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## Four varieties of comparative analysis

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**Abstract.** The article starts by examining the definition of comparative analysis and what distinguishes it from analysis in general. It then identifies four varieties of comparative analysis according to (a) whether they aim to explain differences or similarities and (b) the assumptions they make about the underlying causal patterns present. While the former contrast is well known, it is argued that the latter contrast is fundamental and opens up many possible avenues for comparative analysis, which would otherwise be closed. Although the examples are drawn from the housing and urban studies field, the argument is of general applicability. The article considers in turn what is meant by comparative analysis, its main varieties, the research designs needed to undertake it, and some of the problems that arise.

**Key words:** causality, comparative analysis, plural causation, research design

### 1. Introduction

Comparative research is a broad field and the present article explores only part of it. It is not concerned with the theories that drive the widespread interest in comparative research, or with what concepts can meaningfully be used in comparative research. The article focuses mainly on the causal assumptions of comparative analysis, since in my view whatever concepts and theories one adopts in comparative research, the procedures and analytical results depend on these assumptions. It also discusses causal models since for many social scientists the interest is less in finding invariant relationships than in identifying the different sets of causal conditions under which these relationships can occur and which can be expressed in complex causal models. The argument of the article is that there are four varieties of comparative analysis according to (a) whether they aim to explain differences or similarities and (b) the assumptions they make about the underlying causal patterns present. While the former contrast is well known, it is argued that the latter contrast is fundamental and means that comparative analysis is far more useful as an approach than if it were restricted to the conventional assumption about causality. The article considers in turn what is meant by comparative analysis,

the research designs needed to undertake comparative analysis, the varieties of comparative analysis and some of the problems of comparative analysis.

## 2. What is comparative analysis?

The first question to ask is how to define comparative analysis, and how it differs from any other type of analysis. I examine in turn what is meant by analysis and comparative analysis, and what the objects of comparative analysis should be.

### 2.1. Analysis

Analysis is used here to mean any attempt to identify causal relations.<sup>1</sup> Clearly there are numerous ways of setting about this: intensive studies and extensive studies, studies at one point in time and over-time research designs, studies which gather qualitative data and studies which gather quantitative data. Each of these represents a different bet about how the elusive idea of cause can be uncovered. None of them can be excluded: all make a contribution. However to talk about causal relations is to become involved in the long-standing debate about what is meant by cause.

Firstly, does cause refer to a presence/absence phenomenon (where cause A is either present or absent) or to a quantitative (or probabilistic) one (in which cause A can be present to differing degrees)? In the former case, on which for example J.S. Mill (1886) built his Canons of Scientific Enquiry, causes are classified as necessary or sufficient for the occurrence of phenomenon P. (More complex possibilities also exist, e.g. the idea of 'contingent necessity'.) It will be argued that the quantitative as well as the presence/absence concept of cause needs to be considered.

Secondly, does cause refer only to 'precipitating causes' (such that when A on its own or as part of a set of causes changes, then P changes) or also to 'conditions' which are necessary to the occurrence of P but which may remain unchanged? Conditions are an important feature in social science because many slower changing features of society (such as the economic system or gender relations) have a causal force, and set limits to the changes which can be brought about by altering less structural features (e.g. government policies). In my view both precipitating causes and conditions need to be included.

Thirdly, at what level of abstraction do causal forces exist? The 'realist' approach to causation has argued that structural causes can only be taken into account by imagining a series of levels of abstraction, with additional 'contingent' causes coming into operation as one moves towards the concrete

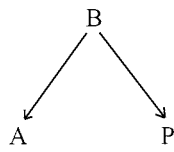
level of the phenomenon of interest (Sayer, 1992). The advantage of this approach is that it provides space for deep level structural causes (such as the mode of production, or gender relations) which cannot be reduced to single causal variables. The difficulty with it is that since numerous contingent causes may act simultaneously with the structural causes it is never clear which is the more important. Moreover since it can always be argued that in cases where structural causes seem not to have operated, they were present but masked by contingent factors, there is a risk that structural causes are protected from criticism and become unchallengeable axioms. Hence in my view the realist approach offers no way of sorting out the importance of causal forces at different levels of abstraction and therefore does not represent a step forward.

Fourthly, **how are causes inter-related in causal models?** Boudon (1967) distinguishes between simple and complex causal structures: in simple causal structures, causes A, B and C all have direct effects on P. In complex causal structures indirect effects exist, e.g. A affects B which affects C which affects P. These possibilities have been familiar since Lazarsfeld's (1955) article on the interpretation of statistical relations – see also Davis (1971) and Boudon (1974). Lazarsfeld focuses on the three-variable case and points out that if we take three variables A, B and P, then B can be antecedent to A (a 'condition') or B can follow A in time (a 'contingency'). He then distinguishes three 'polar' possibilities in relations between A, B and P (see Figure 1). (In practice cases may fall in between these types.)

