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FROM ANALYTICAL COMPARISON TO CONFIGURATIONAL CAUSALITY: COMPARATIVE-HISTORICAL METHODS FOR STUDYING COMPLEX SOCIAL SYSTEMS

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ABSTRACT

This article develops a complexity-oriented methodological synthesis of comparative-historical analysis for political science and sociology. Rather than treating comparison as a merely descriptive strategy, it examines how comparative reasoning can be used to identify configurational causality, temporal sequencing, and equivalence across historical and cross-cultural cases. The article first clarifies the scope and limits of comparative-historical inquiry and then discusses three methodological families: Mill's methods of agreement, difference, and concomitant variation; Ragin's Boolean/configurational logic; and event-sequence/event-structure analysis. By bringing these approaches into a single analytical framework, the article shows how comparative research can move from linear causal attribution toward the analysis of complex social systems in which outcomes emerge from combinations of conditions, path-dependent sequences, and context-specific mechanisms. The article contributes to methodological debates by providing a concise framework for teaching and applying comparative-historical analysis without reducing it to a textbook summary of existing literature.

KEY WORDS

comparative-historical analysis, complex social systems, configurational causality, Boolean analysis, event-sequence analysis

CLASSIFICATION

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INTRODUCTION

Comparison is a basic operation of social reasoning, yet its transformation into a scientific method requires explicit criteria for case selection, conceptual equivalence, and causal inference. In political science and sociology, comparative-historical analysis is particularly useful for examining social outcomes that cannot be explained through single-variable or linear models. Revolutions, state formation, democratization, capitalism, globalization, and institutional reforms often emerge from combinations of historical conditions, actor strategies, structural constraints, and temporally ordered events [1-4].

This article focuses on comparative methods in sociology and political science, with particular emphasis on comparative-historical sociology. Neuman's Social Research Methods: Qualitative and Quantitative Approaches provides an important pedagogical point of departure for discussing the logic of comparative research, especially because the work has also been translated into Turkish and has influenced methodological teaching in Turkey [5, 6]. However, the purpose of this article is not to summarize Neuman's framework. Rather, it develops a methodological synthesis that connects Mill's analytical methods, Ragin's Boolean/configurational approach, and event-sequence/event-structure analysis with the study of complex social systems [3, 7-9].

The article is also situated within the broader Turkish social science literature. Historians, sociologists, and political scientists in Turkey have produced important comparative and historical studies; nevertheless, comparative-historical methods are not always discussed as systematically as other qualitative and quantitative approaches in methodological texts. In this respect, the article aims to contribute to methodological debates by presenting comparative-historical analysis as a framework for examining complex social outcomes, while also drawing attention to its relevance for Turkish social science literature [10-12].

The article is organized as follows. The first section discusses the scope and main research topics of comparative-historical analysis. The second section outlines its historical development. The third section examines its relationship with qualitative and quantitative approaches. The following sections discuss types of comparative research, equivalence in comparative inquiry, Mill's analytical methods, Ragin's Boolean/configurational approach, and event-sequence/event-structure analysis.

This article makes a threefold contribution. First, it reframes comparative-historical analysis as a methodological strategy for studying complex social systems rather than as a general descriptive comparison of societies. Second, it clarifies the relationship between Millian comparison, Boolean/configurational analysis, and event-sequence analysis by showing how each addresses a different dimension of causal complexity. Third, it offers a concise framework that can be used in political sociology and methodological teaching, especially in academic contexts, including Turkish social science literature, where comparative-historical methods have received limited systematic treatment.

COMPARATIVE-HISTORICAL ANALYSIS AND COMPLEX SOCIAL SYSTEMS

Comparative-historical analysis is particularly relevant to the study of complex social systems because social outcomes rarely result from isolated variables. Instead, they emerge from interacting conditions, sequential processes, institutional constraints, and historically specific configurations. In this sense, comparative-historical methods share a central concern with complexity-oriented research: both seek to explain how macro-level outcomes arise from interdependent and context-sensitive processes. Mill's methods help identify recurring causal

conditions across cases; Boolean and configurational analysis clarifies how different combinations of conditions may lead to similar outcomes; and event-sequence/event-structure analysis reconstructs the temporal order through which these conditions produce observable consequences [1, 3, 7-9]. Therefore, comparative-historical analysis can be understood as a qualitative strategy for analyzing complexity in human societies.

To make this relationship more explicit, Table 1 summarizes the four analytical dimensions through which comparative-historical analysis can contribute to the study of complex social systems. These dimensions connect specific methodological problems with relevant comparative tools and show how comparison can move beyond descriptive classification toward complexity-oriented explanation.

Table 1. A complexity-oriented framework for comparative-historical analysis.

