) systems are there?	1, 2	
Bridging argument 3 for concentration of power: Is there evidence for institutional checks on rulers/principals? Is the spatial context of broad-scope decision-making concentrated in restricted spaces associated with one (or a small number of) individual(s) or are governance decisions more distributed and open?		(*4*, *26*, *38*, *87*–*90*)
Are there 3 or fewer kinds/plans of public buildings?	Y = 1, N = 0	
Is there a rectangular space with a raised dais/platform?	Y = 1, N = 0	
Is the decision-making space rectangular (=Y) or is it circular (=N)?	Y = 1, N = 0	
Is power concentrated (=Y) or is there evidence (architecturally or textually) of power sharing through representative governance, institutions, branches of government (=N)?	Y = 1, N = 0	
Is the space of public buildings very small and exclusive (=Y), or are there flat-topped, wide spacious platforms or other contexts that can hold larger groups (=N)?	Y = 1, N = 0	
Bridging argument 4 for concentration of power: How are governing principles communicated and through what symbols? Is communication of governmental ideologies and actions personalized or more focused on cosmology and general well-being/fertility?		(*4*, *24*, *38*, *39*)
Is the largest open space adjacent to the palace?	Y = 1, N = 0	
Is public ideology/inscriptions focused on a dynastic ruler (=Y) or on cosmological principles (=N)?	Y = 1, N = 0	
Is public art/inscriptions focused on ruling dynasties (=Y) or on everyday life (=N)?	Y = 1, N = 0	
Bridging argument 1 for inclusion: To what degree do populations have access to decisions related to governance, to their fellow citizens, and to participate in communication hubs where large segments of the population could aggregate?		(*24*, *36*, *38*, *91*)
Is broad voice limited by the lack of communication hubs (large open spaces or plazas where people can assemble) or for information exchange/community engagement?	Y = 1, N = 0	
Is the open space/plaza raised?	Y = 1, N = 0	
Is the open space/plaza restricted?	Y = 1, N = 0	
Are open spaces (communication hubs) absent in rural contexts?	Y = 1, N = 0	
Size of largest open space/plaza to center population (m^2 per person)	Sq. m.	

(*Continued*)

(*Continued*)

Proxy	Metric	References
Bridging argument 2 for inclusion: How easily and accessibly could citizens receive information from governing institutions? What is the nature and depth of the information that the general populace has access to or is information tightly centralized or restricted?		(*24*, *39*, *92*)
Does writing have a restricted audience?	Y = 1, N = 0	
Is there only one decision-making space in the MPU (Y = 1), multiple with hierarchy (=0.5), multiple with no hierarchy (N = 0)?	1, 0.5, 0	
Is theme of writing dynastic/transactional (=Y) or is it calendric/economic (=N)?	Y = 1, N = 0	

other than elections, such as groups of delegated decision-makers meeting to arrive at consensus. Therefore, for our second dimension, we focus on the concentration of political power, which is still in the spirit of Dahl's overall framework in that it assesses the dynamic between competition and cooperation in the manifestation and wielding of governing authority and clout. While Dahl's referential context is contemporary, the two key dimensions that we outline and use from his definitional work also are at the core of previous comparative analyses that have looked at variability in the democratic-autocratic axis across deep-time cases (*4*, *24*–*26*). The measures we use lend themselves both to material indicators that leave a record for archaeological evaluation and to relevant textual accounts. Through the application of a research design that endeavors to draw on and integrate textual and material sources, our intent is to facilitate synthesis and take a step toward more global, deep-time, cross-disciplinary comparisons [(*27*), pp. 116–117].

To evaluate each dimension, we developed multiple sets of robust proxies that build on prior analytical applications (Table 1) and can be documented empirically using the archaeological record and/or textual-ethnohistoric sources. These two sets of proxies are combined to create a standard autocracy index—a measure flexible enough to accommodate variability in available records for past societies (e.g., the presence or absence of writing; see Supplementary Text). The two key dimensions of governance (concentration of power and inclusiveness) are well correlated when plotted against each other for all cases in the sample ($R^2 = 0.514$, $P = 2 \times 10^{-7}$, $n = 40$; Fig. 3), indicating that the different aspects of governance are interrelated, yet not entirely overlapping. These dimensions reflect two distinct aspects of democratic/autocratic practice, and their combination into a single index provides a means to capture that diversity across different institutional contexts, fostering our intent to define constructs and metrics that have the potential to "travel" across a wide array of empirical cases and sources. Nevertheless, the relationship between distributed power arrangements and greater citizen inclusiveness serves to illustrate that the two identified dimensions of governance are interrelated and that checks on the power of principals seem to enhance the opportunity for citizen voice and participation.

For the dimensions of governance (Table 1) and related sets of variables and practices (Table 2), we defined bridging arguments—or middle-range logics (*28*)—to link the conceptual constructs we aimed to examine with suites of specified proxies and indicators. These proxies capture differences in civic-ceremonial rituals (participatory versus spectacle), bureaucratization or the nature of governmental functionaries (meritocratic versus patrimonial), the means through which the institutions of governance are financed (internal versus external resources), and degrees of socioeconomic inequality. Most, but not all proxies, are framed as presence-absence or in other nominal ways. Drawing on relevant literature (Supplementary Text), authors coded their cases recognizing that all proxies cannot be empirically evaluated for every case. In Methods, we elaborate the statistical means we used to scale the values for each case.

Underpinning autocracy

For more than a century (*15*), social scientists, especially archaeologists and anthropologists, have outlined a stepwise progression of human political organization aimed as a general model to explain long-term sequences of sociopolitical change across the globe and through deep time; these 19th-century evolutionist views were resurrected and revised in mid–20th-century neoevolutionary frameworks (*11*, *29*). At the heart of these frameworks is the assertion that societies transitioned through a uniform series of stages, often overlooking the nuances of, or variation in, institutions and operations of governance. On the basis of these neoevolutionary theoretical constructs, progression toward increasingly complex forms was undergirded by domestication, increasing surplus production, and demographic growth (*30*). Increases in population density and polity scale were presumed to lead to more hierarchical political organization, highly concentrated political power, and greater degrees of inequality (*9*). Not only does the traditional neoevolutionary view fail to explain the birth and subsequent evolution of collective governance in Europe from the Classical era to today, but we contend that it also is flawed in characterizing this same axis of variability in governance for cases from other parts of the world.

Because these schemes equate progress with complexity, and complexity with hierarchy, centralization, and concentrated power, these attributes were traditionally conjoined into linear narratives of political history. In some cases, the mere presence of agriculture, monumental constructions, or increased population sizes or densities were used as scaffolding arguments to describe and define specific stages or modes of governance (e.g., if the population is that big, there must be a centralized hierarchy defined by exclusionary politics). As such, these approaches have sidestepped both (i) a systematic, empirical evaluation of spatiotemporal variability in forms of governance and (ii) a data-grounded assessment (as opposed to assumptions) of correlations between forms of governance and a host of socioeconomic, demographic, and environmental variables. Here, we address five traditional variables often cited as key determinants of democratic-autocratic governance: scale and population

Table 2. Associated variables and potential causal determinants assessed in relation to governance. How is governance financed? What is the principal nature of public rituals? What is the nature of governing functionaries in service to the ruler and governing institutions? What is the extent of inequality? How do potentially explanatory factors associate with variation along the collective-autocratic axis of governance?