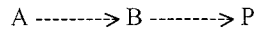
- a. If B is an antecedent variable, and B is entirely responsible for the correlation between A and P (i.e. B has very strong causal influences on both A and P), then the relation between A and P is described by Lazarsfeld as a *spurious* one since it is entirely due to the effect of B.
- b. If B is an intervening variable and there is no correlation between A and P when B is held constant, then A influences B which influences P (indirect influence of A on P). In this case Lazarsfeld says that B *interprets* the relation between A and P, i.e. it explains how A produces its effect on P.
- c. If B is an antecedent intervening variable and the relation between A and P varies according to the value of B, then A and B both influence P directly. Lazarsfeld says that in this case B *specifies* the relation between A and P.<sup>2</sup>

Clearly if our aim is to identify causal relations we need to be aware of the variety of causal models which may exist. This is why the above discussion is relevant. A simple search for bivariate ('A causes P') relationships is not likely to lead very far.

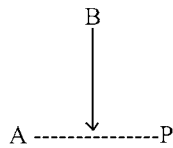
Lastly, how does causation differ from correlation? The term 'causal relation' is used where three conditions are met:



Spurious relationship between A and P



B interprets the relation between A and P



B specifies the relation between A and P

Figure 1. The different relations between A, B and P according to Lazarsfeld (1955).

When  
causal relation  
is accepted

- a. **There is a theoretical reason for accepting that the relation is a causal one.** This means that we can postulate a theoretical process that links the variables in question and makes sense of their relationship. By contrast if a correlation is strong but we cannot make sense of it theoretically we would not accept it as a causal relation. This contrasts with Mill's view that causal relations could be uncovered purely by observation. In general Mill underestimated the way in which theoretical and other considerations meant that our observations were selective.<sup>3</sup>
- b. **The causal variables are logically or temporally prior to the variables to be explained.** (In practice this is not always easy to establish, e.g. as in studies of the relation between attitudes and behaviour.)
- c. **The correlation between the variables is as predicted by the theoretical model.**

## 2.2. Comparative analysis

Having clarified what is meant by a causal relation we now proceed to the question of what is meant by comparative analysis. In a strict sense all analysis is comparative and by spelling out in what sense this is true it will be easier to define what is meant by comparative analysis here.

Let us say we have studied a single case and have a set of correlations that describe the group studied. We can either present these as our result or we may be tempted to go further and make some causal inferences about the relations between the variables on which we have collected data. Any such attempt at causal inference involves a mental experiment. In order to gauge the effect of one variable on another we *imagine* what would have happened if that variable had taken a different value. For example if we are doing a study of housing protest in Eastern Europe after 1990 and want to make some causal statements about the effect of the changing ‘political opportunity structure’, we might imagine how easy it was for protest activity to take place under state socialism when this context was more restrictive and then reach some conclusion about the effects of the change of regime in 1990.<sup>4</sup>

This type of mental comparison is normal in attempts to make causal statements and certainly involves comparison in a strict sense. However by convention comparative analysis is not conterminous with analysis but constitutes a subtype in which two conditions are met:

- a. Data must be gathered on two or more cases. The cases may be countries, cities, firms or families – the nature of the unit is irrelevant.
- b. There must be an attempt to explain rather than only to describe.

If only the first condition is met, i.e. data is presented on two or more units without attempting to explain the observed differences or similarities, the result is the ‘juxtaposition’ of the cases but this is not the same as analysis.

Hence although in a strict sense all analysis is comparative, we follow the convention by which the term comparative analysis is used only when both the above conditions are met. Some writers have used narrower definitions than this. For example Przeworski and Teune (1970) restrict comparative analysis to analyses where a societal characteristic is shown to have an effect on the variable or relationship of interest, e.g. where a characteristic of the national political system affected some aspect of electoral behaviour. Conversely they deny that analyses, which find no such societal-level effects, should be labelled ‘comparative analysis’. This makes the result of the analysis an element in deciding whether it is comparative or not. I prefer the simpler definition given above.

### 2.3. *Objects of comparative analysis*

Comparative analysis may focus on similarities and differences in:

- Values of variables, such as levels of owner occupation or environmental activism.
- The shape of the relations between variables, such as the relation between class and voting (‘class de-alignment’), or class and individual values (Kohn, 1987). Or

*Table 1.* Contrasts between variable and case-oriented strategies of comparative analysis according to Ragin (1987, pp. 54–55)

Variable-oriented strategy	Case-oriented strategy
Seeks to achieve generality	Seeks to appreciate complexity
Tests propositions derived from general theories	Unravels the historical conditions that produce different historical outcomes
Seeks ‘probabilistic statements relevant to broadly defined categories’	Seeks ‘invariant statements relevant to more narrowly defined categories of phenomena’
Assumes quantitative causation	Assumes presence/absence causation (see Lieberson, 1994).

- The occurrence of events or patterns of events, such as revolutions and rebellions.

