SOCIAL SPACETIME

A Geometric Model of Our Social World

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Section 1: The Structure of Social Spacetime

All social life unfolds within what can be described as social spacetime: a continuous, structured social field in which social objects—people and contagions—exist, move, and interact [figure 1]. Social resources (such as electricity, oil, and water) are also embedded within this field. In this framework, the terms social field and social object refer to the same continuous social environment, with field emphasizing omnipresent influence and fabric emphasizing structured curvature. Like physical spacetime, social spacetime has a geometry that governs trajectories, collisions, and the formation of patterns. Unlike physical space, its curvature is not determined by mass and energy alone, but by the behaviors, intentions, and interactions of social objects.

Figure 1. The Fabric of Social Spacetime

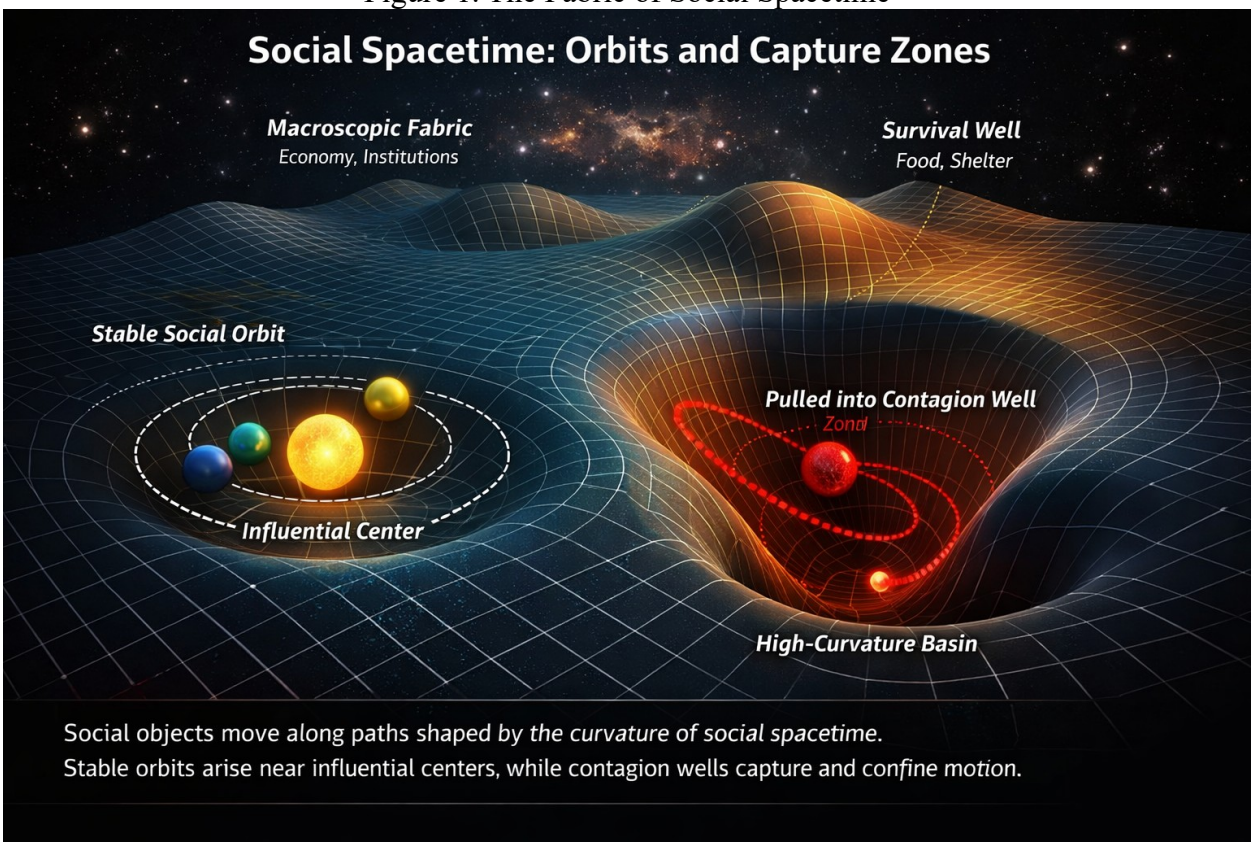

Figure 1. The fabric of social spacetime as a continuous field in which social objects, contagions, and resources are embedded; curvature from object presence shapes trajectories and influence without force, illustrating how the geometry of the field governs social motion.