Analytical Focus	Methodological Problem	Relevant Comparative Tool	Link to Complex Systems
Case selection and equivalence	How can cases be compared without conceptual distortion?	Lexical, contextual, conceptual, and measurement equivalence	Establishes comparable units within heterogeneous systems
Recurring causal conditions	Which conditions are shared by cases with similar outcomes?	Mill's Method of Agreement and Method of Difference	Identifies recurring mechanisms across different contexts
Configurational causality	How do combinations of conditions produce outcomes?	Boolean analysis and qualitative comparative analysis	Explains conjunctural causation and equifinality
Temporal sequencing	How do events unfold over time to produce outcomes?	Event-sequence and event-structure analysis	Explains path dependence and processual emergence

Table 1 summarizes the analytical logic that guides the revised structure of this article. It shows that comparative-historical analysis does not merely compare cases descriptively; rather, it clarifies how cases can be made comparable, how recurring causal conditions can be identified, how causal configurations can be analyzed, and how temporal sequences can be reconstructed. In this respect, the table provides a conceptual bridge between comparative-historical methodology and the analysis of complex social systems.

SCOPE AND RESEARCH TOPICS OF COMPARATIVE-HISTORICAL ANALYSIS

Comparative-historical analysis is commonly used to examine macro-social transformations that unfold across long periods and multiple social contexts. Typical research questions include why social revolutions occur in some societies but not in others, why capitalism emerged in particular historical settings, how state formation and democratization processes vary across countries, and how institutional reforms develop under different political and social conditions. These questions indicate that comparative-historical analysis is especially relevant for studying complex social outcomes that cannot be reduced to isolated variables or single causal mechanisms.

Tilly conceptualized comparative-historical sociology as the study of "large structures, extensive processes, and huge comparisons". In a similar vein, comparative-historical research seeks to explain large-scale social and historical transformations by identifying similarities,

differences, and causal configurations across cases. However, the units of comparison do not always have to be nation-states or large-scale societies. Depending on the research question, comparative analysis may focus on countries, regions, institutions, social groups, historical periods, or specific cases [12].

Although comparative-historical analysis often relies on qualitative and case-oriented research designs, it requires systematic case selection and detailed contextual knowledge. Researchers must understand not only a single socio-cultural setting but also the historical and institutional specificities of the cases being compared. For this reason, comparative-historical analysis is methodologically demanding even when it does not employ complex statistical techniques [5; pp.604-606].

Comparative-historical studies may examine a large number of countries, a medium number of cases, or a small number of carefully selected cases. Large-N comparative studies can identify broad cross-national patterns, as in studies of inequality, science, women's political participation, human rights organizations, gender segregation, poverty, and immigration policies [13-19]. Small-N studies, by contrast, allow for deeper analysis of causal mechanisms, historical sequences, and contextual variation. Skocpol's analysis of social revolutions, Waldner's comparison of late development, and Marx's comparison of race relations demonstrate how a limited number of cases can be used to investigate complex social and political outcomes [1, 20, 21]. In this respect, comparative-historical analysis is not merely a descriptive comparison of societies; it is a methodological strategy for explaining how different combinations of historical conditions produce particular outcomes.

A BRIEF HISTORY OF THE COMPARATIVE HISTORICAL METHOD

Comparative-historical research examines social phenomena across historical periods and different societies. There is an ongoing debate over whether the comparative method should be treated as a distinct field or as a methodological orientation used across the social sciences. [22, 23]. For example, regarded comparative politics as a field that systematically employs comparison. This article, however, approaches comparative-historical analysis as a methodological strategy that can be used across sociology, political science, history, and related disciplines.

Comparison has been central to the social sciences since their classical formation. Marx, Weber, and Durkheim all used comparative-historical reasoning to analyze capitalism, religion, social change, and institutional transformation. In the 19th century, the boundaries among sociology, history, political science, and economics were less rigid, which allowed comparative-historical inquiry to develop as an interdisciplinary mode of analysis. After the specialization of the social sciences in the early twentieth century, the method became less central in sociology but continued to influence anthropology, history, and political analysis [5; pp.603-605].

Comparative-historical sociology reemerged strongly after World War II. The Annales School, especially the works of Lucien Febvre, Marc Bloch, and Fernand Braudel, contributed to the renewed interest in long-term historical structures and social transformations [11; p.156]. In the 1970s and 1980s, scholars such as Immanuel Wallerstein, Barrington Moore, Theda Skocpol, and Charles Tilly further developed the field by examining revolutions, capitalism, state formation, and world-systems [24]. In the contemporary period, comparative-historical analysis has expanded beyond nation-state comparisons and has increasingly addressed subnational, transnational, and global processes [10-12].