The most extreme contrast is between writers who are interested in finding invariant relations between variables (or ‘laws’) in abstraction from the surrounding societies, and those who are interested in the particular character of events and how they are part of the societies involved. The implicit nomothetic/idiographic contrast is in terms of object (variables or whole society) and generality versus specificity. In practice most writers occupy intermediate positions. Ragin (1987) has tried to clarify this issue by using the term variable-oriented strategy to refer to the first two objects listed and case-oriented strategy to refer to the third. The contrast he draws is summarized in Table 1.

In fact the contrast is not as clear as it seems. Firstly, the term ‘case-oriented’ is misleading. The term ‘case’ is notorious for its multiplicity of meanings (Ragin, 1992; Walton, 1992). For example cases can refer to empirical units or to theoretical interpretations of phenomena; and case studies can be defined by their (numerous) techniques of data collection. However there is no necessary connection between case-oriented analysis and qualitative study, or variable-oriented analysis and quantitative study, as Ragin (1992, p. 4) himself later acknowledges. A more useful contrast is between variable-oriented and holistic strategies (where the phenomenon is conceived as a whole rather than as a set of variables).<sup>5</sup> This is not far from what Ragin has in mind since he states that in case-oriented analysis ‘cases are compared as wholes with each other’ (1987, p. 50).

Secondly, Ragin’s idea that different types of causality are involved in the two types of strategy seems unnecessary and untenable. It may be accepted

that when the fine grain view of holistic analysis is applied to a small number of cases one can get a closer idea of some kinds of causal process. But it does not follow from this that presence/absence causation is involved. In my view it is more likely that Ragin's preference for the latter derives from his interest in using Boolean algebra to deal with causal complexity in holistic studies.

Thirdly, Ragin's argument about variable-oriented analysis applies to variables measured at an interval or higher level. But variables measured at a nominal or ordinal level appear in 'case-oriented studies' so it is not the case that they are variable-free.

Thus, while Ragin's arguments are helpful in clarifying the contrasting objects of comparative analysis and the different aims involved, the dividing lines he draws are not workable. The connection between the types of data collected, the type of causation involved and the depth of understanding reached in the two strategies seems to be much looser than he proposes.

### 3. Comparative analysis and research design

What then are the implications of these arguments for research design? The first point is that causal relations are always matters of inference. Causal relations cannot themselves be observed. We can hypothesize what correlations should exist if causal relations of particular types apply. The choice of an appropriate research design allows us to explore the implications of various causal models. Conversely the possibility of making inferences is dependent on the research design chosen.

To clarify the options it is useful to follow Kish's (1959) well-known classification of variables into four types:

- a. Dependent variables: the variables whose values we are interested in explaining (P in the previous section).
- b. Independent variables: the variables that we suspect explain the variation in the dependent variables (A, B, C, etc in the previous section). They are independent of and prior to the dependent variables, but not independent in the sense of being themselves uncaused. They are of two types: (i) Those which are *allowed to vary* and (ii) Those that are *controlled* (in which case their value remains constant for the unit concerned).
- c. Uncontrolled variables. These are variables that influence the dependent variable but are not controlled.
- d. Confounding variables. These are variables that influence both the dependent and independent variables.

Kish argues that in any research design we seek to reduce the effect of confounding variables by randomisation<sup>6</sup> and reduce the effects of uncon-



trolled variables by controlling them. The latter obviously depends on our awareness of uncontrolled variables.

The two ways of dealing with independent variables are important to comparative research. *Typically comparative research design allows variables that are controlled in a particular case to vary between the cases being compared. This applies in particular to variables that are unit level features.* From here on we shall take the example of cross-national comparative research where the units are societies, but the arguments apply *mutatis mutandis* whatever the unit of observation. We can rewrite the previous sentence as follows: *comparative research design allows the study of variation in variables that are controlled in the case of a particular society. This applies in particular to variables that are societal level features.*

How can this be done? Most societies have features that change relatively slowly and can be considered 'structural'. However the fact that they change slowly does not mean that they are unimportant as 'conditions' that help to explain relationships of interest. There are two ways of converting such variables into 'variables that are allowed to vary': by extension over space or over time. The latter occurs when there is a change in the value of the variable *within* the society concerned. For example regime change in Eastern Europe modified many structural features of former state socialist societies and created a 'natural' experiment. Cases of such dramatic change are rare. More commonly comparative research involves the study of societies that are scattered over space, and are chosen because they represent different values of the variables that are controlled or structural for a given society.

This leads to the question of which units or societies should be included in a comparative research design. Przeworski and Teune (1970) identify two types of comparative research design: '*most similar systems*' and '*most different systems*'. The former is chosen in order to reduce the number of uncontrolled variables. The idea is to choose societies which have most features in common but which show variation among them in the independent variables whose effects are of interest. The hope is that the effects that are observed are those of the independent variables of interest and not of the uncontrolled variables. This type of design is particularly used when we expect societal features such as the presence of major ethnic divisions, or unitary or federal political systems will affect the relationship of interest.<sup>7</sup> By allowing the set of countries to include variation in these respects and by restricting comparison to 'most similar systems' (and excluding underdeveloped societies for example) we seek to avoid the impact of uncontrolled variables. The 'most different systems design' is used when we expect the relationship to hold in extremely diverse societal contexts. This is rare outside psychology where small group processes (e.g. family functioning)

are expected to follow universal laws irrespective of the level of economic development or type of political system.

