

Neither Instinct nor Reason: Niche Construction, Habitus, and the Social Organization of Conduct

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Abstract

Classical sociology treated civilization as a movement from instinctive conduct toward rational deliberation. This article argues that the opposition is incomplete, and that the mechanism it omits is habitus: socially acquired, corporeally sedimented dispositions that generate appropriate action without explicit reflection. It then specifies the process through which the relative weighting of instinct, habitus, and deliberation changes historically. Niche construction theory supplies that process. Human beings modify the material, institutional, and symbolic environments in which subsequent conduct develops, so that the products of past action become the developmental conditions of future action. Building on Tang's account of social niche construction, the article advances a further claim: habitus is the sociological form of ecological rather than cultural inheritance, the channel through which a constructed field is transmitted not as information between minds but as a modified world that forms the bodies developing within it. The default mode network is introduced as an empirically constrained illustration of an intermediate capacity, not as a neural explanation of habitus. Read through this framework, acceleration becomes a niche mismatch: an environment engineered for speed selects against the reflective capacities that built it.

Introduction

After being named by Auguste Comte in 1838, sociology began a discussion with the biological sciences with the simultaneous discovery of evolutionary theory by Herbert Spencer and Charles Darwin in the 1860s. Sociology became established as a scientific discipline in the United States a few decades later largely through the efforts of Lester F. Ward, William Graham Sumner, Franklin Giddings, and Edward Ross, all of whom to varying degrees were influenced by Spencer's evolutionism (Gross, 2010). During the classical era of sociology running from 1880 through 1920, these and other sociologists held that the historical development of civilization could be understood as a gradual transition from instinctive forms of conduct to increasingly rational, reflective, and self-controlled action. Ward argued very early that the first efforts at collective social control were directed at the activities arising from the sex and hunger drives, since man "is regarded as a being requiring for his preservation a certain amount of nourishment and for his perpetuation the begetting of offspring" (Ward, 1880/1913, p. 271). Control efforts—what Maryanski and Turner (1993) later called the "social cage"—therefore targeted sexual activity for its procreative significance and food quests for their role in individual preservation (Bates, 1958; Chriss, 2010).

This early version of evolutionary or ecological sociology has a long afterlife. From Max Weber's account of rationalization to Norbert Elias's analysis of the civilizing process, modernity has frequently been interpreted as the progressive replacement of immediate, biologically grounded responses by conscious deliberation, self-restraint, and reasoned judgment (Elias, 2000; Spencer, 1897; Ward, 1883; Weber, 1978). These traditions differ in important respects, but they converge in treating civilization as a movement away from instinct and toward rational conduct.

That binary framework is theoretically incomplete. Most everyday practices are neither instinctive reactions nor the outcome of continuous conscious calculation. They are enacted through socially acquired, historically sedimented, and corporeally embodied dispositions that enable individuals to act appropriately without explicit reflection. As Pierre Bourdieu conceptualized it, habitus constitutes a system of durable dispositions that generates practical action by translating social history into embodied competence (Bourdieu, 1977, 1990). Recognizing habitus as an autonomous mechanism of conduct has consequences for how the civilizing process is understood. Elias demonstrated that civilization entails the internalization of external constraints, but left open the question of how self-control becomes routinized in everyday practice (Elias, 2000). Habitus supplies the missing link between biological instinct and conscious rationality, and with it a different account of civilization: not a transition from biological to social determination, but a recursive transformation in which biological capacities, socially constructed environments, embodied dispositions, and reflective capacities continuously interact.

Work in the sociology of the body and of epigenetics has already unsettled the assumption that biology and social experience constitute separate explanatory domains. Freund (1988) argued that sociology needs an account of how social environments physically penetrate the bodies of those who inhabit them; Warin et al. (2016) show that biological and social environments are mutually enfolded across the life course. For sociology the significance of this work lies not in replacing social explanation with biological explanation, but in opening a theoretical space in which embodied dispositions can be understood as products of historically situated environments. Romero Moñivas (2023) similarly argues that biological, cultural, and environmental factors should not be treated as isolated sources of human conduct, but as mutually interacting dimensions of its formation. This integrative perspective reinforces the need to understand embodied dispositions as emerging from the interaction between evolved capacities and historically constructed environments.

The argument proceeds on two fronts. The first establishes three mechanisms—instinct, habitus, and conscious deliberation—and the historical transformations that alter their relative importance. The second specifies the process through which that alteration occurs. Niche construction theory supplies the mechanism: human beings modify the material, institutional, and symbolic environments in which subsequent conduct develops, so that the products of past action become the developmental conditions of future action. Sociological uses of that framework are recent but no longer scarce (see, e.g., Tang, 2025; Frandsen et al., 2026), and the reading of fields as constructed niches is among them. What the present argument adds is narrower and, if it holds, more consequential: that habitus is the channel through which such niches are inherited—not information passed between minds, but a modified world that forms the bodies developing within it. Within that constructed niche one evolved capacity is then examined more closely. The default mode network, a large-scale brain network supporting self-referential thought, mental simulation, and internal narrative, is introduced not as a neural explanation of habitus but as an empirically constrained illustration of what a capacity intermediate between impulse and calculation looks like in an organism, and of how such capacities are themselves reshaped by the environments they help to build. The article therefore makes a threefold theoretical contribution: it

conceptualizes habitus as the embodied mechanism through which constructed niches become developmentally consequential; it reframes the relation between instinct, habitus, and deliberation as a recursive rather than developmental sequence; and it reconceptualizes acceleration as a possible mismatch between constructed temporal environments and the reflective capacities those environments presuppose.