COMPARATIVE-HISTORICAL ANALYSIS IN RELATION TO INTERPRETIVE AND QUANTITATIVE APPROACHES

Comparative-historical analysis occupies an intermediate position between interpretive inquiry and systematic causal explanation. It shares with interpretive and field research an emphasis

on context, meaning, historical specificity, and the researcher's active engagement with the material. However, it also differs from purely interpretive approaches because it seeks to identify patterns, causal conditions, and limited generalizations across cases.

From a positivist or variable-oriented perspective, comparative-historical studies may appear limited because they often rely on a small number of cases. Yet the aim of such research is not always to produce universal laws or statistically generalizable findings. Rather, comparative-historical analysis seeks to explain historically embedded outcomes by examining similarities, differences, sequences, and causal configurations across cases. In this respect, it occupies a methodological position between case-based interpretation and variable-based explanation.

Traditional historical research usually focuses on particular actors, locations, and periods. Comparative-historical analysis benefits from this contextual sensitivity, but it extends beyond single-case narration by comparing cases systematically. Therefore, its distinctive contribution lies in combining historical depth with comparative logic. As Neuman notes, comparative-historical research is closely related to field research in its attention to context and meaning, but it also differs from purely quantitative methods in its approach to theory, data, generalization, and the relationship between action and structure [5; p.423].

In contrast, traditional history focuses on a specific location, particular actors, and a defined historical period. While comparative historical research benefits from ethnography and cultural anthropology, it avoids the pitfalls of excessive subjectivity [5; p.423].

Table 2. comparative-historical analysis, field research, and quantitative methods. Adapted from [5; p.424].

Subject	Comparative Method and Field Research	Quantitative Methods
Researcher's Perspective	Influential during the research process	Minimized or controlled
Approach to Data	Focuses on understanding data in all its details	Processes the data
Theory and Data	Extracts theory embedded within the data	Starts with theory and hypotheses
Action/Structure	Individuals act within certain structures and limitations, creating meanings	Social and societal forces shape behaviors
Law and Generalization	Limited generalizations within a specific context	Universal generalizations

As Table 2 indicates, comparative-historical analysis is closer to field research than to purely variable-oriented quantitative methods in its attention to context, meaning, and historical specificity. However, it also differs from field research because it does not remain limited to a single site or case. Its distinctive methodological contribution lies in combining contextual interpretation with systematic comparison across cases. For this reason, comparative-historical analysis can produce limited but theoretically meaningful generalizations about historically embedded social outcomes [5; pp.424-425].

COMPARATIVE HISTORICAL METHOD AND FIELD RESEARCH

In comparative historical sociological research and field studies, the researcher's perspective is inevitable, and interpretation plays a significant role in both approaches. Comparative historical sociological research often involves contrasting old and new worldviews rather than objective reality. Both approaches delve deeply into their subjects and adopt a comprehensive perspective while striving for an empathetic understanding.

The comparative historical approach [25] aims to develop theoretical generalizations within specific historical and cultural contexts. While quantitative data are used to support qualitative insights, the approach remains closer to field research than to positivist methodologies.

Researchers organize data and develop concepts by focusing on specific aspects of social life across various activities. For instance, the study in [25] examines records of parades, guild participation in ceremonies, lantern processions, festivals, and royal visits between the 14th and 17th centuries to assess professional statuses in London [5; pp.424-425].

Both research approaches allow theory to emerge from the process of data collection and analysis (i.e., grounded theory). No fixed hypotheses are pre-established. Researchers engage in dialogue with the data during or after the study to develop concepts and theories. Both approaches seek to uncover and systematize meanings by deeply exploring human actions and emphasizing the dynamics of time and process. Both approaches are also aware of the tension between action and structure, recognizing that social reality is simultaneously created by individuals and restricts their behaviors. These approaches offer limited generalizations rather than universal laws, avoiding predictive propositions [5; p.425].

Case-based comparative research conducts in-depth comparisons of a few cases, producing limited generalizations, while variable-based comparative research focuses on numerous variables for less in-depth but more generalizable results.

TYPES, CHALLENGES, AND EQUIVALENCE IN COMPARATIVE RESEARCH

Comparative research may take several forms depending on the unit of analysis, the number of cases, and the level of abstraction. Kohn's typology, as summarized by Neuman, distinguishes four forms of comparative research: comparative case studies, cultural context research, international comparisons, and transnational comparisons [5; p.438, 24]. Comparative case studies examine a small number of societies, institutions, or cases in depth. Cultural context research analyzes cases as expressions of broader social or cultural settings. International comparisons usually use nation-states as units of analysis, whereas transnational comparisons focus on cross-border or world-systemic units.

Each type of comparative research involves specific methodological challenges. One central problem is the selection of the appropriate unit of analysis. Nation-states are often used because they are visible and institutionally defined units, but they may obscure internal regional, cultural, class, or institutional differences. For this reason, researchers must decide whether their research question requires the comparison of countries, regions, cultures, institutions, social groups, or historical periods.