Proxy	Metric	References
Finance. Do governing principals and institutions rely heavily on resources that are defined as external, so not directly received from the local population, or internal, derived from local citizens through taxes, labor drafts, market fees, or other means of exacting local agrarian production? External resources are more easily monopolized or disproportionately controlled. They include royal or slave estates, the control of spot resources, such as mines, war booty, or trade routes.*		(*4*, *35*, *37*, *38*, *58*, *87*)
External: Are there royal/princely estates?	Y = 1, N = 0	
External: Is government supported by slavery or a slave-driven economy/coerced labor?	Y = 1, N = 0	
External: Is there principal control of spot resources (e.g. mines)?	Y = 1, N = 0	
External: Is there principal control of long-distance trade routes?	Y = 1, N = 0	
Internal: Is there taxation on local labor?	Y = 1, N = 0	
Internal: Is there taxation on local production?	Y = 1, N = 0	
Internal: Is there a formal marketplace, easier to tax?	Y = 1, N = 0	
Ritual. Are public ritual practices more participatory, featuring repetitive activities and standardized practices (doctrinal), or focused on spectacular events/charismatic principals that evoke intense, emotional responses (imagistic)?†		(*42*, *45*–*47*, *88*, *93*)
Nature of ritual, spectacle (= Y) or participatory (=N), aspects of both (=0.5)	Y = 1, N = 0	
Is the ruler the central figure in the ritual?	Y = 1, N = 0	
Does the ruler claim to be a god?	Y = 1, N = 0	
Bureaucratization. How are such functionaries and officeholders selected? Are basic principles of selection meritocratic, based on set rules and the ability of officeholders, or are they patrimonial, based on kin ties or transactional alliances with principal loyalties to the ruler?‡		(*4*, *36*, *40*, *94*)
Do subordinates achieve their position/offices (=Y), or are they selected by the ruler (=N)?	Y = 1, N = 0	
Is there a clear hierarchy of offices (=Y), or are subordinates (retainers, allies) transactionally tied to the ruler (=N)?	Y = 1, N = 0	
Are subordinates officeholders with clear duties and responsibilities (=Y), or titled positions that are held by the ruler's kin and allies (=N)?	Y = 1, N = 0	
Are offices defined by rules and norms (=Y), or do they serve at the whim to the ruler (=N)?	Y = 1, N = 0	
Inequality. How unequal is access to goods, resources, and status-related items during life and at death?§		(*25*, *59*, *95*, *96*)
How much variation is there in house size as measured by the Gini coefficient (>5 houses)?	Gini	
Are there marked differences in access to labor-intensive and rare goods of value?	Y = 1, N = 0	
Are there marked differences in adult grave goods?	Y = 1, N = 0	
Are ruler graves associated with monumental buildings?	Y = 1, N = 0	
Are people of status buried with more energy investment in mortuary contexts?	Y = 1, N = 0	
Potential explanatory factors		(*3*, *9*, *11*, *29*, *97*, *98*)
Number of levels in the civic-ceremonial hierarchy	Number	
Duration of the MPU (maximal political unit)	Years	
Maximum estimated population of the MPU	Number	
Time since common plant cultivation by region	Delta years	
Global region	Continent	

*For financing proxies, 1 = yes there is evidence and 0 = no evidence. Intermediate scores (0.5) are possible for some proxies. †Proxies for ritual are coded 1 for characteristics of imagistic ritual and 0 for doctrinal ritual. Intermediate scores (0.5) are possible for some proxies. ‡Bureaucratization proxies are worded so that 1 = meritocratic and 0 = patrimonial. Intermediate scores (0.5) are possible for some proxies. §For inequality proxies, 1 = yes, there is evidence and 0 = no evidence. Intermediate scores (0.5) are possible for some proxies.

size, the hierarchical complexity of political institutions, time since the adoption of agriculture, geographic location, and how institutions of governance are financed.

Stepwise evolutionary models commonly assume that increasing populations lead to the formation of new organizational structures and decision-making institutions through a generally linear path. From these perspectives, surpassing specific population thresholds causes the transformation of organizational institutions, especially those related to governance, such as through the creation of more "levels" within a hierarchy. For the deep past, with the possible exceptions of Classical Athens and Republican Rome, increases in vertical political complexity were assumed to necessitate heightened concentrations of power as autocratic principals were necessary to keep unruly populations in line (*9*, *31*). In contrast, our analyses indicate only a very weak correlation between the autocracy index and the size of the population (here, we use the log of the total population of the maximal political unit, or MPU) ($R^2 = 0.112$, $P = 0.034$, $n = 40$; Fig. 4). In other words, as polity size increases, it

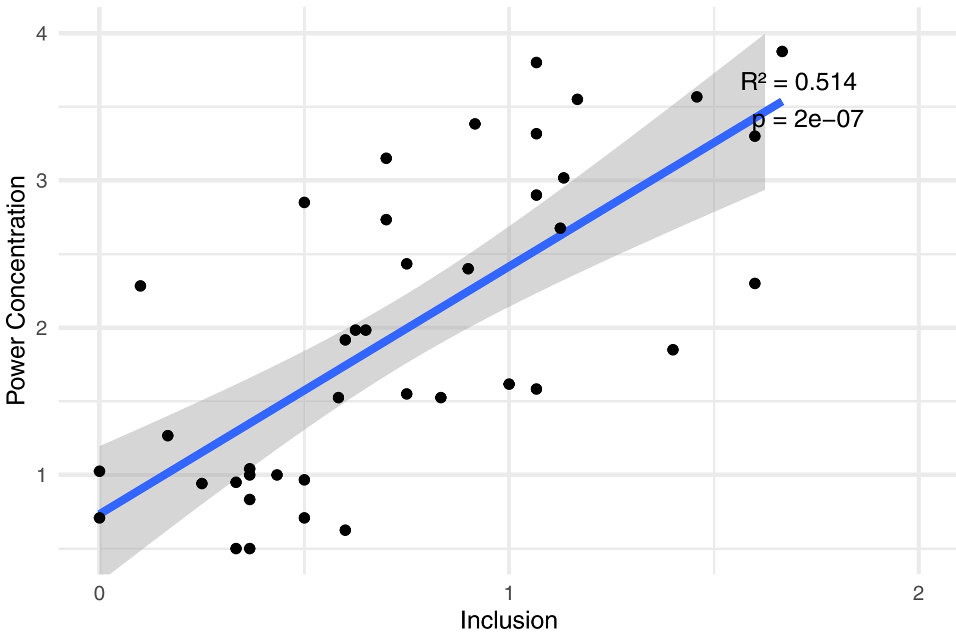

Fig. 3. Correlation between the two key dimensions of governance. Polities with more concentrated power (higher end of range) tend to have lower levels of inclusiveness (higher end of range in our coding).

