



## **Cultural Studies, Complexity Studies and the Transformation of the Structures of Knowledge**

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### **Abstract**

The structures of knowledge of the modern world, those patterns of what can and cannot be thought that determine what actions can and cannot be deemed feasible in the material world, are undergoing a transformation. Two knowledge movements, cultural studies with roots in the humanities and complexity studies in the sciences have challenged the separation of the sciences, social sciences, and the humanities by upsetting the epistemological underpinnings of the mutually exclusive epistemologies based on the separation of truth and values in knowledge production. For the future, social analysts may shift from fabricating and verifying theories to imagining and evaluating the multiple possible consequences of diverse interpretative accounts of human reality and the actions they entail.

The categories through which we make sense of the world we live in, the groundings that give authority to explanatory frameworks, the rationales for the organization of intellectual disciplines and university departments, all are undergoing a transformation. Furthermore, this upheaval is part and parcel of the exhaustion of the long-term processes reproducing the whole ensemble of the structures of the modern world, or modern world-system.<sup>1</sup> That is to say, the crisis in the arena of cognition and intentionality, the structures of knowledge or ‘third arena,’ is inseparable from the crises in the arenas of production and distribution, the economic, and decision making and coercion, the geopolitical. In this transformation of the structures of knowledge, that is, in those patterns of what can and cannot be thought that determine what actions can and cannot be deemed feasible in the material world, the knowledge movements that have come to be known as cultural studies and complexity studies have played a fundamental role, both as manifestation and determinant.

The structures of knowledge<sup>2</sup> emerged as an equally constitutive component of the modern world-system with the axial division of labor and the interstate system during the transition from feudalism to capitalism during the ‘long’ sixteenth century in the wake of the Hundred Years’ War. They are unique in human history in that they admitted as legitimate two ways of knowing, rather than just one. Those two ways of knowing were premised on a differentiation and separation between ‘truth’ and ‘values’ and were eventually institutionalized as a hierarchical separation between the ‘sciences’ and the ‘humanities.’ The medieval structures of knowledge recognized diverse fields or subject-matters; what was not recognized was differing bodies of knowledge that were based on contradictory visions of the way the world worked—deterministic and law-like versus

chaotic and unpredictable. It was this new epistemological divide that has characterized the structures of knowledge ever since.

The long-term trend deepening this structure underwent two great conjunctural adjustments or 'logistics' analogous to alternating expansions and contractions in the economic arena (Kondratiev waves) and the rise and fall in relative concentration of power in the geopolitical realm (hegemonic cycles). The first consisted of the seventeenth-century Newtonian synthesis between Baconian induction and empiricism and Cartesian deduction and rationalism, which created the foundation for the dominant theoretical approaches and methodological practices in the sciences and led to the solidification of the separation of the sciences from the humanities. The second was the late nineteenth-century creation of the social sciences, situated between the sciences and the humanities.

By the turn of the nineteenth century, Enlightenment thought had extended the capacity for rational action to a universal social subject and the legacy of the French Revolution dismantled any possibility of a static world of timeless 'orders.' However, modes of interpreting social change in the human world, differentiated from the natural world and the purview of the humanities, made contradictory appeals to values. The available models for understanding social change took the form of a highly politically charged opposition: order achieved through the authority of tradition was contrasted with chaos arising from unfettered democracy. Neither model offered any possibility for a consensual resolution to the confrontation between the expression of those modes as political agendas, conservatism and radicalism. By invoking antagonistic, mutually exclusive value orientations, both implied an inefficient allocation of resources to class

conflict and thus jeopardized capital accumulation.

Overall, the regime of the social sciences resolved the dilemma in the field of knowledge. From the late nineteenth-century Methodenstreit and ‘order and anarchy’ debates, and in articulation with the real politics of clashing interests or power relations on the ground, the social sciences emerged as the indispensable instrument of the reformism of the ‘new liberal’ politics that replaced real, but impracticable, ideological alternatives left and right. Although it did not go unchallenged, this disciplinary arrangement reached its maximum development and was solidly ensconced during the 1945-'68 period. On the one hand, it remained within the long-term opposition of universal science, the empirical and positivistic sphere of ‘truth,’ to the particularistic humanities, the impressionistic and chaotic realm of ‘values,’ by expressing the Enlightenment ideal of endless progress in an ultimately law-like, and therefore predictable, world. On the other hand, in this second great restructuring of the disciplines of knowledge formation, the social sciences asserted their legitimacy based on the claim of producing universal knowledge about human relations, albeit in two different forms. Everyone acknowledged the centrality of empirical reality. However, in the nomothetic mode (predominant in economics, political science, and sociology), analysts used observations inductively to arrive at abstract laws independent of time and space while in the idiographic mode (paramount in history and anthropology), analysts treated all particulars additively.