Another challenge concerns the independence and comparability of cases. The Galton Problem refers to the possibility that similarities among cases may result from diffusion, shared origins, or historical contact rather than from independent causal processes [5; p.636]. Comparative researchers must also remain attentive to cultural bias, especially when analytical categories developed in Western academic contexts are applied to non-Western societies. Addressing this problem requires sensitivity to both internal meanings and external analytical categories.

Equivalence is a central requirement of valid comparison. Without equivalence, cases may appear comparable while actually referring to different meanings, contexts, or measurements. Four forms of equivalence are especially important: lexical equivalence, contextual equivalence, conceptual equivalence, and measurement equivalence [6; pp.648-652, 25]. Lexical equivalence concerns the translation of terms across languages. Contextual equivalence concerns the social and historical setting in which concepts are used. Conceptual equivalence requires that the same concept has comparable meaning across cases. Measurement equivalence requires that indicators represent the same variable across societies or historical periods.

Ethical sensitivity is also essential in comparative research. Researchers working across cultures and political contexts should avoid ethnocentric assumptions, respect local meanings, and remain cautious about the political uses of comparative findings. In this respect, types of comparison, case selection, equivalence, and ethics are not separate technical issues; they are interconnected requirements for producing valid explanations of complex social systems.

Having clarified the main types, challenges, and equivalence requirements of comparative research, the next section turns to Mill's analytical methods. These methods provide an initial logic for identifying shared, differentiating, and varying causal conditions across cases.

JOHN STUART MILL AND ANALYTICAL COMPARISON

Mill's analytical methods provide one of the classical foundations of comparative reasoning. These methods are useful for identifying shared, differentiating, and varying conditions across cases. In comparative-historical analysis, they offer an initial logic of causal inference; however, they need to be supplemented by configurational and temporal approaches when researchers examine complex social outcomes.

Mill's five methods are commonly summarized as follows:

1.) the Method of Agreement,
2.) the Method of Difference,
3.) the Method of Concomitant Variations,
4.) the Method of Residues, and
5.) the Joint Method of Agreement and Difference.

The first three methods are particularly relevant for comparative-historical analysis because they help researchers identify recurring causal conditions, differentiating conditions, and patterns of variation across cases. However, as later sections show, Millian comparison alone is not sufficient for explaining conjunctural causality, equifinality, and temporally ordered causal processes. For this reason, the following sections discuss Mill's methods as an initial step toward Boolean/configurational and event-sequence forms of analysis.

THE METHOD OF AGREEMENT AND MOST DIFFERENT SYSTEMS LOGIC

The Method of Agreement states that if two or more cases with the same outcome share only one common condition, this shared condition may be considered a possible cause or necessary condition of the outcome. In comparative-historical analysis, this logic is often associated with most different systems design because the researcher compares cases that differ in many respects but display the same outcome. The aim is not to prove causality mechanically, but to identify recurring causal conditions that require further historical and contextual interpretation.

Table 3 illustrates this logic in simplified form. Country X and Country Y differ in several conditions, yet both produce outcome E. Since condition C is the only shared factor across the two cases, it can be treated as a possible common condition associated with the outcome.

Table 3. Method of Agreement and most different systems logic. Sign "✓" indicates the presence of a condition or outcome; sign "–" indicates the absence of a condition. Condition C is the only shared condition between the two cases and is therefore treated as the possible common condition associated with outcome E.

Country	A	B	C	D	G	H	K	Outcome E
X	✓	✓	✓	✓	–	–	–	✓
Y	–	–	✓	–	✓	✓	✓	✓

This simplified example shows how the Method of Agreement helps researchers identify a recurring condition across otherwise different cases. However, the identification of a shared condition should be treated as a starting point for further historical and contextual analysis rather than as definitive proof of causality.

A simple everyday example can illustrate the same logic. If all family members who became ill after eating at a restaurant consumed fish, while their other food choices varied, fish may be identified as the common condition associated with food poisoning, as shown in Table 4.

Table 4. Method of Agreement: a food poisoning example. Sign "✓" indicates that the food was consumed or that food poisoning occurred; "–" indicates that the food was not consumed.

Family Member	Fish	Red Meat	Salad	Rice	Food Poisoning?
Mother	✓	✓	✓	✓	✓
Father	✓	–	–	✓	✓
Sister	✓	✓	–	–	✓
Brother	✓	–	✓	–	✓

This example is pedagogical rather than inferentially conclusive. In actual comparative-historical research, the identified common condition must be interpreted together with case selection, historical context, and alternative explanations.