Social spacetime is continuous and uninterrupted. There are no gaps where social influence ceases; every presence contributes to the overall field. Social objects exist as points of influence, and their motion is shaped by gravitational-like curvature generate by the laws of social spacetime. These effects are observable as tendencies, attractions, or deflections, and they create the visible structures of society: hierarchies, alliances, chains of influence, and patterns of contagion.

When the trajectories of social objects intersect due to immediate influence, this is called a collision, or a direct value connection. For example, a person adopting an idea after seeing a trusted friend share it, or a contagion reaching someone who instantly acts on it. Such a collision changes motion because influence is transferred directly. Indirect value connections occur when influence passes through intermediaries or networks before affecting a social object.

An alone social object is never free of curvature. Even in the absence of nearby contagions or direct social ties, a social object remains embedded within other social fabrics, particularly those governed by the fifth law. Macroscopic fabrics such as the economy, government, political systems, housing markets, and institutional structures exert curvature across vast regions of social spacetime. Their influence does not require proximity or direct interaction to register.

Even extreme isolation does not remove a social object from the field. Survival itself enforces curvature. The need for food, water, shelter, and energy places every social object within Law 1 curvature, regardless of location. Social resources retain social gravity independent of awareness or engagement, and contagions exert influence whether resisted, ignore, or unseen. Absence of visible connection therefore reflects dominance of other curvatures, not exemption from the field.

Social fabrics are the patterns that emerge in this field. They are structures of connectivity, but unlike physical fabric, they do not thicken. Social objects move through the field, bending its geometry, but never compressing it into denser matter. The curvature if social spacetime is always local; it does not stack or accumulate. What one social object does can warp the surrounding field, but it does not permanently alter the global structure on its own.

Every trajectory through social spacetime reflects the combined curvature encountered by a social object: the pull of survival, the gravitational influence of other objects, and the constraints imposed by moral and cognitive dynamics. The id, ego, and superego respond differently to each of these curvatures. The id aligns with regions of immediate survival and reward; the ego navigates the curvature landscape of social mass and influence; the superego shapes motion according to moral curvature.

Social spacetime contains hierarchies of influence without collapsing into singular points. Proximity matters—not just to people, but to contagions and resources. The more a social object is near influential centers, the more its trajectory is curved. Long arcs of motion emerge in regions of mild curvature, producing projects, ambitions, creative trajectories, and sustained pursuits. Extreme curvature, however, constrains motion along narrow paths: survival arcs, contagion responses, and urgent realignments of social motion.

Under persistent curvature, trajectories do not always resolve into collisions or escapes.

Stable trajectories and orbital patterns:

In regions where social curvature remains persistent over time, motion through social spacetime may settle into stable, repeating paths. These trajectories do not collapse inward nor

escape outward, but instead recur within the same curved region. Such motion appears as social orbits: long-term roles, routines, affiliations, or cycles in which social objects remain bound to a particular configuration of survival demands, social mass, goals, more structures, or institutions. Orbits are not imposed by force or intent; they arise from the shape and persistence of the surrounding social field. When curvature remains steady, trajectories naturally repeat.

In this section, we have introduced the conceptual framework of social spacetime: a field of structured curvature, shaped by the presence and motion of social objects, in which trajectories, influence, and patterns emerge. Understanding this field allows us to model the architecture of social fabrics, predict movements, and analyze how social worlds organize.