Instinct and the evolutionary origins of conduct

Classical evolutionary sociology located the origins of human conduct in biological adaptation. Long before the emergence of complex institutions and moral regulation, survival depended upon the capacity of organisms to respond rapidly to environmental stimuli. Instinctive behavior represented an adaptive mechanism through which action could be executed immediately, without reflection. In this context speed was not a cultural value but a biological necessity: delayed responses to hunger, predation, or reproductive opportunity could threaten survival directly (Darwin, 1872; Spencer, 1897).

Spencer regarded instincts as inherited solutions to recurrent survival problems, accumulated through the continuous adjustment of organisms to their environments and allowing conduct to occur automatically where deliberation would be maladaptive (Spencer, 1897). Ward similarly argued that the earliest forms of conduct were governed by direct conation, in which action followed immediately from biological desire; only with the development of civilization did indirect conation emerge, enabling individuals to postpone gratification in favor of more complex and socially mediated goals (Ward, 1883). Ross (1901) maintained that social control developed precisely because instinctive impulses were insufficient for sustaining increasingly differentiated societies, and Sumner (1906) argued that the earliest forms of collective life rested upon habitual and instinctive patterns that stabilized as customs and folkways long before they were formalized into legal or political institutions.

This perspective establishes the starting point of the present argument: in its earliest form, conduct is organized through biologically grounded mechanisms characterized by immediacy, automaticity, and speed. Contemporary evolutionary sociology, however, no longer requires a strict opposition between biological inheritance and social determination. Developments associated with the extended evolutionary synthesis, particularly epigenetics and niche construction theory, have opened a conceptual space in which organisms and environments are understood as dynamically interacting rather than as separate causal domains. Social niche construction (SNC) extends this insight to human societies: human beings do not merely adapt to pre-existing environments but actively modify the social, material, and symbolic environments in which subsequent action occurs, so that individuals are shaped by environments themselves historically produced through human activity (Tang, 2025). Evolutionary explanation therefore need not imply biological reductionism. The sociological problem is not simply how civilization transformed instinctive foundations into socially organized action, but how biological capacities, social environments, and historically accumulated practices became recursively organized into new forms of conduct.

Chriss (2018) provides a political-sociological extension of this problem. Early forms of association were organized around kinship, blood, and relatively immediate solidarity, while the development of territorial communities and eventually the state introduced formalized rules for regulating conduct: actions previously governed by immediate survival and gratification become subject to external rules, legitimate coercion, and institutional expectation. This should not be read as a simple replacement of instinct by reason. Formal systems of control create the social environments within which external constraints can subsequently become internalized as durable dispositions.

From this perspective the evolutionary significance of Elias and Bourdieu can be reconsidered without reducing either theorist to biological evolutionism. Tang (2025) argues that Elias's processual sociology can be interpreted retrospectively as a form of social niche construction, because sociogenesis and psychogenesis describe a reciprocal process in which human beings construct social environments that subsequently reshape their dispositions, conduct, and personality structures. Bourdieu's theory of practice runs in the same relational direction—the affinity between the two authors on habitus is by now well documented (Paulle et al., 2012; Sharlamanov et al., 2024)—and habitus is on this reading neither an innate biological program nor an externally imposed structure, but the embodied outcome of historically accumulated interactions between agents and their social environments. Social niche construction therefore supplies an evolutionary vocabulary for a processual insight already present in both: human beings construct the environments that, in turn, construct them.

Civilization and the internalization of social control

The evolutionary predominance of instinctive conduct does not disappear with the emergence of civilization. Rather, as Elias demonstrated, civilization transforms the mechanisms through which conduct is regulated. The civilizing process is characterized by the gradual displacement of external coercion by internal self-restraint, whereby social constraints become incorporated into the individual's personality structure. In *The Society of Individuals*, Elias (1991) argues that individual and society are not separate entities, since personality structures emerge from historically specific networks of interdependence. As those interdependencies expand, individuals are compelled to exercise greater control over emotions, impulses, and immediate reactions (Elias, 2000).

Civilization is therefore not simply the accumulation of cultural achievements but a long-term transformation of the human personality. The monopolization of violence by the state, the differentiation of social functions, and the growing density of social relations produce increasing demands for foresight, emotional regulation, discipline, and delayed gratification. The political organization of coercion belongs to this transformation. As Chriss (2018) notes, the development of the state subjected forms of coercion previously dispersed across social groups to formalized systems of political authority; this did not eliminate violence but altered its social organization by concentrating legitimate force within institutional structures. Foucault (1977) offers a related but distinct perspective, showing how modern institutions develop disciplinary mechanisms that organize bodies, routines, and forms of self-monitoring, producing individuals capable of regulating their own conduct. Behaviors once regulated

externally through direct sanction gradually become internalized as habitual self-control, and the capacity to postpone satisfaction, regulate aggression, and anticipate the reactions of others becomes an indispensable condition of civilized life (Elias, 2000; Mennell, 1998).

