

## The Behavior of Cultural Networks

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The idea to view cultures as networks comes from an approach in the philosophy of science called “semantic holism,” endorsed by writers as diverse as Quine, Kuhn, Fleck, Wittgenstein, Latour, and Rorty. Semantic holism responds to two epistemological puzzles: meaning and falsification. According to holists, the meanings of terms come from the modes in which they are connected to each other in an overall theoretical structure. The meaning of a term cannot be fixed in isolation, but consists in the difference the removal of that term would make to the conceptual relations in which it is embedded. Accordingly, holism holds that no statement of a theory can ever be tested and falsified by itself; rather, how falsifications occur and ripple throughout a theoretical structure depends on the overall configuration and signature of the network. Indeed, such a network may be a complex and layered system of multiple networks and their cultures and subcultures.

A central difference in cultural networks is that between cores and peripheries (Quine, Hesse, Fleck). In the core, the nodes are closely connected and coupled in redundant and circular ways, for example, through relations of logical entailment and conceptual implication. The core houses those nodes and relations that are fundamental and foundational within the network, anchoring a culture or theory in its center of gravity. The core is a comparatively robust, stable, and durable nucleus of axioms, analytical truths, basic definitions, and tautologies. In the core, one encounters the substances and essences of a culture, its natural kinds and rigid designators, its obvious facts and black boxes. The core is the common sense of a network, the way it works when it is in its routine or default mode as “normal science.”

Sociology calls such strong cores “institutions” and “latencies,” since they are so central and indispensable to a form of life that they seem natural, necessary, and invariant. Travelling along the relations within the core, one can never stray too far from home or get lost in uncharted territory. In some cases, the core houses the sacred totems of a culture, protected by taboos and ritual prohibitions. In scientific theories, cores are shielded by “protective belts” (Lakatos) that shelter them from anomalies, outside attacks, and possible falsifiers. This does not mean that cores were immune to change, but that change, if it does occur, is likely catastrophic, as in (rare) scientific revolutions, when cores collapse under the pressure of multiple interacting network failures – the “normal accidents” of Perrow.

In contrast, the more peripheral zones of cultural networks are more loosely coupled and ill-defined, with more structural holes, weaker and inconclusive ties, and more uncertainty. Peripheries accommodate more controversy and contingency; their mood is more playful and their mentality more open to change and innovation. Cores are

dogmatic about themselves, admitting little or no skepticism or irony. In the core, the ruling logical modality is necessity, not probability, and laws are more deterministic than statistical.

Semantic holism, however, does not allow for variation, most critically in the proportion of core and peripheries in the overall network. Some cultures are networks whose cores are so dominant that they account for most of the entire structure, while different networks generate much smaller and weaker cores with little consolidation and sedimentation. At the opposite extremes of the underlying continuum we find realism and relativism with their contrasting cultural phenomenologies. Realism, for example, is presentist, while relativism is historicist. A realist culture thinks of itself as the only true or superior one, with the past as its immature pre-history and the future as its gradual and cumulative completion.

The sociological question is: when, how, and under which conditions do cultures move and settle along this continuum? A few variables follow. An important factor is age. Young networks cope with the liability of newness (Mullins). They have not (yet) stabilized into a robust core of fundamental principles and secure black boxes. The older a culture gets, ceteris paribus, and the more undisturbed by competition and rivalry, the more it will become scholastic and settled into organizational and intellectual routines, based on textbooks, standardized examinations, routine methods, and the like. Towards the “winter” of a culture (Spengler), its core institutions have fossilized, frozen in their self-produced inability to irritate themselves into change and discovery.

Expect more realist cultures also around organizations controlling a monopoly over the material and organizational means of cultural production, such as the medieval Church, the socialist state, or state-run academies. Here, cultural workers are the official servants of the organization, without any alternative resource base or opportunity structure. Such cultural monopolies are “privileged observers” in that they tolerate no observers outside of them, centralizing culture in a temple, court, or palace. Such conditions are not conducive to second-order cybernetics or anti-representationalist irony and deconstruction.

Monopoly goes together with hierarchy. In a genuine hierarchy, all culture is concentrated at the top, possibly enforced by severe restrictions on literacy. The culture at the top is the only “real” culture, the only culture that matters and defines the very standards of what a “culture” is to begin with. Cultures at the apex of a status hierarchy are reductionist about those below them, considering themselves to be the foundation for all culture.

### Selected References

- Fleck: Genesis and Development of a Scientific Fact
- Hesse: Revolutions and Reconstructions in the Philosophy of Science
- Kuhn: The Structure of Scientific Revolutions

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