Section 2: The Five Laws of Social Fabrics

Figure 2. The Five Laws of Social Fabrics

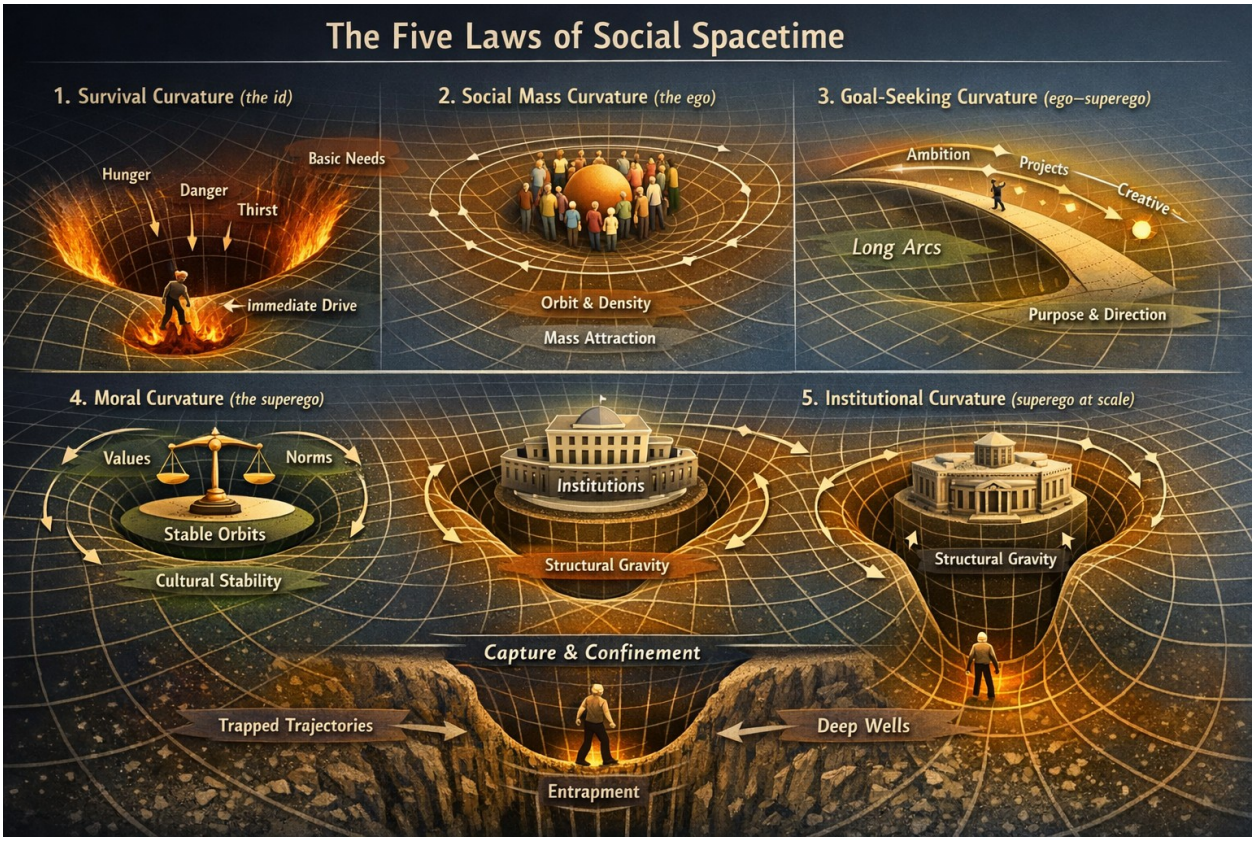

Figure 2. The characteristic curvature forms generated by the five laws of social fabrics, showing how survival, social mass, goal-seeking, moral and institutional curvatures differently shape the structure of social spacetime and constrain possible trajectories of social motion.

Social spacetime [figure 2] operates according to a small set of laws that regulate how social objects—people and contagions—move, join, separate, collide, and reorganize within social fabrics. These laws act by bending the social field in distinct ways, producing curvature that reshapes possible motion. Together, their effects generate the structures and warped pathways that make social worlds intelligible. Across all regions of social spacetime, the id, ego,

and superego respond differently to these forms of curvature.

These laws [figure 2] can be specified as five distinct laws of social spacetime, each producing a characteristic form of curvature within social fabrics.

Law 1: Survival Curvature (the id)

At the most fundamental level lie the oldest forces—those tied to physical survival. Hunger, thirst, warmth, danger, trust, and reproduction generate steep curvature.; social objects drawn into these gradients move with immediacy. Here, the id dominates, seeking relief from threat or scarcity. The ego acts only to preserve continuity through danger, while the superego becomes functionally inactive—ethical geometry cannot stabilize motion under extreme survival curvature (often referred to as an amygdala hijack).

In such regions, survival curvature steepens to the point that it overwhelms all other forms of curvature. Social mass, goal-seeking moral and institutional curvatures do not disappear, but become locally irrelevant, unable to bend trajectories against the dominant survival gradient. Social objects therefore move as if only survival curvature were present, processing the social field through immediate, reactive pathways.

A person searching for warmth or food is not weighing alternatives. They follow the curvature already present in the fabric, jostling or bypassing others as necessary. Behavior is purely reactive; cooperation and indirect value connections do not occur. Only direct value connections may form, strictly tied to immediate survival imperatives. As survival curvature intensifies, it dominates local motion, shaping the foundation upon which all higher social interactions depend.