This process should not be understood as the eradication of instinct. Elias explicitly rejected any notion that civilization abolishes humanity's biological foundations. A similar emphasis on the transformation of immediate impulses into socially organized conduct appears in Mead's theory of the self, where action becomes possible through the internalization of the attitudes and expectations of others, so that development of the self represents a movement from direct response toward socially mediated action (Mead, 1934). Instinctive drives remain present but are progressively reorganized. The same qualification applies to coercion: the institutionalization of political authority does not abolish coercive capacities but reorganizes the conditions under which they are exercised (Chriss, 2018). Biological drives continue to exist, yet their expression becomes mediated by socially produced standards of propriety, shame, embarrassment, and self-discipline (Elias, 2000; Kilminster, 2007).

If instinct constitutes the evolutionary foundation of conduct, civilization should therefore be understood not as its negation but as its historical transformation through processes of internalization. The central question becomes how these internalized forms of self-control acquire the stability and practical immediacy necessary for everyday action.

Speed, modernity, and the dromological condition

If Elias explains how civilization transforms instinct through the internalization of self-control, Paul Virilio directs attention to another defining feature of modernity: the progressive acceleration of social life. His theory of dromology, the logic of speed, argues that the history of modern civilization is inseparable from the increasing velocity of movement, communication, warfare, and technological development. Modernity is distinguished not merely by innovation but by the systematic compression of time and space, whereby speed becomes an organizing principle of social order rather than a technical attribute of transportation or communication (Virilio, 1986).

Acceleration in this sense restructures the conditions of social existence. Technological development produces what Virilio describes as the collapse of distance, reducing the temporal intervals that once separated action, communication, and decision. Economic exchange, political authority, military power, and everyday interaction increasingly depend upon the capacity to minimize delay, so that modern societies are characterized not simply by greater mobility but by a continuous intensification of temporal demands (Virilio, 1986; Rosa, 2013). This emphasis on temporality resonates with Abbott's processual sociology, which treats social life as an unfolding sequence of events and relations rather than a collection of fixed structures (Abbott, 2016), and Rosa's concept of resonance develops it further: acceleration affects not only the speed of social processes but the quality of individuals' relationships with the world, so that the challenge is not merely to act faster but to maintain meaningful engagement with social and material environments (Rosa, 2019).

Virilio leaves an important sociological question unresolved. If the tempo of social life continuously accelerates, through what mechanism are individuals able to act effectively within such conditions? The answer cannot lie in instinct, whose adaptive function belongs to biological survival rather than the coordination of complex social practice. Nor can it rest upon continuous rational deliberation, since the cognitive demands of modern life far exceed the capacity for constant conscious calculation. What is required is a mechanism capable of generating rapid, socially appropriate action without reverting either to biological impulse or to explicit reasoning. That is the theoretical bridge between Virilio and Bourdieu: acceleration does not eliminate the need for social organization but makes habitus increasingly indispensable as the practical medium through which civilization reconciles speed with order. Before that mechanism can be specified, however, the environment in which it operates requires closer attention. Acceleration is not a natural condition to which societies must adapt. It is a property of niches that human beings have constructed.

Social niche construction and the ecology of deliberation

The preceding section leaves an unresolved problem. Virilio describes acceleration as a condition imposed upon social actors, a velocity to which conduct must somehow adjust. Yet the tempo of modern life is not a fact of nature. It is a property of environments human beings have themselves built, and it changes as those environments change. To make this claim analytically rather than metaphorically requires a vocabulary capable of describing how the products of past human activity become the conditions of subsequent human activity. Niche construction theory supplies such a vocabulary, in terms continuous with the evolutionary sociology introduced above rather than opposed to it.

Niche construction and ecological inheritance

Niche construction theory begins from the observation that organisms do not merely undergo selection but modify the environments in which selection operates (Odling-Smee et al., 2003). Earthworms alter the chemistry of the soil they inhabit, beavers impound the water upon which they depend, and the descendants of each inherit not only genes but an altered world.³ The theory's addition to evolutionary explanation is therefore a second inheritance channel: alongside genetic inheritance there is ecological inheritance, the transmission across generations of modified selective conditions. Within the extended evolutionary synthesis this reciprocity between organism and environment is treated as a causal process in its own right rather than as a residue of adaptation (Laland et al., 2015). The insight has an older lineage in developmental biology. West and King (1987, p. 550) proposed the term *ontogenetic niche* for "the set of ecological and social circumstances inherited by organisms," arguing that the inherited environment deserves conceptual parity with nature and nurture rather than subordination to them—a legacy bequeathed to progeny alongside the genes.