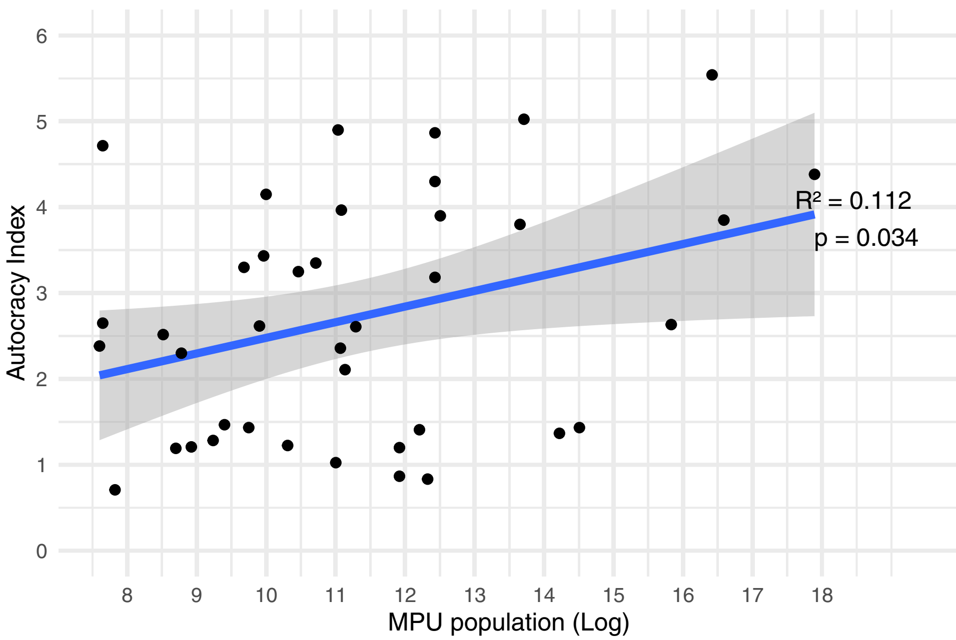

Fig. 4. Correlation between population and the autocracy index. MPUs with higher populations are only weakly correlated with more autocratic governance.

may raise the potential for more autocratic governance, but it certainly is not determinative. As a further counter to neoevolutionary thought, there is a slightly stronger, but still weak, correlation between the autocracy index and the number of levels in a civic-ceremonial hierarchy (*32*) ($R^2 = 0.166$, $P = 0.015$, $n = 35$; fig. S1). That is, the relationship between the number of hierarchical levels in governing institutions and the degree to which governance is characterized as more autocratic or collective is not robust. These results require a rethinking of common assumptions about evolutionary links between population size, hierarchical political complexity, and the degree to which power and inclusiveness are shared in governance.

Linear evolutionist frameworks generally highlight shifts in the technologies of food production as key drivers of change in the scale and organization of human social formations. From these perspectives, the advent of agriculture is seen as a key economic innovation tied to population growth, sedentism, and increased storage capacity that creates the necessary conditions for the formation of increasingly complex hierarchies, greater inequality, and the emergence of more autocratic modes of leadership (*29*, *30*). To assess this presumed relationship, we examined the time since the beginnings of agriculture—following the dates for the advent of domestication in each region used by Kohler *et al.* (*33*)—with the autocracy index and found almost no correlation ($R^2 = 0.047$, $P = 0.18$, $n = 39$; fig. S2). Our results indicate that more autocratic forms of governance are only barely associated with the length of time that has passed since the origins of agriculture and that domestication did not swiftly or uniformly result in political shifts that concentrated political power, as proposed in influential frames advanced by Childe (*34*), Morgan (*15*), and others.

Broad assumptions concerning the geographic origins of democratic forms of governance continue to loom large in both the academic and public imagination (*3*). In comparing the three continents across which our case studies are distributed (Americas, Asia, and Europe), we find no overarching differences in either the mean governance scores or the variance of governance scores for the three macroregions ($n = 40$; Fig. 5). That is, no geographic region is consistently more or less collective or autocratic than the others. This result challenges notions that European societies should exhibit higher degrees of democratic governance. These results also challenge notions of geographic homogeneity. Across the Americas alone (and even just for precolonial Mesoamerica), computed governance scores span the entire spectrum from highly democratic to highly autocratic. The latter finding is important as it records the diversity of institutional forms that existed even among societies situated within close geographic proximity of one another. These findings dovetail with the coding of sequential time slices for several cases in this sample, including Rome, Angkor, Chiapa de Corzo, and Altar de Sacrificios, where governance scores varied for the same political unit over time. Institutions of governance, the relative distributions of power and inclusiveness, were not static over time or across global macroregions.

Our findings do not accord with widespread and entrenched explanations for the extent to which governance in the past was autocratic. We do, however, find support for the hypothesized relationship between this dimension of governance and how governance institutions were fiscally funded. Building on Levi's (*35*) historical analysis of a few European cases, Blanton and Fargher (*4*) compared 30 cases from around the world and found that the degree to which governing institutions were externally (as opposed to internally) financed was a key factor affecting the extent to which power was concentrated in autocratic principals. For Blanton and Fargher (*4*, *36*), as well as in this study, external resources are considered those that can easily be monopolized or controlled and tend not to be exacted from the local population. External financing includes the control of spot resources such as mines, monopolization of exchange routes, toll charges for long-distance transfer corridors and the highly valued goods that were moved through networks, ruler estates (slave or feudal), or war booty. Alternatively, internal resources are revenue sources like taxes on land or local produce, market participation fees, or labor drafts.

We find, in line with their results, that a higher score for external financing (Table 2) correlates with more autocratic forms of governance ($R^2 = 0.537$, $P = 7.5 \times 10^{-8}$, $n = 40$; Fig. 6). In these cases, with increased concentration of power and a heightened reliance on external funds, there would presumably be less reliance on the internal populace to fund the administration of governance, thereby providing principals with little incentive to share decision-making or power with the rest of the population and, conversely, limiting the bargaining leverage of subalterns. The results for internal financing alone are less robust, as internal funding provides some fiscal contribution for governance in all our cases. However, a joint financing variable (combined financing) created by subtracting the score for internal

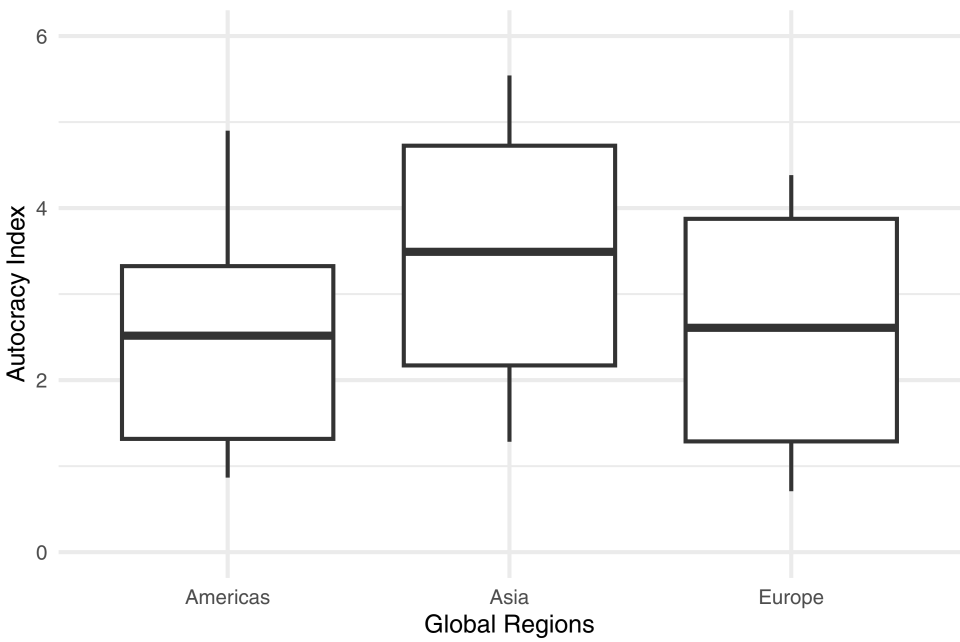

Fig. 5. Comparison of the autocracy index across three regions. Box plots illustrate the overlapping mean and range of autocracy scores for three global regions (the Americas, Asia, and Europe). None of these regions consistently has more autocratic or more collective governance.