#### 4. Uses of comparative analysis

There are a number of reasons for carrying out a comparative analysis:

- a. To explore a theoretically postulated relationship<sup>8</sup> in which societal features are a key type of independent variable. A comparative research design will allow some of these variables to vary.
- b. To examine whether a relationship reported in a study in one society also holds in another. The aim here is to introduce societal features explicitly into the research design, or in other words to allow variables which are controlled (i.e. are parameters) in one society to vary. The variables chosen reflect our theoretical knowledge about the likely correlations between societal features and dependent variables of interest.
- c. To examine whether a condition which is given or fixed for one society is influential or not. One of the most common but frustrating experiences after carrying out a study in one society is to be faced by a critic who says that the reason a relationship between A and P was found in that study is that some other conditions B or C were present as uncontrolled variables, and that the conclusions are therefore only valid for societies where conditions B and C took particular values. For example it might be said that the relationship found held only because the political system was unitary rather than federal, the economy was advanced capitalist rather than poor capitalist, or because of the dominance of the Catholic Church in the society. Such criticisms only have force if a theoretical link can be postulated between the suggested features and the relationship of interest. Adherents of different theoretical schools will obviously differ as to what they consider to be possible theoretical links. Of course what counts as a theoretical link changes over time since one of the ways social science advances is through the discovery of new theoretical links, so one should not be too ready to reject postulated theoretical mechanisms.
- d. To examine a small number of empirical cases holistically to grasp the causal processes leading to observed similarities and differences. Either one can 'work forwards' from cases where similar conditions would predispose one to expect a similar outcome, or 'work backwards' to see whether similar or different outcomes are paralleled by differences in causal conditions. For contrasting views about the confidence that can be put in the conclusions of such studies see Mitchell (1983) and Pickvance (1995).

All of these uses lead to the same research design: they are variations on a theme.

### 5. Varieties of comparative analysis

Comparative analysis is usually broken down into two types according to whether the aim is to explain differences or similarities. A more elaborate classification is set out by Tilly (1984) who distinguishes four types: individualizing, universalising, variation-finding and encompassing.

- a. Individualizing comparison contrasts 'a small number of cases in order to grasp the peculiarities of each case' (Tilly, 1984, p. 82)
- b. Universalising comparison 'aims to establish that every instance of a phenomenon follows essentially the same rule' (p. 82)
- c. Variation-finding comparison seeks to 'establish a principle of variation in the character or intensity of a phenomenon by examining systematic differences between instances' (p. 82)
- d. Encompassing comparison 'places different instances at various locations within the same system, on the way to explaining their characteristics as a function of their varying relationships to the system as a whole' (p. 83), e.g. as in Wallerstein's world system analysis.

Individualizing comparison involves discovering how different two or more cases are. It is an essential pre-condition of comparative analysis since an accurate descriptive grasp of the specificities of cases is essential before comparison can begin.<sup>9</sup> Indeed it is part of the task of deciding that two cases are indeed cases of the same phenomenon. However individualizing comparison is not in itself comparative analysis, because the latter looks beyond specificities to discover generalities.<sup>10</sup> The fact that the impetus behind individualizing comparison is descriptive rather than explanatory means that it is a useful first step towards comparative analysis as defined here but it cannot be regarded as a type of comparative analysis and is therefore not referred to again. Universalising and variation-finding comparisons are I believe the two fundamental types of comparative analysis and I shall return to them below. Tilly's final type, 'encompassing comparison', is undoubtedly concerned to explain variation. But the only thing that distinguishes it from variation-finding comparison is that the variation of interest is explained in terms of an underlying general causal mechanism, e.g. the capitalist world system. This is a substantive difference not a methodological difference and hence encompassing comparison is best seen as a subtype of variation-finding comparison.

This suggests that Tilly has not advanced beyond the two familiar types of comparative analysis: those that seek to explain variation and those that

Table 2. Types of comparative analysis according to whether the starting point is similarities or differences

		End point: explanation in terms of	
		Principle of variation	Principle of universality
Starting point:	Observed or constructed differences	A <i>Differentiating comparative analysis</i>	B
	Observed or constructed similarities	C	D <i>Universalising comparative analysis</i>

seek to explain commonality. I will slightly modify his terms and refer to 'differentiating' and 'universalising'.<sup>11</sup>

It should be noted that *comparative analysis requires the things being compared to be commensurable but not necessarily identical. Commensurable means that they can be placed at the same or different points on a dimension of theoretical interest.* (The existence of such a dimension relates to the question of conceptual equivalence that is discussed below.) Hence it is not an objection to comparative analysis to say that the values of two cases (or their nature) are not identical. Indeed it is precisely the aim of comparative analysis to make sense of such examples, provided they can be placed on a single theoretically significant dimension. A further complexity, namely that differences and similarities may be constructed rather than observed, is explained below.