Two features of the theory are essential if it is to be imported into sociology without repeating the errors of nineteenth-century evolutionism. First, niche construction is not Lamarckian. Nothing acquired during

a lifetime is inscribed in the germ line; what is transmitted is a state of the world. The distinction was already clear to Freund (1988, n. 58), who insisted that what is at issue is “not the direct biological transmission of acquired traits, but a ‘natural’ selection which is mediated by social activities and structures,” in which specific social arrangements produce and favor certain types of bodies and capacities and are in turn shaped by them. Second, niche construction carries no implication of progress. Constructed niches may be poorly matched to the capacities of the organisms that build them, and the concept is used within evolutionary biology precisely to explain such mismatches. Niche construction therefore permits an account of civilization that is directional—cumulative and historically irreversible—rather than progressive in any evaluative or moral sense.

Human niche construction is distinguished by its scale, its cumulative character, and its symbolic mediation. Boyd et al. (2011) argue that human adaptation is unintelligible apart from cumulative culture: human beings occupy a cultural niche in which the information required for survival is acquired socially rather than reinvented individually. Sterelny (2012) adds that the developmental environments humans build—apprenticeship, graded exposure to difficulty, deliberately arranged learning situations—are themselves the mechanism through which complex competences are transmitted. Tools, dwellings, legal codes, writing systems, currencies, curricula, and information infrastructures are all niche constructing in this sense: each alters the conditions under which the next cohort develops.

Tang (2025) carries this reasoning into the social sciences under the heading of social niche construction, reading Elias’s paired concepts of sociogenesis and psychogenesis as a description of the same loop, and he takes the reading to Bourdieu as well: fields are niches, or parts of them, and Elias and Bourdieu alike “single out ‘habitus’ as internalized social constraints” (p. 232). The identification is asserted rather than developed—Tang notes that space did not permit a fuller treatment—and the terms in which it is asserted leave the decisive question open. That a field is a constructed niche is by now a claim with some currency. Kendal (2011) had already asked what practice theory looks like when read through cultural niche construction; Frandsen et al. (2026) have recently retheorized the organizational field as a constructed one, though in the institutional lineage of DiMaggio and Powell rather than the dispositional lineage at issue here; and Liu and Emirbayer (2016) have compared field theory with the ecological tradition of the Chicago School, finding deep affinities in their treatments of actors, positions, and structural isomorphism. That comparison, however, is spatial and interactional. Its ecology is one of competition for position within a bounded space, in which external structures are reduced to “passive conditions for ecological processes,” and it carries no account of inheritance across generations. What none of these accounts specifies is the status of habitus within the loop. Tang’s social analogue of ecological inheritance is niche inheritance, a property of transmitted environments; the body does not appear in his account.

The proposal here is that it should. A field is a constructed niche: a historically produced structure of positions, stakes, and criteria of recognition that no individual designed and within which dispositions are formed. Habitus is what that niche deposits in the body—though *deposit* should not be heard as passive imprinting. As Frost (2020) argues against the signaling models that dominate epigenetic

explanation, bodies are not a passive medium through which environmental information travels unchanged; they are attentive, and the processes by which they register their surroundings are themselves patterned and meaning making. Field and habitus are therefore not two variables in a static model, but two aspects of a single constructive process observed at different moments in its cycle—and habitus, so understood, is the sociological form of ecological rather than cultural inheritance. The distinction matters (Odling-Smee & Laland, 2011). Habitus is not transmitted between minds as information; it is induced in each successive cohort by the modified conditions of a world they encounter as given. This distinction is consistent with Moñivas's (2023) argument that socialization does not simply add cultural content to an otherwise independent biological subject, but becomes incorporated through the interaction of biological capacities and environmental conditions. Habitus can therefore be understood as an embodied outcome of exposure to socially constructed environments rather than as the transmission of cultural information between minds. That is the ecological channel, not the cultural one, and it is what allows a constructed environment to reproduce itself in bodies with a durability that institutions and explicit rules alone could not secure.

The consequence for the model developed here is that the relation among instinct, habitus, and deliberation ceases to be a sequence and becomes a cycle. Environments shape the development and expression of particular capacities; those capacities are exercised in modifying environments; the modified environments then confront subsequent generations as the given conditions of their own formation. Ward's distinction between direct and indirect conation acquires additional force when placed within this cycle. Direct conation, in which desire discharges immediately into action, is the older mode; indirect conation, in which intellect inserts means between the motivating feeling and the end, is what makes planned and circuitous action possible (Ward, 1883). Ward regarded this shift as the condition of collective teleosis, and his observation that the earliest large-scale efforts at social control were directed at the activities surrounding sex and food follows the same logic: these are the most powerful primary appetites, and any regulatory order must first restrain, channel, or socially embed their immediacy (Chriss, 2010). Niche construction explains why such efforts prove durable. Each act of regulation leaves residue in the environment—prohibitions, institutions, arrangements of space and time, rules governing who may eat or marry whom—and that residue confronts the following generation not as a demand to be obeyed but as the world in which they grow up.

The default mode network as an evolved capacity within the loop

If niche construction supplies the environmental and historical side of this cycle, the question remains what kind of organism is capable of the reflective and projective operations that cumulative construction requires. Contemporary cognitive neuroscience offers one partial answer. The default mode network (DMN) is a set of linked cortical regions—chiefly the medial prefrontal cortex, posterior cingulate/precuneus, inferior parietal lobule, and lateral/medial temporal areas. These regions typically deactivate during externally directed tasks and activate at rest (Shulman et al., 1997; Raichle et al., 2001). Later work showed they form a coherent network involved in autobiographical memory, future

thinking, mind-wandering, self-referential thought, theory of mind, and internal narrative (Buckner & DiNicola, 2019; Menon, 2023).