THE METHOD OF DIFFERENCE AND MOST SIMILAR SYSTEMS LOGIC

The Method of Difference states that if an outcome occurs in one case but not in another, and the two cases are similar in all relevant conditions except one, then the differing condition may be considered a possible cause of the outcome. In comparative-historical analysis, this logic is commonly associated with most similar systems design because the researcher compares cases that are broadly similar but differ in relation to a specific outcome. Unlike the Method of Agreement, which identifies shared conditions across cases with the same outcome, the Method of Difference uses negative cases to clarify why an outcome does not occur.

Table 5 illustrates this logic in simplified form. Country Z and Country Y share conditions A, B, and D, but they differ in relation to condition C. Since outcome E occurs only in the presence of condition C, this condition can be treated as a possible differentiating factor.

Table 5. Method of Difference and most similar systems logic. Sign "✓" indicates the presence of a condition or outcome; "–" indicates the absence of a condition or outcome. Condition C is the only differentiating condition between the two cases and is therefore treated as a possible causal factor associated with outcome E.

Country	A	B	C	D	Outcome E
Z	✓	✓	✓	✓	✓
Y	✓	✓	–	✓	–

This simplified example shows how the Method of Difference helps researchers identify a differentiating condition by comparing a positive case with a negative case. However, as in the Method of Agreement, this inference should not be treated as definitive proof of causality. In comparative-historical research, the differentiating condition must be interpreted in relation to historical context, case selection, and alternative causal explanations.

A simple everyday example can also illustrate this logic. If three family members who ate salad became ill, while one family member who did not eat salad remained healthy, salad may be identified as the most likely differentiating condition. However, this example should be understood as pedagogical; in actual research, causal claims require additional contextual and evidential support.

Skocpol's *States and Social Revolutions* provides a well-known comparative-historical example of combining positive and negative cases. Skocpol compared France, Russia, and China as cases in which social revolutions occurred, while also examining cases such as England, Russia in 1905, Germany, Prussia, and Japan where similar outcomes did not occur. Her analysis identified the conjunction of state breakdown and widespread peasant uprisings as central to the emergence of social revolutions [1].

Table 6. A simplified representation of Skocpol's comparative logic.

Case	State Breakdown	Peasant Uprisings	Revolution Outcome
France	Yes	Yes	Yes
Russia 1917	Yes	Yes	Yes
China	Yes	Yes	Yes
England	No	No	No
Russia 1905	No	Yes	No
Germany	No	No	No
Prussia	No	No	No
Japan	No	No	No

Table 6 provides a simplified methodological reconstruction of Skocpol's comparative logic. It is intended to illustrate how positive and negative cases can be used to identify causal configurations rather than to summarize all historical details of each case.

Skocpol's example demonstrates why the Method of Difference is important for comparative-historical analysis. Negative cases prevent researchers from attributing an outcome to a condition that is also present where the outcome does not occur. At the same time, the example also shows the limits of simple Millian comparison: social revolutions are not produced by a single isolated factor, but by configurations of historical conditions. For this reason, Mill's methods need to be complemented by Boolean/configurational analysis and event-sequence analysis in the study of complex social outcomes.

THE METHOD OF CONCOMITANT VARIATIONS

The Method of Concomitant Variations states that if changes in one condition are systematically associated with changes in an outcome, the two may be causally related. Unlike the Method of Agreement and the Method of Difference, this method focuses not only on the presence or absence of a condition but also on variation in degree, intensity, or magnitude. In comparative-historical analysis, it is useful for examining whether increases or decreases in a particular condition correspond to changes in the outcome.

Table 7 illustrates this logic in simplified form. In this example, variation in condition C is associated with variation in outcome E. As the level of C changes, the intensity of outcome E also changes.

Table 7. The Method of Concomitant Variations. Sign "✓" indicates the presence of a condition; "–" indicates absence. The table illustrates how variation in condition C corresponds to variation in the intensity of outcome E.

Case	Condition A	Condition B	Level of Condition C	Condition D	Intensity of Outcome E
Case 1	✓	✓	High	✓	High
Case 2	✓	✓	Medium	✓	Medium
Case 3	✓	✓	Low	✓	Low
Case 4	✓	✓	–	✓	–

This simplified example shows that the Method of Concomitant Variations is useful when the researcher is interested in degrees of change rather than simple presence or absence. However, the identification of parallel variation does not by itself establish causality. In comparative-historical research, such patterns must be interpreted in relation to historical context, causal mechanisms, and alternative explanations.

A practical example can clarify the same logic. If the severity of food poisoning increases with the quantity of oysters consumed, then the degree of exposure to oysters may be associated with the intensity of illness. This does not automatically prove causality, but it provides an initial basis for further investigation.

THE METHOD OF RESIDUES

The Method of Residues refers to the identification of a remaining causal factor after other known factors have been accounted for. If an outcome is produced by several conditions and some of these conditions have already been explained, the unexplained portion of the outcome may be attributed to the remaining condition. In this sense, the method is based on a process of analytical elimination.