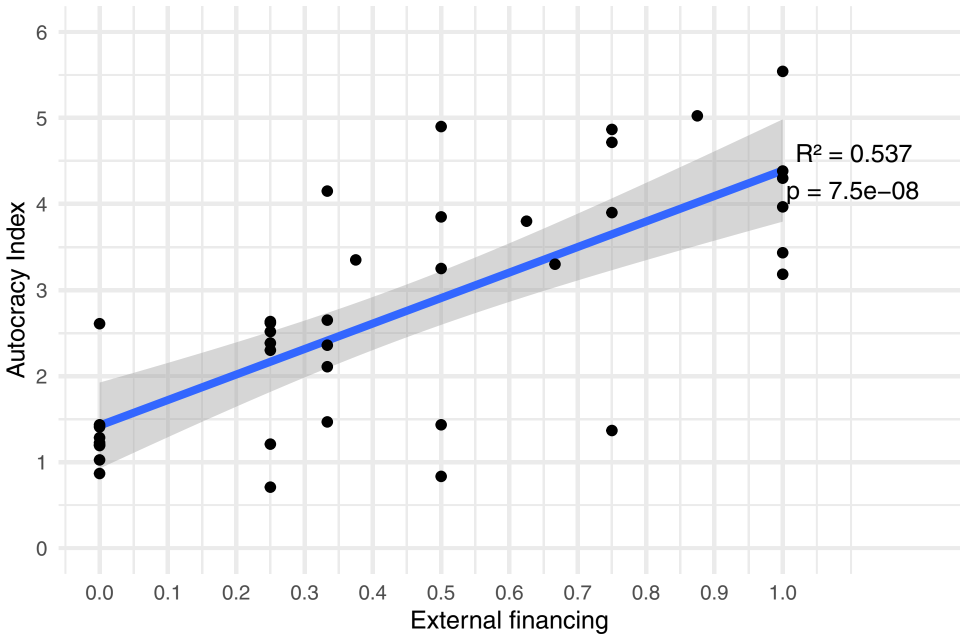

Fig. 6. Correlation between external financing and autocracy. Polities with more sources of external financing tend to be more autocratic.

resources from the score for external financing also reveals the association between the importance of external resources and more autocratic governance ($R^2 = 0.437$, $P = 4.6 \times 10^{-6}$, $n = 39$; fig. S3). These findings both for external financing alone and for the two modes of financing considered in relation to each other echo recent work, which has established a robust relationship between a heavy reliance on external resources and autocratic governance (*4*, *37*).

Governance and associated effects

Governing institutions have direct and indirect impacts on various aspects of social and political practices. In accord with previous findings (*4*, *24*, *36*, *38*, *39*), democratic governance is found to be generally reliant on financing derived primarily from internal revenues collected from a broad segment of the population. Historically, drawing taxes and labor from a wide array of citizens, including farmers, craftworkers, and merchants, is a negotiated process that provides those individuals some degree of voice and leverage, thereby checking the power of governing principals. At the same time, efficient revenue collection requires a cadre of functional, effective officeholders. In contrast, when government and its fiscal support is largely dependent on external resources, functionaries often serve to guard or protect investments controlled by principals. Rather than meritocratic officeholders, following proscribed rules and norms, more patrimonial, transactional relations with principals might be expected (*40*).

We define bureaucratization as the organization of administrative apparatus and the ways in which nonprincipal officeholders are selected and connected to those in power (*4*, *35*). In autocratic regimes, principals generally value loyalty and fidelity among their subordinates, often appointing officeholders who are kin, clients, or allies. Patrimonial systems are based on transactional ties with secondary elite and other confederates who serve at the behest of the ruler. In contrast, democratic governments require specific competencies to effectively manage tax collection and facilitate community interaction, with selection processes not based on kinship or existing alliances. Such competency-based, meritocratic institutions are usually composed of ranked officeholders. For the cases analyzed, we find a strong relationship between meritocratic bureaucracy and more collective governance ($R^2 = 0.533$, $P = 3.2 \times 10^{-6}$, $n = 31$; Fig. 7) that conforms with contemporary findings (*40*). Autocratic governance is associated with relatively patrimonial bureaucracies, whereas more democratic governance is strongly aligned with meritocratic institutions. For example, the transition from the Roman Republic to the Roman Empire was characterized by the dissolution of elected positions and officeholders and their replacement by hereditary aristocrats who were appointed by and loyal to the emperor [(*41*), pp. 364–378]. In this process, public administrative buildings and spaces were appropriated for the imperial household.

Public rituals are inherently a combination of political and ideological acts that provide important and diverse contexts for leaders to assert their singular power and authority or to promote more widely shared beliefs and social cohesion within a community. Participatory rituals may facilitate cooperation and coordinate collective action. Alternatively, spectacular, aggrandizing performances by powerful individuals may serve to concentrate power (*42*, *43*). Public rites are thereby multivalent, involving actors and audience members in political performances that can establish, reinforce, and even challenge existing power structures. It is therefore important to interrogate the nature of ritual practice and its relationship to governance to understand the role of such performances for past societies. Following Handelman (*44*), Blanton (*42*), and Feinman (*45*, *46*), we distinguish between spectacular rituals—those focused on charismatic principals who evoke highly charged emotional responses—and participatory rites that feature more standardized, repetitive activities that reinforce or disseminate cultural information. These definitions align with imagistic and doctrinal modes of ritual practice proposed by Whitehouse and Lanman (*47*), although they generally use this distinction to contrast mobile and sedentary societies.