Comparative studies show that the DMN is not a human invention. It has a deeper evolutionary history. Similar regions, with similar resting-state connectivity and reduced activity during tasks, have been found in rodents and in primates that are not apes. In those animals, the homologs of medial prefrontal cortex and posterior cingulate cortex are only weakly coupled. The strong coupling that defines the integrated human network appears to have been reinforced in the ape lineage (Garin et al., 2022). A change in scale accompanied this change in organization. Higher-order association cortex expanded disproportionately as hominin brains grew larger, and the cortical territory of the default mode network is among the regions that expanded most in humans relative to chimpanzees and macaques (Buckner & Krienen, 2013; Wei et al., 2019).

Three restrictions on the use of this evidence must be stated explicitly. First, and contrary to recent popular reports, the DMN is *not* the origin of consciousness (Luppi et al., 2025). Rather, consciousness is far older than the hominoid reorganization described above, and the network's association with conscious experience concerns higher-order, self-referential, and narrative features rather than arousal or primary sensory awareness (Menon, 2023). Second, the evidence is correlative and functional; the network is one node within interacting systems rather than a sufficient cause of anything. Third, and most consequential here, nothing suggests that Ward, Mead, or Elias anticipated neuroimaging. The correspondence is entirely retrospective: imaging research identified a system whose functional profile corresponds to capacities that evolutionary sociology and interpretive social psychology had already described at their own level of analysis. The closest existing bridge makes the point from the opposite side. Yeshurun et al. (2021) argue that the network is not an intrinsic system for private reverie but one that integrates incoming social information with prior individual knowledge over long timescales, producing a space in which, in their phrase, the idiosyncratic self meets the shared social world—a formulation standing close to Mead's account of the self as constituted through role-taking, the internal conversation between the I and Me, and the internalization of the generalized other (Mead, 1934).

With those restrictions in place, what the network contributes is specificity. The model advanced here asserts that human conduct is organized by something other than instinct and continuous calculation. The default mode network offers one empirically studied example of a neurocognitive system involved in forms of self-reference, memory, simulation, and social projection that are relevant to the reflective capacities presupposed by cumulative niche construction. It is not the seat of impulse, and it is not a calculating device. Its medial prefrontal nodes are heavily involved in the appraisal and regulation of affect as well as in social cognition, which places the network, as Turner's (2000) emphasis on the evolutionary elaboration of emotional capacity would lead one to expect, between rather than above the affective and the deliberative. It supports precisely the operations that make indirect conation possible: holding an impulse in mind rather than discharging it, simulating alternative courses of action, taking the perspective of others, and integrating personal memory with social knowledge into a narrative capable of guiding action across time.

The network stands in a two-sided relation to niche construction. On the enabling side, the reflective and simulative operations it supports are what convert simple environmental modification into cumulative and open-ended construction: planning a modification, anticipating its consequences for others, coordinating a collective project, and transmitting the result as instruction all require an agent capable of modeling absent states of affairs and other minds. On the feedback side, the niches so constructed alter the developmental conditions under which those capacities are formed and exercised. Literate, institutional, and technical environments place demands on attention, self-regulation, foresight, and narrative coherence that differ from those of earlier hominin environments, and there is evidence that patterned cultural practices shape neural organization over the course of development (Roepstorff et al., 2010). This is the point at which habitus and neural capacity meet without one being reduced to the other. Habitus is the sociological description of dispositions durably fitted to a constructed field; neural and physiological systems are among the developmental means by which that fitting is accomplished. Freund's (1988) call for a social "physiology of bodily regulation," and Warin et al.'s (2016) notion of biohabitus, make parallel points in their own registers. The claim is not that habitus possesses a neural correlate, but that these descriptions refer to a single process of environmental incorporation observed at different levels of analysis.

The reflective interval

This yields a sharper version of the problem posed by Virilio. If deliberation depends upon capacities whose exercise requires time—intervals not fully occupied by immediate demand or by a continuous stream of novel stimuli—then the temporal structure of the constructed niche is not incidental to conduct but helps determine which mechanisms of conduct are available within it. Technology is genuinely two-sided in this respect. Writing, mathematics, mechanical devices, computation, and algorithmic systems are all extensions of indirect conation; they insert increasingly sophisticated means between desire and end, enlarging the domain in which ends can be pursued by planned and circuitous routes. The same technologies, by compressing the time required for calculation, communication, decision, and response, erode the intervals upon which the reflective operations depend. The tension is structural rather than incidental, and it repeats at a new stage the problem the classical authors identified. Early social controls on sex and food restrained the most powerful immediate drives so that more mediated forms of social life could develop; contemporary acceleration compresses the reflective space in which those mediated forms are maintained and renewed. This is not an argument against technology. It is an argument that a constructed niche can select against the capacities that built it, which is precisely the kind of mismatch that niche construction theory was developed to describe.