For example, if institutional reform cannot be explained by economic crisis or regime change alone, the remaining explanatory factor may lie in the role of international organizations or domestic policy coalitions.

In comparative-historical analysis, however, the Method of Residues should be used with caution. Social outcomes are rarely produced by clearly separable causal factors, and the remaining "residual" condition may itself be part of a broader configuration of causes. Therefore, this method is most useful as a supplementary logic rather than as an independent basis for causal explanation.

THE JOINT METHOD OF AGREEMENT AND DIFFERENCE

The Joint Method of Agreement and Difference combines positive and negative cases in order to strengthen causal inference. The method first identifies a condition shared by cases in which the outcome occurs and then examines whether the absence or alteration of that condition is associated with the absence of the outcome in otherwise comparable cases. In this respect, it brings together the logic of the Method of Agreement and the Method of Difference.

In simplified terms, if the combination of A, B, and C is associated with outcome E, and if the absence of A is associated with the absence of E while B and C remain present, condition A may be treated as a possible causal factor. However, in comparative-historical research, this inference should be interpreted cautiously because social outcomes are often produced by combinations of conditions rather than by a single isolated factor.

The joint method is useful because it allows researchers to compare both cases where an outcome occurs and cases where it does not occur. Nevertheless, its explanatory power remains limited when outcomes emerge from complex causal configurations. For this reason, the joint method should be treated as a bridge between Millian comparison and Boolean/configurational analysis, rather than as a complete explanation of complex social outcomes.

Table 8. The Joint Method of Agreement and Difference. Sign "✓" indicates the presence of a condition or outcome; "–" indicates its absence. The table illustrates how the presence or absence of specific conditions can be compared across positive and negative cases.

Case	A	B	C	Outcome E
Case 1	✓	✓	✓	✓
Case 2	–	✓	✓	–
Case 3	✓	–	✓	✓

PRACTICAL APPLICATIONS OF MILL'S METHODS

Mill's methods provide an important starting point for comparative-historical analysis because they help researchers identify shared, differentiating, and varying conditions across cases. However, these methods are limited when social outcomes are produced by multiple interacting causes rather than by a single isolated factor. Revolutions, institutional reforms, state formation, and democratization processes usually emerge from combinations of structural conditions, actor strategies, temporal sequences, and contextual mechanisms.

For this reason, Millian comparison should be treated as an initial analytical step rather than as a complete model of causal explanation. Comparative-historical research often needs to supplement Mill's methods with Boolean/configurational analysis in order to examine how different combinations of conditions may produce similar outcomes. This transition is particularly important for the analysis of complex social systems, where causality is conjunctural, context-dependent, and historically sequenced.

The preceding discussion shows that Mill's methods provide an initial logic for identifying shared and differentiating causal conditions across cases. However, the analysis of complex social outcomes requires a broader framework that also incorporates configurational causality and temporal sequencing. Figure 1 illustrates this transition from linear comparison to a complexity-oriented explanation.

Figure 1 shows that comparative-historical analysis begins with case selection and equivalence, proceeds through Millian analytical comparison, and then moves toward configurational and temporal forms of explanation. This sequence clarifies why Boolean/configurational analysis and event-sequence analysis are necessary complements to Mill's methods in the study of complex social outcomes.