Law 2: Social Mass Curvature (id, ego)

Where people, contagions, and resources accumulate, social mass generates curvature of its own. Crowds orbit focal objects, families cluster, and workers circulate around resource nodes —not by deliberation, but as a geometric effect of mass distribution.

In these regions, the ego becomes primary, regulating distance, position, and orbit within the curved space. The id is drawn toward mass for safety and continuity, while the superego reads existing structure and aligns behavior to preserve local stability. Direct value connections occur as social objects align within mass-induced curvature, while indirect value connections begin to form through repeated proximity. Cooperation remains limited, constrained by geometry rather than intentional coordination.

As social mass increases, curvature steepens, pathways bend, and trajectories reorganize. Social mass produces the first large-scale architecture of the social fabric.

Law 3: Goal-seeking Curvature (the ego-superego interface)

Once survival and social mass establish baseline curvature, internally generated curvature

emerges through goal-seeking. Unlike externally imposed curvature, goal-seeking reshapes the field from within the social fabric itself, producing internally oriented curvature that guides surrounding motion.

Paths traced by social objects as they move through curved regions of social spacetime are referred to as arcs.

When surrounding curvature is mild, goal-seeking extends motion into long arcs: projects, ambitions, creative trajectories, and sustained pursuits. These arcs are never independent of context. Survival curvature can truncate them, social mass bends them inward, and moral curvature may elevate, constrain, or redirect them. In this region, the ego charts viable routes through the field, while the superego stabilizes long-range orientation toward abstract ends.

Cooperation emerges here as a structural property of motion. Direct value connections support immediate alignment, while indirect value connections allow influence to propagate across networks and time.

Law 4: Moral Curvature (the superego)

Shared values generate moral curvature by shaping which social trajectories remain stable over time. Moral curvature defines what actions are permitted, discouraged, required, or elevated within a given social fabric.

In a community that values fairness, exploitative behavior may occur briefly, but sustained social motion favors reciprocal and transparent interactions.

When moral curvature is strong, trajectories stabilize into coherent orbits, and collisions become rare. When moral curvature weakens, previously constrained trajectories become available, allowing behaviors once excluded—such as dissent, unorthodox exchange, or innovation—to re-enter the field.

Direct value connections occur when individuals immediately adopt behaviors aligned with moral curvature. Indirect value connections arise as moral influence propagates through culture, reputation, and institutional memory. The superego dominates this region, binding social objects to idealized trajectories, while the ego negotiates feasibility and the id seeks direct satisfaction. Restraint reshapes the social field, limiting the paths available to it.

Law 5: Institutional Curvature (the superego at scale)

Accumulated moral curvature gives rise to institutions—large-scale, structured regions that generate persistent curvature of their own. Institutions concentrate mass, meaning, and coordinated motion, functioning like star systems in social spacetime and shaping trajectories independently of nearby regions.

Individuals and smaller social objects entering institutional fields follow their curvature,

just as bodies fall into a gravity well. Direct value connections occur when individuals immediately align behavior with institutional norms and practices. Indirect value connections propagate institutional influence through networks, rituals, documentation, and intermediaries.

The superego binds to institutions through legitimacy and obligation. The ego navigates institutional pathways and constraints, while the id responds primarily when institutional curvature intersects survival conditions.

Institutions remain sensitive to foundational regions. If survival curvature destabilizes or social mass fractures, institutional curvature weakens, allowing large-scale structures to reorganize or collapse. When foundational regions remain stable, institutions endure across generations.

Capture and Confinement:

In regions of extreme or sustained curvature, trajectories bend inward until viable escape paths disappear. Social objects entering such regions become captured, remaining confined with the same social structures over extended periods. Capture does not result from pressure, coercion, or directional force, but from the geometry of the social field itself.

Under strong survival curvature or institutional curvature, motion becomes constrained, producing stable confinement, dependency, or long-term residence within a given social region. What appears as entrapment is, in fact, the absence of alternative trajectories.

Through these five laws [figure 3], social spacetime emerges as a continuous, curved field—structured, intelligible, and navigable. Every movement, from the smallest interaction to the largest collective shift, follows the gravitational architecture of the fabric. Direct and indirect value connections determine how influence flows across trajectories, shaping both immediate collisions and long-range organizational patterns.

Conclusion:

This paper has introduced social spacetime as a continuous, curved field in which social objects move according to five governing laws. By framing survival, mass, goal-seeking, morality, and institutions as distinct sources of of curvature, the model provides a coherent geometry for understanding social motion across scales.