Read in this way, Virilio's dromology is less a diagnosis of modernity's velocity than a claim about the ecology of deliberation. Certain operations—moral judgment, the integration of experience into coherent narrative, the cultivation of foresight—appear to require a tempo that resists compression, and an environment engineered for speed will tend to reallocate conduct away from them. The limits of rational action are therefore not only the cognitive limits identified by Simon and Kahneman (see below). They are also historically produced limits, features of environments that human beings have themselves built.

The limits of rational action

The assumption that modern conduct is predominantly guided by rational deliberation occupies a central place in social theory. Weber's analysis of rationalization, Habermas's theory of communicative action, and rational choice theory all assign a significant role to actors' capacities for conscious evaluation and reasoned judgment, despite their substantial differences (Habermas, 1984, 1987; Weber, 1978). Yet contemporary analyses of rationalization also show that modernity's expansion of formal rationality does not necessarily produce more reflective actors. Ritzer's concept of McDonaldization demonstrates that modern institutions increasingly organize action through efficiency, calculability, predictability, and control, often reducing the space for individual deliberation rather than expanding it (Ritzer, 2015). Pragmatist and practice-oriented approaches have likewise challenged the image of the actor as a calculating subject: Joas argues that action emerges creatively through embodied engagement with concrete situations rather than as the execution of predetermined goals (Joas, 1996).

The assumption becomes harder still to sustain when confronted with the texture of everyday life. Individuals participate in thousands of interactions and navigate highly differentiated institutional environments without deliberating explicitly before each action. Continuous rational calculation would impose demands far exceeding the informational and temporal capacities of human actors. Kahneman's distinction between fast and slow cognition illustrates the extent to which everyday judgment depends upon intuitive processing (Kahneman, 2011), and Simon's account of bounded rationality shows that everyday action necessarily relies on mechanisms that reduce complexity rather than calculate alternatives (Simon, 1957, 1997).

This limitation is not simply cognitive but sociological. Social order depends upon the predictability and continuity of practice, both of which would become impossible if every action required renewed conscious justification. Weber himself acknowledged that much social action is habitual rather than instrumentally rational (Weber, 1978); Schutz demonstrated that everyday life proceeds through taken-for-granted assumptions that suspend continuous reflection (Schutz, 1967); Giddens distinguished discursive from practical consciousness to mark how much everyday competence operates through tacit knowledge actors cannot fully articulate (Giddens, 1984); and even Habermas's model of communicative rationality presupposes a shared lifeworld whose background understandings make deliberate communication possible (Habermas, 1987). Rational deliberation therefore constitutes only one mode of conduct, mobilized primarily in situations of uncertainty, conflict, or strategic choice. It cannot explain the routine, rapid, and coordinated character of ordinary social practice.

Habitus as the missing link

Bourdieu's concept of habitus provides the missing link between instinctive conduct and rational deliberation. Within the development of practice theory, his approach represents an attempt to overcome the opposition between structural determinism and voluntaristic theories of action by emphasizing the reciprocal relationship between social structures and embodied practices (Ortner, 1984). Although the

term is a distinctive contribution of modern social theory, its genealogy reaches back to Aristotle's *hexis*, a durable disposition acquired through practice rather than an innate capacity or a product of conscious calculation (Aristotle, 2011; Bourdieu, 1977).

The argument intervenes in broader debates within contemporary theories of practice. Practice theorists have challenged models of action based either on individual rational calculation or on structural determination, emphasizing instead that social life is reproduced through practical performances, embodied competencies, material arrangements, and routinized engagement (Giddens, 1984; Schatzki, 2002; Reckwitz, 2002; Shove et al., 2012). Yet in demonstrating that action is embedded within socially organized routines they leave unresolved a prior question: what mechanism enables actors to perform appropriate action rapidly and effectively within complex environments? The concept of practice explains the patterned character of action without explaining the embodied mechanism through which individuals acquire the capacity to act without explicit reflection. Habitus addresses precisely this problem. It also extends pragmatist theories of action. Mead, Dewey, and Joas showed that conduct emerges through interaction, experience, and creative adjustment rather than through purely instrumental rationality (Mead, 1934; Dewey, 1922; Joas, 1996), but the pragmatist tradition emphasizes the emergence of action in problematic situations, where habitual responses become insufficient and actors must creatively reconstruct their behavior. The present argument concerns the opposite condition: the vast domain of ordinary conduct in which individuals act competently precisely because they need not reconstruct their actions.

Habitus explains how historical experience becomes incorporated into bodily dispositions that generate immediate, socially meaningful responses. Unlike instinct, it is socially produced and historically variable; unlike rational deliberation, it operates through practical mastery rather than explicit calculation. Recent work in embodied cognition supports the general point that action cannot be reduced to abstract mental representation but emerges through the interaction of bodily capacities, environmental structures, and learned patterns of perception (Varela et al., 1991; Gallagher, 2005). Sociological theories of embodiment add the crucial dimension: bodily competencies are not merely biological or cognitive achievements but socially and historically organized. Habitus therefore represents not simply embodied cognition but socially structured embodiment—which is why the older programmatic statements of the sociology of the body remain pertinent. Freund (1988) argued that social environments do not merely repress bodies but energize them, and that sociology requires an account of how relations of domination register physiologically. Warin et al. (2016) make the parallel argument in the epigenetic register through the notion of biohabitus, in which biological and social environments are mutually enfolded across the life course. Neither claim reduces habitus to biology. Both make it harder to sustain a rigid analytical separation between biological capacities, embodied experience, and socially organized environments. This also clarifies why habitus should not be understood as cultural information simply imposed upon a biologically neutral organism. Rather, socialization becomes incorporated through the interaction of biological capacities and environmental conditions, making embodiment central to the formation of socially organized conduct (Moñivas, 2023).