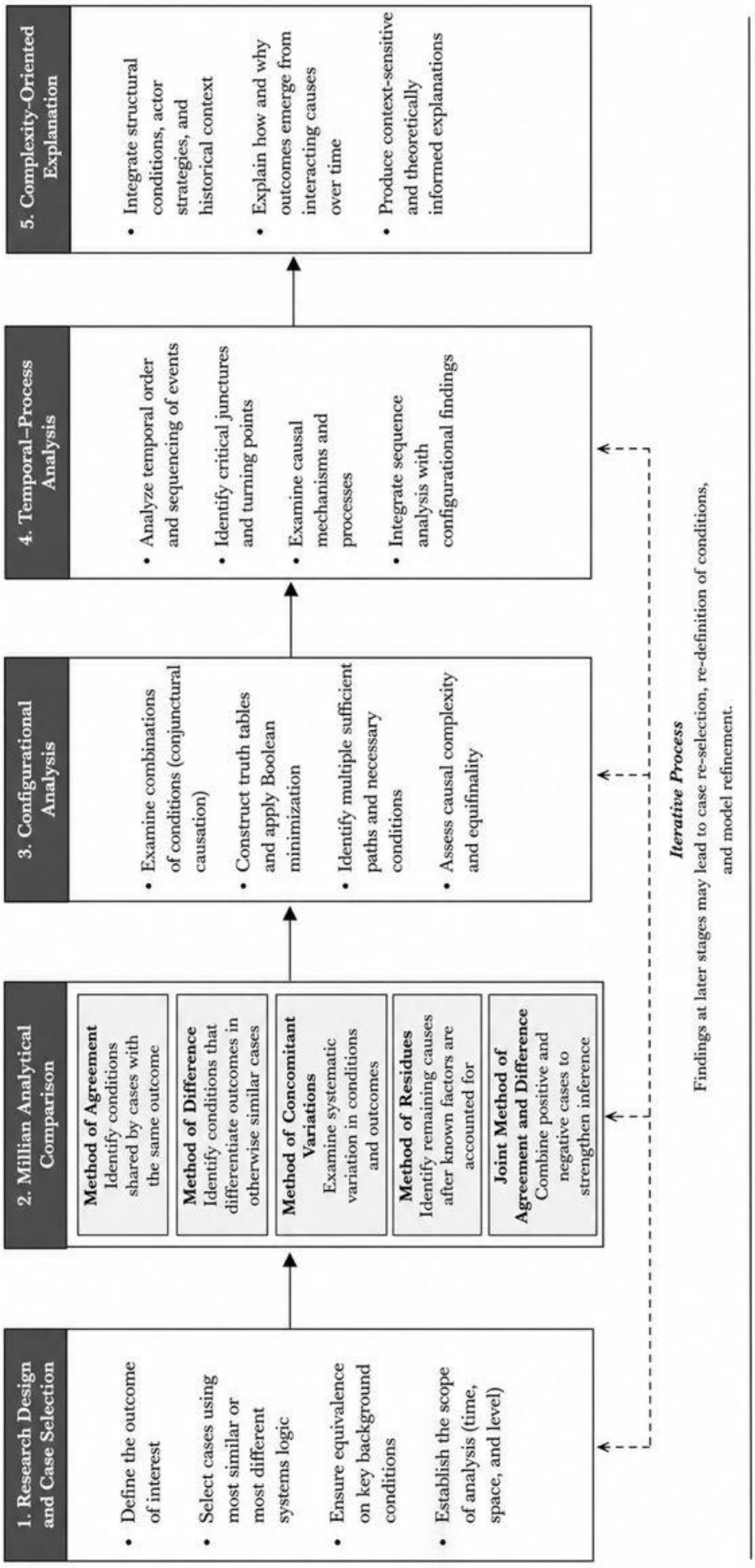
COMPARATIVE METHODS AND BOOLEAN ALGEBRA

Analytical comparison generally relies on qualitative data, often organized through nominal or ordinal classifications. Ragin's configurational approach contributed significantly to comparative methodology by showing how cases can be analyzed as combinations of conditions rather than as isolated variables [3, 26]. In this approach, cases are treated as meaningful configurations of events, structures, and contextual conditions. Neuman similarly emphasizes that case-oriented comparison focuses on cases as complex wholes rather than as collections of detached variables [6; pp.300-302].

This logic is particularly relevant to the analysis of complex social systems because it does not assume that one independent variable produces one outcome in a linear manner. Instead, Boolean and configurational analysis allow researchers to examine how outcomes emerge from specific combinations of conditions. Analytical comparison therefore highlights conjunctural causation, equifinality, and the possibility that different causal pathways may lead to similar outcomes [3, 6; p.682, 25].

The fall of the Berlin Wall illustrates this form of causal complexity. It cannot be explained through a single causal factor. Rather, it involved the interaction of several conditions, including protest mobilization in East Germany, political disillusionment, Gorbachev's reluctance to use military force, church networks, developments in Hungary, and broader transformations in Eastern Europe. As Anheier and Katz argue, comparative-historical analysis is useful precisely because it examines how multiple factors interact in the production of complex outcomes [27].

The number of possible causal configurations increases rapidly as more conditions are included. With three binary causal conditions, there are $2^3 = 8$, possible configurations; with



Note. The figure illustrates the analytical progression from linear comparison using Millian methods to complexity-oriented explanation through configurational analysis and event-sequence analysis.

Figure 1. From linear comparison to complexity-oriented explanation.

five conditions, there are $2^5 = 32$; and with ten conditions, there are $2^{10} = 1024$, possible configurations. This illustrates why comparative-historical research requires a method for organizing causal complexity. Boolean analysis provides such a method by coding the presence or absence of conditions and examining how different configurations are associated with an outcome [27; pp. 289-290].

Ragin introduced Boolean logic into comparative social research as a way to analyze complex causal configurations, and this approach was later developed further in qualitative comparative analysis and related configurational methods [3, 26, 28]. In Boolean notation, uppercase letters indicate the presence of a condition, whereas lowercase letters indicate its absence. The plus sign (+) represents logical OR, while the juxtaposition of letters represents logical AND. For example, the expression AB + CDe → F means that outcome F may result either from the joint presence of A and B, or from a second configuration in which C and D are present while E is absent.