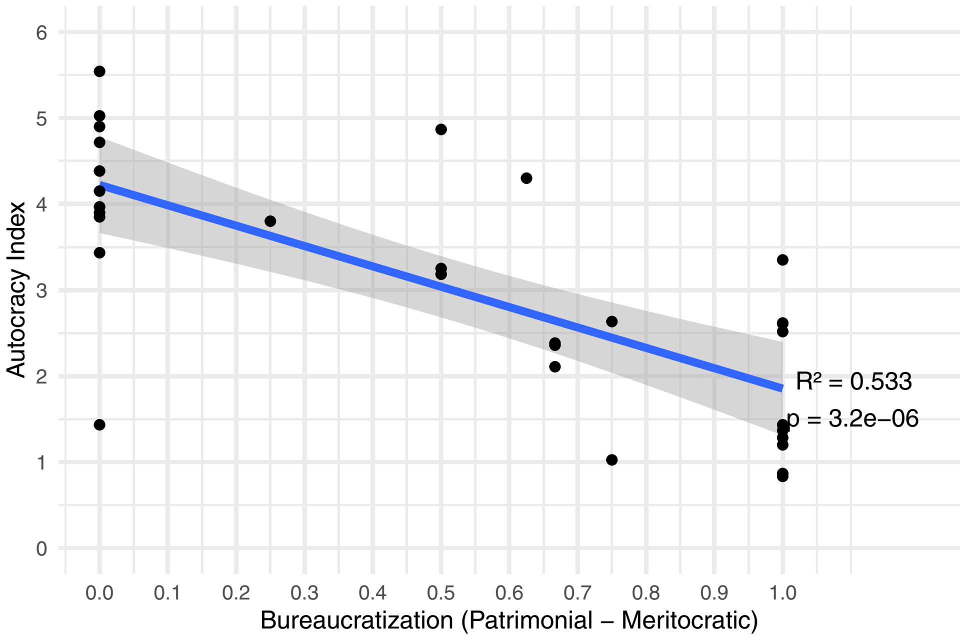

Fig. 7. Correlation between bureaucratization and the autocracy index. Polities with more meritocratic bureaucracies (higher end of range) tend to have more collective governance (lower end of range).

Our results illustrate a strong correlation between spectacular ritual and autocratic governance ($R^2 = 0.585$, $P = 1.5 \times 10^{-8}$, $n = 39$; Fig. 8A), indicating the important means by which principals accrue or reinforce their personal power and authority through shock and awe. For example, at Anyang, rulers and other principals were interred at death during spectacular ritual events that were often accompanied by human sacrifices and the inclusion of horses, chariots, and large quantities of elaborate goods in a deep subsurface tomb (*48*, *49*). Alternatively, processions, dances, and participatory events in large open spaces and dedicated more to promoting fertility, cohesion, and the maintenance of cosmic order (rather than glorifying individual rulers) are identified for more collectively governed polities, including Teotihuacan (*50*) and Mohenjo-daro (*51*).

Inequality is another important variable related to diverse practices of governance. Although traditional narratives have generally assumed simple correspondences between degrees of economic inequality and political hierarchy, recent empirical comparisons demonstrate more complex relationships among these dimensions within premodern societies (*52*, *53*). Here, we use two distinct measures of inequality in relation to the autocracy index: (i) Gini scores based on differentials in house sizes, following recent studies (*33*), and (ii) a broader metric that records a wider set of indicators for material and relational differences, including variability in burials and relative access to rare or highly crafted portable goods. Although we do not have Gini values for all the cases in the sample, it is a widely used metric of economic inequality across households in a settlement that has the advantage of broad comparability across time and space. The second metric offers a more encompassing means to assess socioeconomic inequality. Both measures of inequality are positively correlated with the autocracy index ($R^2 = 0.367$, $P = 3.5 \times 10^{-5}$, $n = 40$; Fig. 8B; $R^2 = 0.392$, $P = 0.0031$, $n = 20$; fig. S4). Nevertheless, the relationships between the two primary dimensions of the autocracy index are distinct—inequality versus power concentration ($R^2 = 0.371$, $P = 3 \times 10^{-5}$, $n = 40$; fig. S5), inequality versus degree of inclusion ($R^2 = 0.224$, $P = 0.0021$, $n = 40$; fig. S6), Gini versus power concentration ($R^2 = 0.518$, $P = 0.00034$, $n = 20$; fig. S7), and Gini versus degree of inclusion ($R^2 = 0.049$, $P = 0.35$, $n = 20$; fig. S8). Power differentials in governance may have a more direct interrelationship with the extent of inequality than the degree of inclusiveness. Overall, our findings align with recent research indicating that more collective governance generally fosters lower degrees of economic inequality, but that association is not universal (*52*). The differential relationships of the two dimensions of the autocracy index with other factors are also evident in a correlation matrix (fig. S9). In the matrix, the key relationships between financing, inequality, spectacular rituals, and autocratic governance are highlighted, further illustrating the findings from the bivariate analyses.

Synthetic implications

Aligned with findings of other recent cross-cultural studies (*4*, *8*), our comparative deep-time assessment of governance does not support unilinear neoevolutionary models of humanity's past. Farming did not always generate marked increases in the degree of autocratic governance. Increases in polity scale did not necessarily lead to centralized power arrangements, and the often-assumed relationship between hierarchical political complexity and more exclusionary modes of leadership should be decoupled. Rather, linkages between demographic scale, hierarchical political complexity, the degree of concentrated power, and wealth inequality should not be considered universal or inevitable. Although potential forces and factors, including the tendency for humans to be selfish, may mean that Michel's (*54*) "Iron Law of Oligarchy" (that institutional leadership always reverts to a few) often applies, it is not inescapable. Humans are indeed agentic and atomistic, but we are also the best cooperators with nonkin on the planet (*55*), both in the scale of interpersonal social networks and aggregations and in the numerous ways that we as a species work and coexist together.