Thus, the putatively value-neutral social sciences, which asserted the possibility of a ‘scientific’ or non-value-oriented policy-making process in the service of ‘progress,’ came to occupy a tension-charged space in the wake of the irresolvable contest between

the equally value-laden, but mutually exclusive, positions taken by conservatives and radicals in the humanities on the political future of the world following the French Revolution. The political consequences of this medium-term solution were the 'scientific' legitimation of the hierarchical placement of groups on a racialized and gendered world division of labor and the rise of the 'new liberalism' that effectively eliminated clear alternatives.

The overall division of labor found on one side the universal, positivistic, empirical, objective, fact-based and fact-producing, quantitative disciplines of the sciences engaged in explaining order in a world where past determined a predictable future via universal laws. At the other end of the spectrum was to be found the particularistic (for instance, with regard to social contexts, locales, or time frames), chaotic, value-oriented, qualitative disciplines of the humanities where scholars dealt with an unpredictable and relativistic world of free human agency. In their quest for legitimacy after 1945, the social sciences deepened their efforts to emulate the putative universalism of the natural sciences. They were, nonetheless, divided on questions of both theory and method. On the one hand, universalism was expressed in quantification and the comparative method in economics (econometrics), sociology (structural-functionalism), and political science (behaviorism), while, on the other hand, universalism was expressed additively in the more narrative bent of history and anthropology. Although all the disciplines exhibited to some extent both tendencies, scientism seemed to be gaining throughout. The acceptance of this structure, and its hierarchy, as natural and beyond question reached its peak in the immediate post-1945 period when, like the axial division of labor and the interstate system, it became global in

extent.

From the 1960's, however, the insulated harmony of this arrangement was contested from across the entire spectrum of the structures of knowledge. In the social sciences, theorizations of the challenges to the liberal order (such as the Vietnam War, the engagement of third-world scholars and activists, and the civil rights, feminist, and student movements) contributed to undermining the prevailing arrangements in the disciplines of the social sciences. The equilibrium, consensus models inherited from the nineteenth century that, it was argued, wrote history and power out of the social equation, were simply inadequate to deal with the press of late-twentieth-century reality. Most significantly, however, two knowledge movements, 'cultural studies' originating in the humanities and 'complexity studies' with roots in the sciences, contested the very premises of the long-term structures of knowledge. The application of literary methods to 'reading the social text,' beginning in England with the 'working class' but soon extended both geographically and in scope of subject matter, led to a blurring of the boundary between the humanities and the social sciences. Developments in the sciences and mathematics, especially the study of the thermodynamics of open systems and of certain ordered mathematical systems with few degrees of freedom whose evolution is nonetheless unpredictable, broke down disciplinary barriers, contested the Newtonian consensus, and reformulated the bases on which the debates over determinism and predictability in human systems had developed.

The turn to culture—and the emergence of cultural studies<sup>3</sup>—by the independent left in Britain during the 1950's was part of a specific historical conjuncture. The context was formed in the short term by the geopolitical events of 1956 (Hungary, Khrushchev's

‘secret’ speech, Suez) that figured in the East-West struggle and in the medium-term by the multi-faceted dominance of the United States. On the one hand, the category of culture had enjoyed a continuity of application by the long line of social critics in the literary tradition, but in a way that had eventually depoliticized the analytic perspective it had for so long grounded. On the other hand, the delegitimation of both of the major contemporary approaches to social analysis—in the West, the quantitative, comparative method of the Columbia School and from the East, the orthodox base-superstructure model—opened a space for the deployment of ‘culture,’ repoliticized through efforts of the first New Left, as a primary analytic category.