This notation is especially useful for comparative-historical research because it allows different causal pathways to produce the same outcome. For example, if both AB → F and CDe → F are observed, then F cannot be explained by a single universal cause. Instead, the researcher must examine how different configurations of conditions produce similar results in different historical contexts. In this sense, Boolean analysis helps comparative-historical research move beyond linear causality toward a more complexity-oriented form of explanation.

Ragin [27] employs qualitative comparative analysis (QCA) to investigate the conditions under which global civil society emerges. His example demonstrates how Boolean logic enables a shift from descriptive comparison toward the analysis of causal configurations. Thus, Boolean and configurational approaches form a methodological bridge between Millian comparison and the study of complex social systems.

EVENT-SEQUENCE AND EVENT-STRUCTURE ANALYSIS

Event-sequence and event-structure analysis provide a temporal extension to comparative--historical research. Unlike Boolean/configurational analysis, which focuses primarily on combinations of conditions, these approaches emphasize the order in which events unfold. Events and cases are highly contextual, and they can be understood more fully when their temporal sequence is reconstructed. By situating events within a specific temporal context, researchers can examine how earlier events shape later developments and how sequences of action contribute to broader social and political outcomes [27].

Event-sequence analysis focuses on chains of events and examines how one event leads to, enables, or constrains another. Event-structure analysis, by contrast, examines the overall organization of events within a narrative or historical process. In this sense, event-sequence analysis emphasizes temporal order, whereas event-structure analysis reconstructs the perceived causal and temporal relations among events.

Event-structure analysis, developed by Heise [8], is a research technique that explains the structure, causes, and temporal relationships of events based on narratives. It involves mapping the course of events from an initiating incident to a final outcome. This technique helps researchers reconstruct causal chains by analyzing narratives, interviews, documents, and historical records. For example, Griffin applied this technique to investigate the events in Mississippi following the lynching of David Harris in 1930, using oral histories, books, and newspaper reports.

The main purpose of event-structure analysis is not simply to describe an event, but to reconstruct how actors understand and organize the process leading to an outcome. It therefore has an inductive dimension: the researcher examines narratives in order to identify the perceived sequence of events, causal linkages, and turning points that shaped the final result.

Event-structure analysis is commonly associated with the ETHNO software program, which helps outline the core structure of narratives. The program does not itself produce theoretical or causal explanations; this task remains the responsibility of the researcher. Rather, it assists in clarifying event sequences, identifying possible causal linkages, and organizing complex historical narratives. Event-structure analysis has been used in studies of civil rights, lynching, gossip, children's play routines, office tensions, marketing, and folk tales [8, 29, 30].

In the context of this article, event-sequence and event-structure analysis are important because they add a temporal dimension to the study of complex social systems. Boolean/configurational analysis shows how different combinations of conditions may produce an outcome, while event-sequence analysis shows how these conditions unfold over time. Therefore, temporal analysis complements configurational analysis by explaining not only which conditions matter, but also when and in what sequence they become causally significant.

CONCLUSION

This article has argued that comparative-historical analysis should be understood not only as a broad methodological orientation but also as a set of complementary tools for examining complex social systems. Mill's methods of agreement, difference, and concomitant variation provide an initial logic for identifying shared, differentiating, and varying causal conditions across cases. However, complex social outcomes such as revolutions, institutional reforms, democratization, state formation, and global transformations rarely emerge from single causes. They are more often produced by combinations of conditions, historically specific mechanisms, and temporally ordered sequences.

For this reason, the article has brought Millian comparison into dialogue with Boolean/configurational analysis and event-sequence/event-structure analysis. Boolean analysis strengthens comparative-historical inquiry by allowing researchers to examine conjunctural causation and equifinality, while event-sequence analysis adds a temporal dimension by reconstructing how causal processes unfold over time. Together, these approaches provide a methodological bridge between comparative-historical sociology and complexity-oriented social research.

The article's main contribution is to offer a concise framework for using comparative-historical methods in the analysis of complex human systems. This framework is especially relevant for political science and sociology, where researchers frequently examine a small or medium number of historically embedded cases. It is also useful for methodological teaching because it clarifies the differences and connections among case selection, equivalence, Millian comparison, configurational causality, and temporal sequencing.

In the Turkish social science literature, comparative-historical methods have been used in important empirical and theoretical studies; however, their methodological assumptions are not always made sufficiently explicit in research methods textbooks and graduate-level teaching. Therefore, this article suggests that comparative-historical analysis should be discussed more systematically in methodological training, particularly in relation to case selection, equivalence, configurational causality, and temporal sequencing. Future research may apply the framework proposed here to specific empirical cases such as revolutions, democratization, educational reforms, state formation, or transnational social change.

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