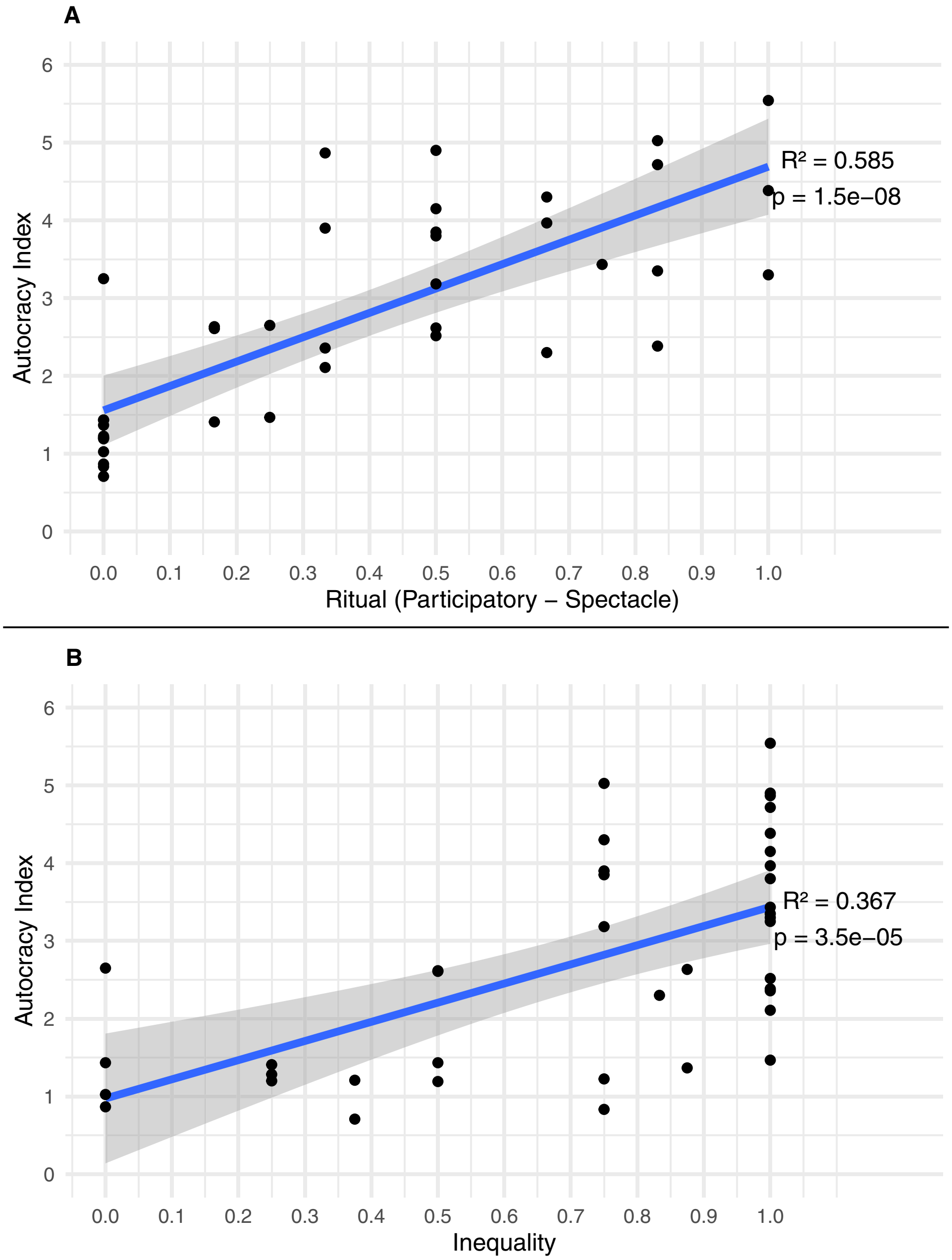

Fig. 8. Correlation of ritual and inequality with the autocracy index. The nature of ritual practices and levels of inequality correlate with the autocracy index: (**A**) ritual tends to be more spectacular (higher end of range) rather than participatory in polities with more autocratic governance, and (**B**) levels of inequality tend to be higher in polities with more autocratic governance.

Expansions in the sizes of human social networks generally prompt new institutions and cultural behaviors (*56–58*), but they are not uniformly characterized by greater concentrations of power or tighter restrictions on voice and inclusion. Our findings empirically and systematically document alternative paths to human governance at scale, as well as factors that underpin behavioral practices that are associated with variation in the democratic-autocratic axis of political organization. Through the application of transparent, scalable metrics, our results lend support to extant views that link variability in this axis of governance with its sources of funding (*4*), institutional arrangements below principals (*40*), degrees of inequality (*52*, *59*), and prime modes of ritual practice (*42*).

This analysis represents only the first step in a longer-term research agenda. Nevertheless, the consistency of these results with prior conceptual expectations underpins our commitment to an approach that both decouples and examines the dimensions, institutions, and practices of governance free from nominal categorical labels, such as democratic or autocratic. Our approach also illustrates that these analytical dimensions and proxies for identifying them can be applied to the deep, global past, empirically grounded in archaeological and/or textual evidence. By extending the lens on human political practice and associated behaviors deeper into the past and with a more truly global frame, we not only broaden our perspective on how people have cooperated and governed themselves, but we are able to assess, and begin to correct, many entrenched presumptions and tenets regarding human history (*60*). These misconceptions, birthed in the time of European colonialism, were largely rooted in philosophical musings bolstered by selected snippets from history [(*4*), pp. 5–11] and/or reflect the 19th- and 20th-century Euro-American assertions that the foundations of their newly minted democratic arrangements were unique and more rational compared to whatever existed before, a rationalization for the changes that colonialism wrought (*6*).

By widening the analytical vantage, we see that the key attributes of democratic/collective governance are neither unique nor limited to a single continent or specific historical moment. In the results of our analyses, it is not particularly unusual that Athens and Republican Rome scale as relatively democratic, but parallels are found for the Haudenosaunee (Iroquois) and the Protohistoric Zuni in North America, the early highland Mesoamerican cities of Teotihuacan and Monte Albán, Tlaxcallan (the Aztec foe), and the early urban center of Mohenjo-daro in the Indus Valley. Several of these centers, including Teotihuacan (*50*) and Monte Albán (*61*), endured as relatively collectively governed polities for centuries, even more than a millennium in the latter case. Even in certain urban contexts, collective governance was neither fleeting nor unstable.

These findings dovetail with Applebaum's (*62*) assessment that "Autocracy … is not a genetic trait. Particular cultures, languages, or religions do not necessarily produce it. No nation is condemned forever to autocracy, just as no nation is guaranteed democracy. Political systems do change."

We find that the axes of variation and the relationships between key dimensions of governance exhibit consistent cross-temporal patterns or social mechanisms (*63*) that also dovetail with contemporary parallels (*37*, *40*, *59*, *64*). This leads us to suggest that the stark categorical differences drawn so often between the past and the present (modernity and what came before) be recalibrated as differences more of degree than of kind (*65*). Our observation is not simply a matter of idle or disciplinary posturing. The patterns that we report from this historical sample, especially when considered in conjunction with other broad-sample, comparative studies (*4*, *36*), reveal consistent outcomes between dimensions of governance and how the institutions of governance are fiscally financed, as well as between dimensions of governance and inequality that seem to especially warrant our attention. Institutional dependence on external resources, concentrated power arrangements, and inequality is intertwined through a web of feedback loops. At a minimum, these results illustrate that whether for historical analysis or policy decisions, "politics and economics cannot be put into sealed [analytical] boxes" [(*66*), p. 24]. Although the causal links are undoubtedly complex and not necessarily equivalent across time and space, our findings reveal clear associations between economic conditions (material inequality and how the institutions of governance are financed) and the political dynamics of power and inclusiveness between rulers and the ruled.

In contrast to seemingly parallel contemporaneous cases to which current analogical lessons are often drawn, we already know behavioral associations and outcomes when it comes to deep history (*67*). Drawing on broad comparative archives of the past that are analyzed and synthesized systematically allows us to assess and evaluate how people and institutions fared across a wide set of contexts and conditions (*68*, *69*). The patterns that we see in the analyses of this sample represent a record of behavioral relationships and outcomes with potential implications and lessons that we, in present circumstances, no longer have the luxury to ignore. All along the democratic-autocratic axis, there are diverse forms of governance that are organized, financed, and networked through different institutions and practices. As Carugati and Schneider [(*70*), p. 255] have presciently observed, our futures are reliant "on expanding the repertoire of options, learning, wherever possible, from foregoing human experience and sharing it as a common human inheritance." The past is not alien from modernity, but a foundation for the world in which we live, a repository of the range of human potentialities.

MATERIALS AND METHODS

Project background

The intellectual roots of this collaborative research effort stem back to the latter half of the 20th century when a series of archaeological comparative studies (*71*–*73*) outlined recurrent axes of variation in the political and economic organizations of hierarchically organized societies. These studies, in conjunction with others (*74*, *75*), noted that there are strong cross-cultural patterns of variation that deviate from the conventional modal societal types or classifications of neoevolutionary theory; they also are not explicable simply through idiosyncratic, historical factors. Nevertheless, at the time, although the comparative patterning was recurrent, archaeologists had yet to define the mechanisms that could help explain these patterned axes of variation and change (*71*).