The geopolitics of the mid-1950’s came together with the 150-year trajectory of British (social) criticism (e.g., Burke and Paine, Arnold, Pater, Leavis) in the formation of the first New Left and the emergence of cultural studies. Raymond Williams, E. P. Thompson, and Richard Hoggart, each in his own way, contributed to the intellectual and scholarly (as well as political) bases of the movement(s). Notwithstanding the differences they exhibited in practical politics or analytical emphasis, the national perspective and common concerns for education, popular cultural forms and the ‘lived’ experience of class, which they shared, represent a continuity in English cultural criticism that survived in the immediate directions cultural studies took.

In Hoggart, Williams, and Thompson, the elite, literary/critical tradition, drained of politics, intersected and melded with the theoretical and practical commitment to both politics and history at the popular level on the Left. A renewed and refocused interest in the working class appeared as a common theme in the literature associated with the first New Left and claimed as formative by cultural studies: *Universities and Left Review*

greeted Richard Hoggart's *Uses of Literacy* (1957) with four articles in a special section of its second issue in 1957. In the tradition of Leavis and *Scrutiny* and in reference to the 'culture debate'—a continuity with a century and a half of humanistic (and conservative) social critique—Hoggart's recuperation of values and meanings contingent on the rejection, or upending, of the high/low culture distinction by reading working-class, popular, culture as a 'text', was decisively innovative and informed first New Left discussions of both the base-superstructure and class and classlessness questions in the 1950's.

From 'below,' Hoggart recovered an urban working-class experience that was being undermined by commercialism and validated it in the face of elite cultural expressions. From 'above,' Williams, in *Culture and Society: 1780-1950* (1958), exposed how the forces of reaction had appropriated texts of resistance. Both, however, were limited by the gradual exclusion of the politics of struggle from the tradition of criticism informing their work, a point often made by Thompson. Williams and Thompson shared a dedication to historical analysis inherent to Marxism, but neither Williams nor Hoggart seemed to be writing just history, or sociology, or literary criticism for that matter. Williams and Hoggart approached their subject matter from the humanities, but their work rejected disciplinary boundaries, and the rejection was reciprocal. All the same, their work, with that of Thompson, collectively legitimated a return to class politics.

During the mid-1960's, it was in the academic context that the alliance developed between the conservative tradition of social critique and literary-critical methods and the first New Left concern for a positive, and political, re-evaluation of popular culture and individual agency. In different ways, both were 'humanist'; both emphasized 'values.'

The early years of the institutionalization of cultural studies, coinciding with the establishment of the Centre for Contemporary Cultural Studies at the University of Birmingham in 1964 by Richard Hoggart and his tenure as director, extended the program begun in *The Uses of Literacy*. That is, popular culture, or working-class culture assailed by mass culture, was distinguished from elite or middle-class culture(s) and read through the methodological lenses of the literary-critical tradition. Literature was experienced 'in and for itself' by 'reading for tone' and 'reading for value' as mechanisms for the extraction of the aesthetic, psychological, and cultural elements (produced in a certain kind of society at a certain period) to ascertain the field of values in play.

Hoggart's project did not respect disciplinary lines. He divided the new field into three parts, drawing on both the humanities and the social sciences: one part 'is roughly, historical and philosophical'; this was a necessity if there was to be a serious commitment to the analysis of cultural *change*. Change implies history. But a concern for history is a concern for time and the temporal dimension had been banished from literary studies. Another part 'is, again roughly, sociological'; here, Hoggart singles out biographies of artists and studies of audiences along with the production relations of culture and their *interrelations* as fundamental to the work as he conceived it. The third part, the most important, 'is the literary critical'; however, the high/middle/low terminology is 'useless' and 'discussion of conformity, status, class, 'Americanization', mass art, folk art, urban art and the rest is simply too thin' (Hoggart 1963, pp. 254-255). This was all quite prophetic. For Stuart Hall, cultural studies was a 'conjunctural practice ... developed from a different matrix of interdisciplinary studies and disciplines' and 'emerged precisely

from a *crisis* in the humanities', the extension of Leavis's project of taking questions of culture seriously, by Hoggart and Williams. In fact, interdisciplinarity at CCCS did not mean 'a kind of coalition of colleagues from different departments' but rather a decentering or destabilization of 'a series of interdisciplinary fields' (Hall 1990, pp. 11, 12, 16).