Habitus emerges through prolonged socialization within particular social, cultural, and historical contexts. This process of incorporation resembles Berger and Luckmann's (1966) analysis of social construction, in which historically produced meanings become internalized and experienced as natural features of everyday reality, and it resonates with Merleau-Ponty's account of the body as the primary medium through which individuals perceive and engage the social world (Merleau-Ponty, 2012). It operates through what Bourdieu describes as a practical sense: an embodied capacity to perceive situations, anticipate appropriate responses, and act in socially intelligible ways without explicit deliberation (Bourdieu, 1990).

Its analytical significance lies precisely in its capacity to reconcile speed with social order. Because dispositions are embodied through repeated participation in social life, individuals respond rapidly to changing circumstances without reverting to instinct or engaging in constant calculation. Bourdieu's analysis of taste demonstrates that everyday preferences and judgments are not products of individual choice alone, but expressions of socially structured dispositions acquired through socialization and class formation (Bourdieu, 1984). Everyday practices—speaking, greeting, eating, working, negotiating, exercising self-restraint—are performed fluently because social norms have been incorporated into bodily and cognitive dispositions rather than remaining external rules to be consulted (Bourdieu, 1977; Wacquant, 2014). Goffman's analysis of interaction ritual makes the same point for face-to-face encounters, where order depends upon a taken-for-granted embodied competence exercised without explicit calculation (Goffman, 1967).

Civilization can therefore be understood as a historical process that progressively replaces instinctive regulation not simply with reason, but with embodied practical dispositions. Elias demonstrated how external constraints become internalized; Bourdieu explains the mechanism through which that internalization becomes durable, practical, and reproducible. The transition is mediated not primarily by reason, but by the formation of habitus.

Civilization beyond rationality

Civilization cannot, then, be understood as a linear movement from instinct toward rationality. The evolutionary perspectives of Spencer and Ward identify instinct as the original foundation of adaptive conduct; Elias demonstrates how civilization reorganizes impulses through the internalization of social constraints; Virilio reveals that modernity intensifies the temporal pressures under which individuals act; and Bourdieu explains the practical mechanism that allows actors to navigate increasingly complex environments through embodied dispositions.

The expansion of what counts as violence is itself evidence of this transformation. Conduct that earlier societies did not register as coercion at all—a glance, a form of speech, a consensual risk—becomes legible as coercion once thresholds of tolerance have shifted, and the category of political violence has widened accordingly to encompass the actions of states, state functionaries, and citizens toward one another (Chriss, 2018). Civilization is visible here less in the disappearance of force than in the falling

threshold at which force becomes perceptible as force. This is what a niche perspective would lead one to expect. Thresholds of tolerance are not free-standing moral achievements, but dispositions formed within particular environments, and as those environments are progressively pacified the same conduct comes to be registered differently.

This also suggests a reconsideration of the relationship between evolutionary sociology and mainstream sociological theory. Evolutionary explanation need not be an alternative to historically and culturally oriented sociology; Turner and Maryanski (2015) argue for an evolutionary sociology that takes biological processes seriously while resisting reductionist explanations of social organization. The task is not to choose between biology and sociology, but to identify the mechanisms through which evolved capacities become reorganized within social environments.

As civilization becomes more differentiated, accelerated, and interdependent, the possibility of continuous rational reflection becomes increasingly limited. Modern individuals must manage multiple social expectations, institutional demands, and temporal pressures simultaneously, and under such conditions social order cannot depend exclusively on conscious calculation. Habitus provides the required capacity, transforming socially accumulated experience into embodied orientations that guide conduct within complex environments (Bourdieu, 1990). This extends Elias's analysis: the internalization of social constraints produces not simply more rational individuals but individuals whose bodies, emotions, and perceptions are shaped by historically specific patterns of self-regulation. Civilized conduct becomes second nature not because biological instincts disappear, but because social regulation becomes embedded within practical dispositions (Elias, 2000; Mennell, 1998). Speed does not eliminate social order; it increases society's dependence on the practical mechanisms through which order is reproduced.

Toward a sociology of conduct

The synthesis developed here suggests the need for a sociology of conduct that moves beyond the opposition between instinct and rationality. Conduct emerges through the interaction of three analytically distinct but historically interconnected modes of regulation: instinct, the biological foundation of inherited capacities for immediate adaptation, which human societies have transformed in expression without abolishing (Darwin, 1872; Spencer, 1897); habitus, the specifically social organization of conduct, generating appropriate responses through embodied dispositions rather than continuous calculation (Bourdieu, 1977, 1990); and conscious deliberation, mobilized in conditions of uncertainty, conflict, or strategic choice, and constituting one dimension of conduct rather than its universal basis (Weber, 1978; Habermas, 1984; Simon, 1997).