A key milestone was the introduction of a collective action frame (*35*, *76*) into the comparative study of global histories. Blanton and Fargher's (*4*, *36*) historical analysis illustrated that patterns observed in earlier studies could be tied to a principal dimension of governance (*77*)—the relative distribution-concentration of power—while also proposing that the ways in which institutions of governance are financed serve as a key factor affecting the structure and workings of those institutions. In addition, Blanton and Fargher (*4*) documented empirically that an overarching body of theory could be implemented to compare a global sample of historical cases. Before this collaborative project, archaeological applications of the collective action frame were focused mainly on Indigenous Mesoamerica (*24*, *38*). In general, deep-time applications of a collective action frame (*4*, *38*, *78*) to historical analyses have not focused on contemporary social movements, as is more common in political science, but rather on variation in governance (e.g., leader-follower relations) at the scale of maximal political units and their principal centers.

In 2023, with support from the Coalition for Archaeological Synthesis and the Amerind Foundation, we held a workshop where a protocol was designed to assess the democratic-autocratic dimension of governance (and related institutions and practices) historically at a global scale. Participants for the first workshop, which met at the Amerind Foundation facility in Dragoon, AZ, were selected through a competitive application process. Most of the authors of this manuscript participated in this first meeting. Several authors were added to the collaborative team subsequently and attended a second workshop in Dragoon (2025), sponsored by the Amerind Foundation and the Field Museum.

At the first workshop, the participants devised and defined the dimensions of the autocracy index as well as bridging arguments designed to link to available compendia of archaeological and/or textual data. The bridging arguments are underpinned by empirically grounded proxies that by design could be evaluated with yes-no or presence-absence (nominal) answers in most cases. The participants also enumerated a suite of other information (environmental, demographic, and technological) that they aimed to collect as background or to compare to governance for each case. The proxies and contextual information for each case are presented in table S1. When information is not available or considered equivocal, it is coded as "no data." Throughout the coding procedure, we explicitly distinguished no data from not present; the latter is coded as 0 and weighed in the analyses, while the specific proxies with no data are not included in the relevant calculations.

The project participants were selected to provide broad global coverage. Given the size of the two workshops and the funds available, we could not achieve full global or temporal coverage with the number of experts engaged. After the first workshop, participants used the analytical protocol devised at that meeting to code 12 preliminary cases focused on the political units and time periods that aligned with their central areas of expertise. Although this initial round of coding produced promising results, the collaborators decided to add more team members and cases before we synthesized the results. Another tranche of cases was coded before the second meeting in 2025, and at that session, we jointly discussed results (table S2), conducted an initial round of statistical analyses, and outlined a plan for this work.

Our analytical approach was neither entirely deductive nor inductive, but rather reflexive and iterative. We drew conceptually from theoretical sources that link institutional funding to governance, for example, constructs regarding the financing of governing institutions (*4*, *35*). However, we also modified our bridging arguments and proxies through application and initial syntheses, so that they could be implemented across the suite of diverse cases. At both workshops, the authors spent a good amount of time devising, applying, refining, and revising the protocol so that the authors were comfortable with the consistency of the metrics both for their own cases and in relationship to others.

Sample of cases

In this analysis, we draw expert information on 40 cases (31 different localities). Each case is focused on a settlement or site that was the capital or principal center of a maximal political unit or polity. A brief summary of each case, the expert who implemented the coding, and the main sources referenced can be found in Supplementary Text. Case coverage reflects the expertise of the authorship. Each case is confined to a specific time horizon; however, for four localities (Altar de Sacrificios, Angkor, Chiapa de Corzo, and Rome), we coded for more than one time horizon or slice, two for all but Rome for which we have seven temporal divisions. This subset of cases allows us to evaluate change through time. The robust method we have devised is designed to accommodate more cases (including multiple time slices from single localities) where appropriate empirical knowledge is available. We recognize that our coverage is fullest for North America (including Mesoamerica), Europe, and Asia. Nevertheless, the patterns we find are provocative. As they disrupt entrenched narratives, they are worth reporting, yet further investigation is necessary. In anticipated subsequent stages of the research, we plan to expand the number and geographic extent of the cases to evaluate the patterns and trends that we report on here.

Constructing the protocol

To assess governance along the dimensions of concentration of power and degree of inclusiveness, we define four bridging arguments for the former and two for the latter (Table 1). Drawing on textual and archaeological sources, the indicators of political power are more accessible than proxies for inclusiveness, given that the empirical record available for each case is drawn more heavily from high-status contexts than from subalterns. The scores for these six bridging arguments as assessed through proxies or indicators are the components of the autocracy score for each case.

To assess the relative concentration-distribution of top-tier governing decisions, the four bridging arguments focus on (i) where decisions are made, (ii) who makes them, (iii) whether or not there are institutional checks on principals, and (iv) how the main messages of governance are communicated and represented by principals (Table 1, first four bridging arguments). To examine the degree of inclusiveness, the first bridging argument assesses ease of citizen access and voice, focused on spatial layouts and related routes and architectural features; the second bridging argument considers where, through what means, and the ease in which the general populace accessed and received information (Table 1, last two bridging arguments). The bridging arguments are evaluated and assessed for each case by the relevant author/expert, coding a discrete set of proxies for the six bridging arguments. The references that served as sources for coding are listed for each case summary in Supplementary Text and table S3.

The same protocol is used to capture the associated variables and factors that are compared to the autocracy index. Information was recorded by the same experts who coded the data relevant to governance for each case. To ensure consistency, the lead author and L.M.N. reviewed the preliminary coded data for clarity of concept and comparability across cases and experts. Often, this step included communications between the authors that resulted in greater levels of consistency. Once the initial stage of data capture was completed, the findings were then compared and examined (a second stage of review) at the second Amerind workshop by the full suite of participants.

Analysis, quantification, and statistics

Most of the proxies included in our data collection protocol are designed as binary variables (see Tables 1 and 2). The project's goal of capturing the distribution of governance attributes in the simplest and most robust way possible warrants the use of presence-absence data. Such approaches are established methods for cross-cultural research using historical and archaeological data (*4*, *79*). However, in some cases, intermediate values of 0.5 are assigned to indicators that represent a true middle ground. For example, to assess where top-line decisions were made (Table 1, first bridging argument), regional experts examined architectural plans and contexts. An exclusive setting or ruler's residence (palace) is scored as 1, semirestricted administrative buildings as 0.5, and less-restricted settings such as a council house or other more accessible space as 0. Four proxies record continuous measurements rather than presence/absence (ratio of palace size to average residence size, deliberative space to total population, size of the largest plaza to center population, and the Gini coefficient). For these proxies, we convert the scores to a 0-to-1 scale by identifying natural breaks in the distribution of values for each proxy. We rescale the values for the ratio of palace size to average residence size based on the following thresholds: less than 20 is scored 0, 20 to 200 is scored 0.5, and greater than 200 is scored 1. For deliberative space to total population, less than 1 m^2 is scored 1 and above 1 m^2 is scored 0. For the size of the largest plaza to center population, less than 1 m^2 is scored 1, 1 m^2 to 9.94 m^2 is scored 0.5, and greater than 9.94 m^2 is scored 0. Gini coefficients are already recorded on a scale of 0 to 1 and are not rescaled. When available, Gini values are obtained from published sources. One other proxy is coded in a different manner. Under concentration of power (Table 1, second bridging argument), the number of semiautonomous hierarchical administrative structures (governance and religious) is coded as 1 or 2. To maintain consistency with other proxies for this bridging argument, values of 2 are converted to 0, thereby retaining a 0-to-1 scale that aligns with the other proxies.