Since the starting point of comparative analysis as defined here is the explanation of similarities and differences between two societies, the obvious conclusions to draw are:

- a. That universalising comparative analysis is used to make sense of similarities, and
- b. That differentiating comparative analysis is used to explain differences.

This is shown in Table 2. In fact I shall argue that these conclusions are true but incomplete and that two other types of comparative analysis also exist.

To start with we shall give examples of the two most familiar types of comparative analysis shown in Table 2: Type A differentiating comparative analysis and Type D universalising comparative analysis. Two additional types will be considered later.

### 5.1. *Type A differentiating comparative analysis and Type D universalising comparative analysis*

We consider first Type D universalising comparative analysis. What distinguishes this type is its commitment to look for underlying ‘universal’ relations. **Universal does not mean ‘applicable to all cases in the world’ but ‘applicable to all cases within the same class’.** Thus a universal proposition about state socialist societies would not be less universal today than before 1990 because there are fewer such societies.

Universalising comparative analysis starts from ‘surface-level’ similarities and implies that they are explained by a ‘deeper-level’ common process or cause. This is the conventional model used for example in understanding common processes in advanced capitalist democracies.

However this type can also be used when there are empirical differences but where similarities are *constructed* by using either of two simplifying strategies:

- a. Excluding some of the evidence as being untypical or exceptional in order to focus on the rest of the evidence that shows similarities. This amounts to selecting from the available evidence to arrive at a new starting point for the comparison in which similarities are present. This is an ‘empirical’ strategy.
- b. Alternatively the object of study can be reconceptualized at a higher level of abstraction. This amounts to saying that the appearance of difference conceals a (higher-level) similarity. This is a ‘conceptual’ strategy that again achieves a new starting point of similarity but at a higher level of abstraction.

Let us examine a study that I would class as an example of a Type D universalising comparative analysis.

In 1982 Peter Marcuse published an analysis of West German and US housing policy in the post-war period. His aim was to show that housing policy in capitalist societies took a particular form, namely to support the ‘private housing industry’. (He included both house building firms and housing finance institutions within this concept.)

When he examined the legislation that made up housing policy he concluded that in the US his proposition was borne out: housing policy did indeed favour the interests he expected. However in West Germany the situation was more complex. Marcuse pointed out that in two periods housing policy had not favoured the private housing industry. From 1949–1953 the priority was reconstruction and the private sector’s housing role was subordinated to that of the state. Later, in the 1967–1973 period of social unrest, he found that measures had been adopted (such as the continuation of rent control and public involvement in urban renewal decisions) that were against

the interests of private landlords. Thus he was faced with contradictory evidence. His strategy was the empirical one identified above, namely to exclude the evidence for the two exceptional periods on the basis that they were untypical and should not be given equal weight with the rest of the post-war period. Having thus constructed similarities, Marcuse was able to state as his conclusion that

The differences between German and US housing policies in general, then, are more in form and quantity than in substance or direction. In both the underlying commitment is to the private market. (1982, p. 112)

The model of the state here is what Marxists call the 'instrumentalist' model.

Marcuse thus carried out a Type D universalising comparative analysis by excluding certain periods from his study. The implication is that the exceptional periods do not show long-term patterns of development within advanced capitalism but short-term stabilizing measures needed to restore capitalism to its development path after a disruption. The principle of argument is that general conclusions should be built on long-period trends rather than short-term deviations.<sup>12</sup>

As an example of Type A differentiating comparative analysis we can also draw on Marcuse's data. However we will include the 'exceptional' periods in West Germany that he excluded and pose the question whether the differences between policy in these periods and in the 'normal' periods can be explained. Turning to the structuralist Marxist theory of the capitalist state it can be argued that the direction of state policy is not fixed but can be partially or temporarily shifted away from supporting capitalist interests when there are potential or actual threats to social order. This theory fits well the immediate post-war period and the need for reconstruction and the 1967–1973 period of social unrest. Hence it is possible to analyse the variations that Marcuse excluded by appealing to a principle of variation (which also has Marxist roots).

Whether it is wholly compatible with Marcuse's own conclusion is debatable. Marcuse would be right if he claimed that his Type D analysis was concerned with the general pattern of similarity in housing policy in the period concerned, and that the Type A analysis dealt with less significant short-term patterns. However in other countries, e.g. where social democratic parties have been in power for long periods, the patterns that were short-term in West Germany have been long-term. This suggests that the variability of state policy within certain limits is the more general principle.

The Marcuse study is thus a good example of a Type D universalising comparative analysis, but as has been shown by including data which he excluded to achieve simplicity one can also carry out a Type A differentiating analysis. Interestingly although only two cases are included it would perhaps

be exaggerated to call this a holistic analysis: for example, it makes no attempt to get inside the ‘black box’ of government policy-making. This supports my earlier suggestion that there need not be a close connection between number of cases and depth of material collected.