These mechanisms are related through the constructive cycle set out above. Environments shape the development and expression of capacities; capacities are exercised in modifying environments; modified environments confront subsequent cohorts as the conditions of their own formation. Instinct, habitus, and deliberation are therefore positions within a loop rather than stages in a sequence, and their relative weighting at any historical moment is an empirical property of the niche in which conduct occurs rather

than a point reached on a developmental scale (Tang, 2025). Early forms of human adaptation depended more directly upon immediate regulation, whereas increasingly complex societies developed institutional, normative, and embodied mechanisms for organizing conduct; habitus became particularly important as a mechanism of practical coordination within differentiated environments, while modern institutions simultaneously expanded the domains in which formal decision-making became possible (Chriss, 2018).

Formulated this way, the model yields empirical questions rather than a philosophy of history. If the weighting of the three mechanisms is a property of the niche, then it varies across fields and can in principle be investigated: which environments compress the reflective interval and which preserve it; which institutional arrangements deposit dispositions durable enough to survive the environments that produced them; how quickly a constructed niche can be modified once the dispositions it formed have ceased to fit it.

Conclusion

Civilization should not be understood as a simple historical transition from instinct to reason. Such a view underestimates the complexity of human conduct by assuming that the expansion of civilization necessarily produces more rational actors. What changes historically is not the quantity of reason but the mechanisms through which conduct is organized, and the environments that determine which of those mechanisms can operate.

The article has made two connected arguments. The first is that habitus is the mechanism the classical opposition omits: the means by which historically accumulated social relations become practical capacities, permitting action that is neither instinctive nor continuously calculated. The second is that habitus is best understood as an inheritance channel. A field is a constructed niche, and habitus is the form in which that niche is transmitted—not as information passed between minds, but as a modified world that forms the bodies developing within it. That is what distinguishes ecological from cultural inheritance, and it is why constructed environments reproduce themselves with a durability that institutions and explicit rules alone could not secure. Elias and Bourdieu described this loop without the evolutionary vocabulary; social niche construction supplies the vocabulary without, so far, supplying the body. Placing habitus in the inheritance channel joins the two.

Three consequences follow. First, the relation among instinct, habitus, and deliberation is a cycle rather than a sequence, so no historical moment can be read as a point reached on a developmental scale. Second, because niche construction is directional without being progressive, an account of civilization built on it can be historical and cumulative without inheriting Spencer's assumptions—constructed niches can be poorly matched to the organisms that build them. Third, and most consequentially, acceleration becomes intelligible as exactly such a mismatch. As Virilio demonstrates, modern societies operate under conditions of temporal compression; yet acceleration does not make action more rational. It increases dependence on embodied dispositions that permit rapid, appropriate, predictable response,

while eroding the intervals on which reflective operations depend. If the environments that compress the reflective interval are themselves human products, their temporal structure is a matter of social organization rather than technological necessity, and the conditions under which deliberation remains possible become a proper object of sociological attention rather than a fact to be endured.

Human conduct is therefore best understood not through the opposition between nature and reason, but through the interaction of biological capacities, constructed environments, embodied dispositions, and deliberative capacities. The contribution of evolutionary sociology here is not to restore biological determinism but to develop a relational understanding in which organisms and environments continuously shape one another. The distinctive achievement of civilization lies not in replacing instinct with rationality, but in reorganizing immediate biological and coercive capacities through institutions, embodied dispositions, and reflective forms of action—coercion transformed in its organization, legitimacy, and social location rather than abolished (Chriss, 2018). *Habitus* is the historical form through which societies convert accumulated experience into practical competence. It is also the form in which they hand that experience on.

Abbreviations

Social niche construction (SNC)

Default mode network (DMN)

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Footnotes

3. Although Tang (2025) has enumerated a number of criticisms of SNC, we would like to expand upon his discussion of the challenges posed by Richard Dawkins' concept of the extended phenotype. Dawkins (2004) distinguishes between environmental modification that functions as an adaptation benefiting the replicators of the organism that produces it, which he regards as properly encompassed within his extended phenotype framework, and environmental modification that is merely an incidental consequence of activity, which he treats as "niche changing" rather than niche construction. This distinction is relevant to examples such as earthworms, whose modification of soil may have effects that extend beyond any straightforward adaptive benefit to the organisms themselves. Jablonka (2004), however, argues that the extended phenotype idea can be accommodated within a broader account of heritably varying phenotypic traits and that niche construction can itself be understood as another way of conceptualizing extended phenotypes. Her crucial addition is temporal. Constructed environments may persist, be regenerated, and thereby transmit developmental conditions across generations through ecological and non-genetic inheritance. Niche construction nevertheless provides the broader analytical frame adopted here because it encompasses not only organismic modifications conventionally understood as phenotypic extensions, but also the cumulative construction of material, social, and institutional environments such as dwellings, infrastructures, and rules that subsequently become developmental conditions for others. The point, therefore, is not to reject the extended phenotype perspective, but to retain niche construction as the more encompassing framework for explaining how modified environments persist and shape subsequent generations.