The recognition of the inadequacies of received categories of analysis, the emphasis on the relationality of the field, and this decentering and destabilization of the naturalized, taken-for-granted separation of the humanities and the social sciences and the divisions among the social sciences has been fundamental to the cultural studies project with its emphasis on values and interpretation in social analysis. What makes this of particular importance is that the epistemological groundings of the disciplinary structure defining and organizing what counts as legitimate and authoritative knowledge in the modern world, that is the association of 'truth' with universality in the sciences, has come under scrutiny from all quarters.

As direct outgrowths of internal developments in mathematics and the natural sciences themselves, complexity studies<sup>4</sup> overturn the premises of a 'scientific' approach to human reality and the bases for such long-debated antinomies as reductionism versus holism, structure versus agency, determinism versus freedom, and order versus chaos. Although there is no consensus on the exact meaning of 'complexity,' during the last four decades it has become increasingly apparent that there exist complex phenomena that arise from very simple mechanisms and that this realization has implications across the disciplines. The rethinking that we are witnessing today represents a synthetic approach as opposed to a reductionist one. It marks a shift away from emphasizing equilibrium and

certainty and defining causality as the consistent association of antecedent conditions and subsequent events amenable to experimental replication and hypothesis testing.

The key element that has emerged from work in complexity, especially chaos, or seemingly random behavior that displays an underlying order—order-in-chaos (strange attractors); order-out-of-chaos (self-organization, dissipative structures); and visual representation of pathological functions and natural forms exhibiting noninteger dimensions (fractal geometry)—is the ubiquity of deterministic, but unpredictable systems in nature. These systems are irreversible, not governed by Newtonian (reversible) laws; they exhibit, like human systems, an ‘arrow of time.’ This constitutes an implicit call for a reappraisal of the assumptions of classical science and actively undertakes a reconceptualization of the objects of study, methods of analysis, and goals of inquiry long taken for granted as constituting ‘scientific’ practice.

Thus, at the lower end of the hierarchy of the structures of knowledge, cultural studies attests to the disintegration of the boundary between the humanities and the social sciences. Along with the demise of the self-evident validity of the uniquely ‘modern’ ideas of the original object and the autonomous human creator, the independent, self-interested but responsible individual, the liberal ‘subject’, has lost ‘his’ foundations (see Lee 1996, p. 205). Developments salient in cultural studies that indicate a collapse of the frontier separating the humanities from the social sciences have included widespread methodological ecumenism, the rise of structuralism and the concomitant impossibility of essentialist categories, the renewal of an appreciation of the significance of the local and the complex, the revival of an emphasis on contingency and temporality associated with agency and creativity, and especially the recognition of ‘values’ as an integral part of all

knowledge formation.

At the upper end, the concurrent emphasis in complexity studies on contingency, context-dependency, system creativity, and multiple, overlapping temporal and spatial frameworks bears striking resemblance to the concerns of social scientists, and ‘objectivity’ associated with externalism is called seriously into question by the identification and study of the feedback mechanisms of complex systems, including historical social systems. It is not just that new models of complex systems are being made available to social scientists, or that developments across the structures of knowledge are having similar epistemological consequences, but rather that the ontology itself underpinning the claim to legitimacy of knowledge constructed on the ‘scientific’ model is undergoing a transformation.

The question remains, if complex behavior is not amenable to explanation through hypothesis testing and theory construction because such systems, including now social systems, albeit deterministic, are inherently unpredictable, how can we proceed? Contemporary events in our globally integrated world have shown that methods that specify (often only implicitly) an exemplar and then endeavor to predict the impact of interventions designed to move supposedly autonomous units towards some ideal state perform poorly. This is what both scholars and policy-oriented analysts are experiencing today, to their dismay. All the same, large-scale regularities do persist over time and particularistic ‘rich description,’ or interpretive accounts based on an understanding, *verstehen*, of local value contexts, or resorting to ‘human creativity’ or ‘free will’ explanations fail as well to capture the interrelatedness of structure and emergence.