### 5.2. *Alternative forms of comparative analysis: Types B and C*

So far we have introduced the familiar types of comparative analysis which assume that similarities between countries must be explained in terms of common processes, and that differences must be explained a principle of variation. This assumption is a comforting one since it simplifies dramatically the range of possible explanations that need to be considered.

However I shall now suggest that there is an alternative set of possibilities that deserve attention. These are based on the idea of **plural causation**, a term introduced by J.S. Mill under the title ‘plurality of causes’ (Mill, 1886, pp. 285–299). Earlier we introduced the idea of **multiple causation** to refer to cases where more than one cause acted together, and pointed out that these causes could act independently of another (**simple causation**) or **interact with one another (complex causation)**. Although the earlier argument was phrased in terms of presence/absence causation it can be extended to quantitative causation as in the familiar case of multiple regression analysis, where the multiple causes have different weights, rather than being present or absent.

What Mill drew attention to was something different from multiple causation, namely that the same phenomenon (or, by extension, value of a variable) could be produced by different causes on different occasions. When extended to the case of quantitative causation plural causation means that the same value of a variable could be the result of the same variables but with different sets of weights on different occasions. For Mill plural causation was something of great relevance in social science.

In brief, plural causation does not refer to the number of causes or their weights but to the fact that **on different occasions, different causes or causes with different weights can bring about the same value of the variable of interest**. This contrasts with the conventional model of causation that sees patterns of causation as lacking such over-time and over-place variability.<sup>13</sup> Table 3 makes clear the distinction between multiple and plural causation.

The idea of plural causation is essentially that of diverse chains of causation leading to the same result. Social scientists have had great difficulty with this idea (see Pickvance, 1986). **Ragin (1987) introduces the idea of ‘multiple conjunctural causation’ to refer to plural causation**. This is a good term but firstly Ragin does not use it consistently. (He sometimes treats multiple causation and plural causation as conterminous (Ragin, 1987, p. 37 as do King et al., 1994, p. 87).) Secondly he restricts plural causation to pres-

Table 3. The logical independence of models of causation and the number of causes

		Model of causation	
		Conventional	Plural
Number of causes	One	1	2
	More than one (multiple)	3	4

ence/absence causation. In chapters 6–8 of his 1987 book Ragin develops an elaborate method to draw out the implications of plural causation in comparative research. However his Boolean approach that envisages comparisons of up to 20 or 30 cases is entirely reliant on the presence/absence notion of causation required by the 0–1 thinking of Boolean algebra. This is very useful but also restrictive since, as shown earlier, it is not required by ‘case-oriented’ analysis.

The reason for the prevalence of the conventional model of causation lies in its origin in natural science where the results of experiments do not depend on when and where they are carried out. In social science, on the other hand, as Mill pointed out, there seems no reason to accept such a proposition.

Let us take an example where plural causation seems to be present. If we are interested in the association between housing quality and the income level of the occupants, then we can investigate this in different societies. In advanced capitalist societies higher-income groups occupy better quality housing than lower-income groups and this is because housing is distributed by market processes where ability to pay is the criterion of access. However in studies of the distribution of housing in state socialist societies, in contradiction with the prevailing political ideology, the same pattern of stratification is consistently found (Szelenyi, 1983). The question is how this should be explained.

Using the conventional model of causation we would be obliged to choose a Type D universalising comparative analysis. Since common effects are assumed to have common causes, we would look for similarities between state socialist and advanced capitalist societies and make these the explanation of the observed similarities (e.g. the fact that both types of societies are industrial, are run by large bureaucratic organizations, or are ‘state capitalist’). Hence Type D universalising comparative analysis can be seen to exclude *by definition* two potentially important explanatory features, political ideology and economic level, which differ between the two types of society.



It thus makes very strong assumptions and, as will be shown, ones that can be challenged.

We can approach the correlation between income and housing situation in state socialist and capitalist societies by paying closer attention to the processes involved, as in a holistic study. In capitalist societies market allocation of housing is the dominant mode and ability to pay is the prime determinant of who gets what housing. In state socialist societies there were two processes: state allocation (the dominant process in cities) and market processes (dominant in rural areas). State allocation for a long period allocated the best housing to those in the more prestigious or better-paid occupations. The reasons were diverse. In some state socialist societies state enterprises had considerable influence on the allocation of state housing and favoured their 'key' employees. In others, where councils had a greater role, they used it to reward officials rather than the poorest households. The rationale was that in a situation of shortage, the criterion of 'social merit' was necessary as a way of discriminating among those in 'need', and this happened to coincide with occupational status. The market aspect of housing distribution in state socialist societies was a complementary means of access to housing to state allocation and worked in ways similar to those familiar in capitalist societies. The main differences were that it was the dominant channel for lower-income employees (since higher-income employees were favoured by state allocation), and that it was more likely to give access to houses than flats, since self-building was a main channel of access to housing for rural households.