We create scores for governance by first calculating the mean value (0 to 1) for each bridging argument in Table 1. As an example, if we have five proxies to score a specific bridging argument, but only four of those five proxies are available for a given case, we sum the values for those four proxies. We then divide that sum by four (the number of proxies included) to yield a mean score for that specific bridging argument for that case. Although the number of proxies for which information could be collected may vary by case and result in very minor differences in scores, we elected to use this method so that the link between proxies and scores is explicit and clear. The inclusion of multiple proxies in the calculation of each bridging argument ensures that we consider a range of indicators.

We then sum the bridging argument means for concentration of power (Table 1, first four bridging arguments, total of 0 to 4) and for inclusiveness (Table 1, last two bridging arguments, total of 0 to 2). The autocracy score is the sum of the scores for concentration of power and inclusion (0 to 6). For the associated variables in Table 2, we calculate the mean of all proxies for each one (finance, ritual, bureaucratization, and inequality). For example, the ritual score is the mean value of three proxies. We calculate three separate values for finance, one for external resources (the first four proxies for finance), one for internal resources (the last three proxies for finance), and a combined finance score that considers the two modes of finance relative to each other. When examined on their own, the score for external and for internal resources is the mean (0 to 1) of the relevant proxies. The combined finance score is calculated by subtracting the mean for internal resources from the mean for external resources; the resulting values range from −1 (all internal resources) to 1 (all external resources). For inequality, we compare the Gini coefficient to governance. We also calculate a mean score for the other four proxies for inequality. We keep the two inequality metrics separate as the house size differentials are a measure of material inequality (*33*), while the other proxies reflect material and relational inequalities (*80*).

For the proxies under examination in this analysis, the archaeological and historical records are both fragmentary and variable from region to region and case to case. Information on specific proxies is not always equivalent or available for every case. The conceptual structure of the coding scheme used here means that we do not have to omit cases where data for a given proxy are absent. Rather, a score is generated for the bridging arguments from those proxies that could be evaluated. By creating a mean for each bridging argument, and then summing them, we ensure that a range of evidence is used to determine the autocracy scores, broadening the potential comparative lens across time, geography, and the available empirical record.

We use the statistical platform R (*81*) to process the data collected by the working group, conduct an initial exploration of the relationship between variables, carry out bivariate linear regressions that predict the impact of the different variables on the bridging arguments, and generate plots, both for the text and for the Supplementary Materials. To evaluate our hypotheses, we assess the effects of different variables on our bridging arguments using bivariate linear regression (two-sided), a robust and widely used method for predicting how one quantitative variable responds to changes in another [(*82*), p. 59]. We use the R-package "lmtest" (*83*) to model the relationships between variables hypothesized to shape past governance and those proposed to be shaped by governance. The results of these tests are found in Figs. 3 to 8 and figs. S1 to S8. We use "ggplot2" (*84*) to create those plots. We also produce a correlation matrix (fig. S9) that presents pairwise Pearson's correlations for the stated variables. We use pairwise correlation because our dataset has some missing variables across several cases.

All 40 cases included in the dataset have a score for each of the six bridging arguments, which are summed to construct the autocracy index (0 to 6). For other variables, data were at times unavailable, and in these instances, the regression analyses have sample sizes less than 40. The sample sizes for these analyses are included in the text.

The authors constructed and applied the protocol, composed of bridging arguments and proxies, cognizant that the available data on a case-by-case basis would not be equivalent or even available. Nevertheless, with the steps taken, we can frame this investigation with an analytical focus on variation in governance as well as an assessment of potentially underlying factors and associated practices and mechanisms. In that sense, this deep-time comparative project is aligned with but differs in principal focus from the recent synthetic GINI project (*33*), where the key variable was material inequality. Five authors of this study (G.M.F., A.G., D.L., J.M., and L.M.N.) contributed to the GINI project Special Feature, and we see both projects as illustrating the importance of synthetic approaches for contemporary archaeological practice and its broader relevance. More specifically, the authors see the protocol presented and applied here as being replicable and expandable in the future as a basis to assess a broad set of cases along this key axis of governance.

Supplementary Materials

The PDF file includes:
Supplementary Text
Figs. S1 to S9
Legends for tables S1 to S3

Other Supplementary Material for this manuscript includes the following:
Tables S1 to S3

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Acknowledgments: Figure 1 was created using ArcGIS software by Esri. ArcGIS and ArcMap are the intellectual property of Esri and are used herein under license. Copyright Esri. All rights reserved. For more information about Esri software, please visit www.esri.com. We thank J. Seagard (Field Museum) who assisted with the preparation of Fig. 2. We are also grateful to the three anonymous reviewers and the editor for their thoughtful and constructive suggestions and comments. We wish to acknowledge and honor the contributions of our coauthor, the late John Douglass, who helped make our first Amerind workshop as joyful as it was productive. **Funding:** The Coalition for Archaeological Synthesis, the Amerind Foundation, and the Field Museum of Natural History provided the funds to hold two workshops at the Amerind Foundation in Dragoon, AZ. These meetings were essential for the operationalization of concept, data acquisition, and preparation of this manuscript. We would like to thank Arts & Science at New York University for funding support. **Author contributions:** Conceptualization: G.M.F., D.S., D.M.C., A.G., J.H.-L., S.K., and K.W.K. Methodology: G.M.F., D.S., D.M.C., S.B.B., A.G., J.H.-L., D.L., J.M., L.M.N., S.K., and K.W.K. Software: A.G. and D.L. Validation: G.M.F., A.G., D.L., J.M., and L.M.N. Formal analysis: G.M.F., D.S., A.G., D.L., J.M., and L.M.N. Investigation: G.M.F., D.S., D.M.C., S.B.B., A.G., J.H.-L., D.L., J.M., L.M.N., F.F., S.K., K.W.K., and J.D. Data curation: G.M.F., A.G., D.L., J.M., and L.M.N. Writing—original draft: G.M.F., D.S., D.M.C., A.G., J.H.-L., D.L., J.M., and L.M.N. Writing—review and editing: G.M.F., D.S., D.M.C., S.B.B., A.G., J.H.-L., D.L., J.M., L.M.N., F.F., S.K., and K.W.K. Visualization: D.M.C., S.B.B., A.G., D.L., and L.M.N. Project administration: G.M.F. and D.S. Funding acquisition: G.M.F. Supervision: G.M.F. **Competing interests:** The authors declare that they have no competing interests. **Data, code, and materials availability:** Supplementary Text contains capsule summaries of all cases included in the analysis. All data and code needed to evaluate and reproduce the results in the paper are present in the paper and/or the Supplementary Materials. The digital archive for this project includes the dataset provided here as Supplementary Materials and a script written in the R programming language that reproduces all analyses and figures. The digital archive is available via the Zenodo repository at the following link: http://doi.org/10.5281/zenodo.17856819.

Submitted 12 September 2025
Accepted 6 February 2026
Published 18 March 2026
10.1126/sciadv.aec1426

Science Advances

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Sci. Adv. **12** (12), eaec1426. DOI: 10.1126/sciadv.aec1426

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