

- SAINT-SIMON, H. 1964 [1814]. 'The Reorganization of the European Community', in Saint-Simon, H., *Social Organization, The Science of Man and Other Writings*. New York: Harper. pp. 28-68.
- SCHUTZ, A. 1967. *The Phenomenology of the Social World*. Evanston, IL: Northwestern University Press.
- SEE, K.O. 1986. *First World Nationalisms*. Chicago: University of Chicago Press.
- SKOCOPOL, T. 1979. *States and Social Revolutions*. New York: Cambridge University Press.
- SMITH, A.D. 1981. *The Ethnic Revival in the Modern World*. Cambridge/New York/Melbourne: Cambridge University Press.
- SMITH, A.D. 1987. *The Ethnic Origins of Nations*. New York: Blackwell.
- SO, A.Y. 1990. *Social Change and Development*. Newbury Park, CA: Sage.
- TILLY, C. ed. 1975. *The Formation of National States in Western Europe*. Princeton: Princeton University Press.
- TIRYAKIAN, E.A. 1985. 'The Changing Centers of Modernity', in Cohen, E., Lissak, M. and Almagor, U. (eds.), *Comparative Social Dynamics: Essays in Honor of S.N. Eisenstadt*. Boulder, CO/London: Westview.
- TIRYAKIAN, E.A. 1986. 'Sociology's Great Leap Forward: The Challenge of Internationalisation'. *International Sociology* 1 (2) : 155-71.
- TIRYAKIAN, E.A. 1988. 'Nationalism, Modernity and Sociology'. *Sociologia Internationalis* 26 (2) : 1-17.
- TIRYAKIAN, E.A. and ROGOWSKI, R. eds. 1985. *New Nationalisms of the Developed West*. London: Allen and Unwin.
- TOURNAINE, A. 1984. *Le retour de l'acteur*. Paris: Fayard.
- WALLERSTEIN, I. 1974. *The Modern World System, I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century*. New York: Academic Press.
- WALLERSTEIN, I. 1979. 'Modernization: Requiescat in Pace', in Wallerstein, I., *The Capitalist World-Economy*. Cambridge/Paris: Cambridge University Press/Éditions de la Maison des Sciences de l'Homme.
- WALLERSTEIN, I. 1980. *The Modern World System, II: Mercantilism and the Consolidation of the European World-Economy in the Sixteenth Century*. New York: Academic Press.
- WALLERSTEIN, I. 1989. *The Modern World System, III: The Second Era of Great Expansion of the Capitalist World-Economy, 1730-1840s*. New York: Academic Press.
- WALLERSTEIN, I. 1990. 'World-Systems Analysis: The Second Phase'. *Review* 13 (Spring) : 287-93.
- WEBER, H. 1988. *Vingt ans après. Que reste-t-il de 68?* Paris: Seuil.
- WEBER, M. 1958 (1904-1905). *The Protestant Ethic and the Spirit of Capitalism*. New York: Scribners.
- WORLD BANK. 1986. *World Development Report*. New York: Oxford University Press.
- YANKOLOVICH, D. 1981. *New Rules: Searching for Self-Fulfillment in a World Turned Upside Down*. New York: Random.
- ZAPP, W. 1990. 'The Role of Innovations in Modernization Theory'. Paper presented at RC2, XIIth World Congress of Sociology, Madrid, Spain.
- ZINOVIEV, A. 1989. 'Why the Soviet System is Here to Stay', in Urban, G.R. (ed.), *Can the Soviet System Survive Reform?* London/New York: Pinter.

Biographical Note: Edward A. Tiryakian is Professor of Sociology at Duke University (Durham, North Carolina), and President of the Association Internationale des Sociologues de Langue Française (affiliated with the ISA). He has published extensively in the areas of theory, sociology of religion, modernity, nationalism, and socio-cultural change.

Address: Department of Sociology, Duke University, Durham, NC 27706, USA.