What conclusions can we draw from this example? A Type D universalising comparative analysis would ignore the differences in the processes by which housing is allocated in state socialist and advanced capitalist societies. It would insist that a potentially universal relationship had been uncovered which was unrelated to any of the differences between the two societies. In my view this is too high a price to pay for adherence to the conventional model of causation. Rather we should accept the diversity of causal processes created by the different patterns of development of different societies and seek to build these into our explanations rather than rely on models of explanation that force us to exclude them. This means that the structure of causes present in each society becomes an important goal of explanation. Hence the relevance of the earlier discussion of causal relations.

In terms of the varieties of comparative analysis identified earlier, we can now see that this example corresponds to Type C differentiating comparative analysis, since we have started from a similarity and explained it in terms of a principle of variation. In other words we have argued that different causal processes in the two types of society accounted for the similarity of interest to

Table 4. Types of comparative analysis according to whether the starting point is similarities or differences

		End point: explanation in terms of	
		Principle of variation	Principle of universality
Starting point:	Observed or constructed differences	A <i>Differentiating comparative analysis</i>	B <i>Universalising comparative analysis with plural causation</i>
	Observed or constructed similarities	C <i>Differentiating comparative analysis with plural causation</i>	D <i>Universalising comparative analysis</i>

us.<sup>14</sup> Type C therefore involves plural causation. In brief there are two types of differentiating comparative analysis, A and C, and they can be used to explain similarities as well as differences as usually thought.

Table 4 shows these possibilities. It also fills in the final cell, Type B, a form of comparative analysis which explains differences in terms of a principle of universality and which we now consider.

If we start from the conventional idea of causation, the idea of explaining differences in terms of a principle of universality is a non-starter, because it only allows differences to be explained by a principle of variation. However once we allow for the existence of plural causation it becomes a possibility. To see how this might work let us return to the previous example. Instead of taking as the object of interest the similar outcomes in terms of housing distribution, we could ask why housing is distributed by different channels in the two types of society. In other words we would be starting from differences rather than similarities.

The conventional way to explain these differences is to identify a principle of variation, for example the differing ideologies of the two types of society concerned (Type A). However Table 4 reveals that there is another alternative: Type B comparative analysis that is universalising with plural causation. An example of this would appeal to the universalising claims of the functionalist theory of stratification that holds that stratification arises because every industrial society requires a way of motivating its key workers, but that this can take different forms in different societies. If the distribution of housing is seen as an aspect of the pattern of stratification then the difference in the

way housing is distributed in capitalist and state socialist societies (viz. the balance between market or state, and the particular institutions and processes involved) can be explained in terms of this universal 'functional need'. In this way a universalising explanation is combined with plural causation. Generally I do not find functional explanations satisfactory because they explain aspects of society in terms of their (alleged) effects, which puts the cart before the horse. However this example certainly fits Type B.

In this section I have shown that the two familiar types of comparative analysis, aimed at explaining similarities and differences, make a conventional assumption about patterns of causation and need to be supplemented by two more which rely on plural causation. Only by being aware of the four varieties of comparative analysis can the researcher exploit its possibilities to the full.

## 6. Problems in using comparative analysis

Finally there are a number of problems of using comparative analysis that deserve mention.

*Conceptual equivalence.* It was argued earlier that comparative analysis did not require the objects being compared to be identical but only commensurable. In fact 'commensurable' is a relative term and there will always be arguments about (a) whether there is a dimension of social-science significance along which two cases can be given values and (b) if so what values should be attributed to them. (The role of precise description is essential in reaching such decisions.) If we are interested in the effects of housing tenure, then as long as we can identify a legal relation between dwelling and occupant we may accept the existence of a common dimension for categorising the independent variable. However there are sharp contrasts in the rights attached to ownership and renting in different societies. For example Hungary is known as a country where state tenants have unusually strong rights, which include the right to sell their tenancy. Likewise planning and other regulations restrict the rights of owner-occupiers more or less depending on the country. The question of whether these differences are significant enough to outweigh the common features of tenure categories is impossible to answer. At the very least these empirical differences in the meaning of concepts, within a broad measure of equivalence, have to be kept in mind.

It should also be noted that there are multiple dimensions of commensurability. For example the fact that the level of owner occupation is highest in Bangladesh draws attention to the fact that the value and quality of what is

owned cannot be read off from tenure in the way conventional in advanced capitalist societies.

*Comparative analysis and the analysis of single cases.* ~~Since comparative analysis is interested in the general, not the specific or the unique, it inevitably simplifies and leaves out a lot of the full complexity of reality. Hence it is not a substitute for description or for the detailed analysis of a single case. Moreover it is not superior to these latter. It has quite different aims. It follows that there is a complementarity between ‘thick description’, i.e. detailed analysis of a single case, and comparative analysis. This is not a strictly a problem of comparative analysis, but is a clarification of its role.~~

*Research design.* A further problem concerns research design. Earlier it was suggested that by ~~choosing cases appropriately comparative analysis allows variables to vary which are parameters for a given case. However~~ a price has to be paid for this advantage, namely, that variation may also be introduced in other variables. For example, some controlled variables may revert to being uncontrolled variables. This is a constraint brought about by the ‘natural experiment’ of society. We have to accept the variation which exists and which leads to co-variation of variables that is beyond our control. This makes for greater complexity in interpretation.