Within this framework, trajectories, arcs, collisions, and orbits are not metaphors but structural descriptions of how influence and constraint operate. Direct and indirect value connections define how local interactions alter immediate trajectories and ripple across broader social structures. The id, ego, and superego are not treated as psychological abstractions alone, but as functional interfaces responding to different curvatures in the field.

Social spacetime offers a foundation upon which more detailed models—quantitative, empirical, or domain-specific—may be built. Its value lies in unification: disparate social phenomena can be understood as expressions of the same underlying geometry. With this

foundation established, future work may extend, formalize, or operationalize the framework, but the core architecture presented here provides a stable foundation.

Figure 3. A Comprehensive Look at Social Spacetime

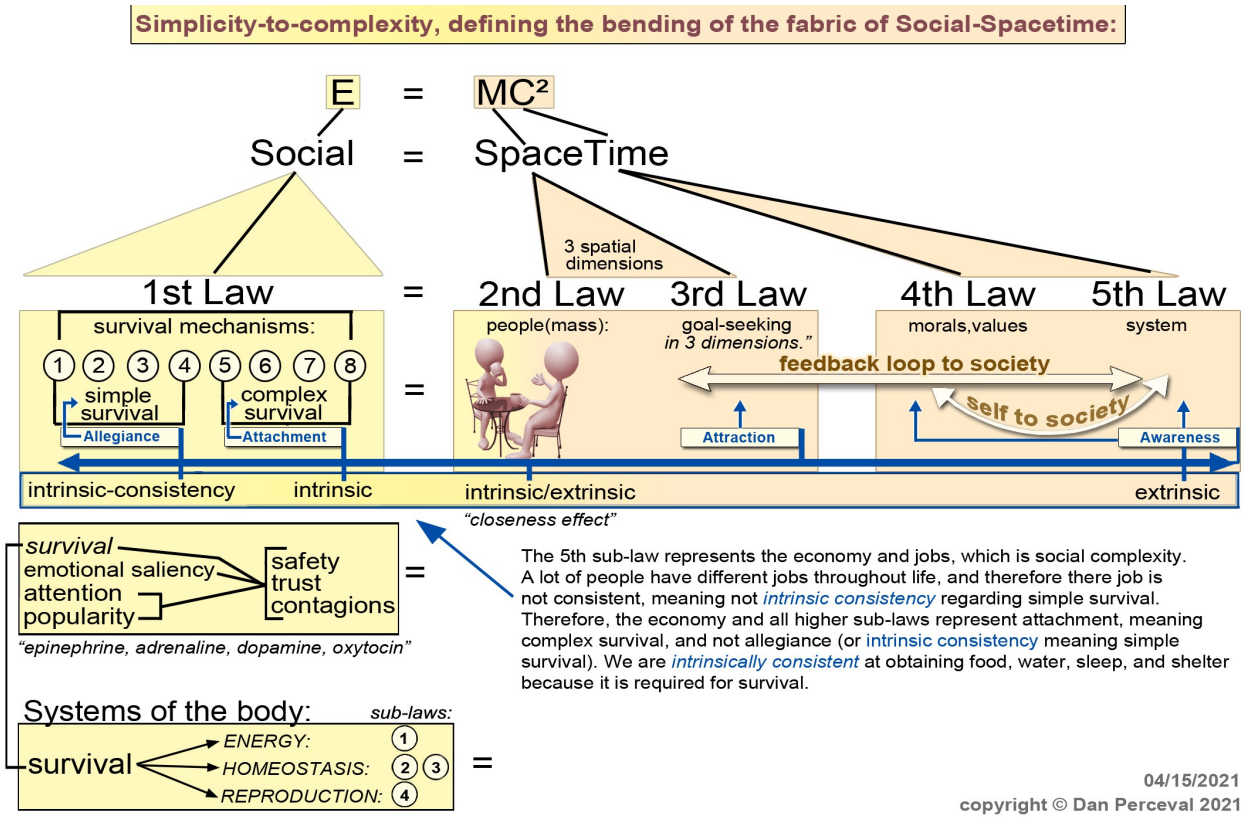

Figure 3. A comprehensive diagram of social spacetime integrating multiple laws and their curvature effects, showing how survival, mass, goal-seeking, moral, and institutional fabrics combine to shape trajectories, orbits, and patterns across the field.