The combination of the conviction that there is a ‘real’ world and that the future,

although it is ‘determined’ by the past, is nonetheless unpredictable and the parallel assaults on dualism challenge the epistemological status of the sciences as unique discoverers, guardians, and purveyors of valid knowledge, that is, truth, by redefining what it means to describe the evolution of natural systems. Across the disciplines these arguments may be represented as a concern for spatial-temporal wholes constituted of relational structures. This conceptualization encompasses, on the one hand, the persisting regularities normally associated with a ‘scientific’ approach and, on the other hand, the phenomenological time of their reproduction and change (the ineluctable reality of the arrow-of-time) that captures the play of incommensurable differences associated with a ‘humanistic’ approach. Difference, of course, involves values. We are thus presented with a re-fusing of ‘is’ (the realm of facts and the goal of science) and ‘ought’ (the field of values and the challenge of the humanities) in the construction of systematic knowledge of human reality.

Values need no longer be, must no longer be, construed simply as a matter of individual ethics or morality in the creation of authoritative knowledge of human reality, but must hereafter be conceived as an integral part of a historical social science. Indeed, authoritative knowledge thus constructed would have no pretensions of universality (validity for all times and places) but rather offer defensible interpretations for particular times and places. Consequently, a social science for our times, of necessity singular and transcending disciplinary boundaries, must do two things. First, it must be premised on the indissoluble unity of the regularities of social relations, their structure, and change, their history. Secondly, it must recognize that the latter supposes the integration of values as integral to inquiry, not simply as a matter of the personal inclination of the analyst.<sup>5</sup>

In this secular crisis of the structures of knowledge, the message for social scientists so convincingly conveyed by developments across the disciplines is that we are not living the ‘new world order’ but a transition period of ‘new world disorder,’ a time of massive fluctuations far from equilibrium in the language of complexity studies. Change will not depend only on our normatively motivated action for its initiation. During a period of wide fluctuations in the constitutive processes of a system driven far from equilibrium, including a system of social relations, small fluctuations can have enormous impact even to the extent of effecting total systemic transformation. In fact, instabilities expand possibilities, that is opportunities, by reducing constraints. By the same token, the direction of change will, as complexity studies show, be exquisitely dependent on small fluctuations, for instance, in the form of our value-laden decisions and actions. This is not so much the simple return of agency, but the manifestation of the fundamental relationship between agency and structure—the indivisibility of chance and necessity implicit in cultural studies.

One answer then to how to proceed is that of individuating possible futures, or what Immanuel Wallerstein has called ‘utopistics’(1998) and what Ilya Prigogine lamented as his fear ‘of the lack of utopias’ (2004: n.p.). Social analysts may (indeed must, I would argue) henceforth make the shift from fabricating and verifying theories to imagining and evaluating the multiple possible consequences of diverse interpretative accounts of human reality and the actions they entail. Herein lies an alternative for a unified historical social science to both the nomothetic and idiographic models of social scientific inquiry. For social knowledge is not universal, but knowledge for specific times, today for our times.

As work in cultural studies and complexity studies so strongly suggests, the definition of valid knowledge claims in terms of ‘who, what, when, where, why’ and the ‘view from nowhere’ is being reformulated in terms of ‘for whom, for what, for when, for where’ and ‘from whose point-of-view.’ There is no way, however, that we can know if the transformation underway at present, and in which we will all play our part, will result in a more substantively rational human world. But the combined political, economic, and intellectual pressures of the crisis of the structures and institutions of knowledge production at least offer an opportunity and hold out that possibility, a possibility, however, that we must be willing to work for.

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<sup>1</sup> For an introduction to world-systems analysis, see Wallerstein (2004).

<sup>2</sup> For further reading in the structures of knowledge approach, see Lee and Wallerstein (2000, 2004) and Lee (1996); for a description of the 'third arena,' see Lee (2003b).

<sup>3</sup> For a book-length treatment of the factors leading to the emergence of cultural studies, the trajectory of the movement, its impact and consequences, see Lee (2003a).

<sup>4</sup> For the literature associated with complexity studies, see Lee (1992); for an overview of the movement, see Lee (2004).

<sup>5</sup> The effect on such debates as those over Eurocentrism and the seemingly crosscutting roles of race, gender, and class may well be imagined.

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