*Cultural explanation.* So far we have assumed that comparative analysis is successful in identifying the causes of the ~~similarities or differences of interest to us. However there is a debate about what counts as a satisfactory explanation.~~ This cannot be resolved empirically as it is a matter of theoretical debate where followers of different schools take differing views.

The most common case is where a cultural explanation is given, which amounts to saying that the reason why societies X and Y differ in some respect of interest is because they allegedly have distinctive cultural features which have all-pervasive effects in the society, e.g. Japanese preference for consensus, Russian preference for authoritarian leaders, or the French view of the state as a national champion. How significant a statement this is depends on one’s theoretical preconceptions. For those who consider culture a strong explanatory concept, cultural explanations are perfectly acceptable. They reduce complexity to a few dominant features. For those who consider culture a weak concept, however, cultural explanations are at best steps towards structural explanations. These aim to make sense of cultural patterns in terms of wider explanations, perhaps to do with the historical development of the nation. Thus what counts as comparative analysis depends on the theoretical perspective adopted. What for some is explanatory is for others a mere

descriptive or classificatory step towards explanation that does not explain in itself.

*Exceptionalism* is closely related to cultural explanation. After a comparative analysis when ~~the majority of cases have been satisfactorily explained,~~ 'exceptionalism' is a label placed on cases that do not fall into the dominant pattern. It is a recognition of the distinctiveness of the case(s) concerned and like cultural explanation can be treated either as a satisfactory end to a quest for explanation or as an indication that further work is necessary to make sense of the exceptions. In the latter case it may be that a change in the theoretical level at which the explanation is sought is necessary to identify a universal pattern. Alternatively a more elaborate account can be given of why the exceptions are exceptions.

These problems and clarifications need to be kept in mind to ensure comparative analysis is not misused.

The impetus for this article came from a feeling that comparative analysis as conventionally understood was acting as an obstacle to understanding since it excluded certain possible patterns of causation by definition, a position which seems to me untenable. My aim has been to help rectify this situation by showing that four types of comparative analysis exist, two of which are ignored by conventional writing because they rely on the idea of plural causation. By being aware of all four of these possibilities it is hoped that researchers will be able to analyse more adequately the similarities and differences they encounter in comparative work.

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### **Notes**

<sup>1</sup> There are other meanings of analysis such as the discovery of patterns but they are not considered here.

<sup>2</sup> If reciprocal causation is allowed then further causal models are possible, in which for example A and P influence each other.

<sup>3</sup> For an up to date assessment of Mill's Canons, Lieberon (1992) and Paige (1999) should be combined with Cohen and Nagel (1934).

<sup>4</sup> For a critique of the idea that the change from a state socialist to a democratic regime opens the floodgates to social movement activity see Pickvance (1999).

<sup>5</sup> The term 'holistic' represents a commitment to look for interactions between parts; a total or complete understanding is by definition impossible.

<sup>6</sup> Randomisation cannot eliminate their effect but can allow statements of statistical significance about the conclusions to be made.

<sup>7</sup> A parallel example is when the different countries take the same value on one independent variable and where variation in intervening variables is used to explain the observed variation in the dependent variable.

<sup>8</sup> This does not mean seeing whether the value of the dependent variable, e.g. level of owner occupation, found in one country is found in another, but whether the relationship between that variable and one or more explanatory variables, e.g. GDP per capita, is also found in other countries. The question is whether there is a systematic relationship between dependent and explanatory variables. For a good discussion of the choice of cases to allow variation in dependent and independent variables see King et al. (1994, ch. 4).

<sup>9</sup> Rosemary Crompton has pointed out that this is not true of writers using the 'most different systems' design who seek to demonstrate the irrelevance of societal characteristics to relations of interest.

<sup>10</sup> I take the view that social reality can be seen as made up of general and specific elements and that the purpose of comparative analysis is to make sense of the former only. Rich description of course takes some of the latter into account too. Dieter Rucht has pointed out that comparative analysis can also be used to identify something completely new.

<sup>11</sup> Variation seeking does not emphasize sufficiently that what distinguishes these types is their different principles of explanation.

<sup>12</sup> The question of the choice of countries is obviously relevant to the conclusions drawn. Would the same conclusions have been reached if the countries had included Denmark, Sweden or the Netherlands?

<sup>13</sup> In Pickvance (1986) I referred to this as universal causation that is a more useful term. However as I have used the term universalising to describe a type of comparative analysis it would be confusing to use universal causation too here.

<sup>14</sup> The term similarity is used here somewhat loosely since no specification of the relation between income and housing situation has been given.

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