PROBLEMS OF GENERALISATION IN CROSS-NATIONAL STUDIES OF ORGANISATIONS*

Martin Heidenreich

Abstract This article addresses the issue of how to generalise the results of case studies, which are the main instrument of most cross-national studies on organisations. Drawing on his own studies and those of others, the author reconstructs three ways of dealing with this problem: an 'experimental' procedure resting on the classical approach of comparing 'matched' pairs; a 'holistic', usually interpretive procedure based on the 'cultural' or 'systemic' reconstruction of social totalities and patterns of interdependence; and, lastly, an ideal-type procedure that is grounded in the construction of society-plant constellations that can stimulate an inductive-exploratory way of developing and verifying more general statements. The third procedure is partially illustrated by a Franco-German study previously conducted by the author.

Introduction

A major question in any empirical research is the extent to which the investigator's own results, which are limited in principle, can be generalised beyond the context of the studies that produce them. To put it in methodological terms, for which population(s) can statements based on each of the units of analysis be considered valid?

This problem of generalisation takes on a special form in the sociology of work and organisations – and thereby also in international comparisons. Because the case study of an organisation or plant is the primary instrument for such research (see Lutz and Schmidt 1977), there is always the danger that results will pertain only to the specific plant investigated. As Lutz points out:

Above all, however, the analytical fruitfulness of the concept of plant policies demands a price whose level is just as much a source of disagreement within the discipline as – to use the same metaphor – the best way of paying it. This price is the fact that research findings necessarily arrived at for the individual plant can no longer be taken a priori as either generalisable or socially relevant.

(Lutz 1983 : 175)

When analysing the theoretical conceptions for making it possible to generalise results obtained from international comparative studies of organisational behaviour, one may be surprised at first to find that the patterns of argumentation followed in other types of studies in industrial and organisational sociology cannot be transferred. Non-comparative studies focus primarily on the dynamic aspects of industrial work, that is, on such things as trends, types of logic of development, and the courses of technical and organisational change. For instance, this is true of the three patterns of argumentation that serve, according to Lutz (*ibid.* : 175 ff.), as the grounds on

*This paper was selected by the German jury for the finals of the ISA's Competition for Young Sociologists. It was translated into English by David Antal, Berlin.

which case-study results in industrial sociology can be generalised: conceptions of continuity cast in terms of technological determinism as well as historical-theoretical and empirical-analytical patterns of reasoning. All three are concerned primarily with processes of development.

By contrast, international comparative analyses are usually based on a rather static perspective¹ because the regional, national, or supranational contexts – the specific 'work culture' of a country or its typical patterns of technological and organisational change – are regarded (with some justification) as being relatively stable.²

Proceeding from this analysis, one can distinguish three ways of dealing with problems of generalisation in international comparative research on organisational behaviour. These three approaches, which can also be combined with each other in some studies, are discussed in the following section. In the final section, the third and as yet least defined way is illustrated with a study of my own.

Three ways of dealing with problems of generalisation

In this section, three ways of dealing with (though not necessarily solving) the problem of generalisation are distinguished and contrasted as experimental, 'holistic', and 'ideal-type' procedures. With these three approaches the attempt will be made to arrive at statements whose validity extends beyond merely the plants being studied but whose status differs greatly. In the first case, statements about country-specific interdependencies between generally defined variables are formulated. In the second case, statements are formulated about context-bound interactions between special aspects of a totality that is not disaggregated further by analysis. In the third case, general statements about theoretically conceivable and consistent contexts of meaning are formulated. Unlike statements of the other two types, however, those of the third are not an attempt to reflect reality accurately; as with statements of the second type, their main purpose is to be adequate at the level of meaning (*Sinnadäquanz*) without renouncing the attempt to formulate and test more general statements.

1. *The experimental research design: comparison of matched pairs and limitations thereof.* One of the differences between the social sciences and the natural sciences is that general statements can rarely, if ever, be tested by varying potentially relevant factors. If the intent is to examine relations between work attitudes and features of the work setting, for example, it is hardly possible for social scientists themselves to systematically vary contextual conditions like the social system, the socialisation of the workforce, the organisational structure of the plant, and the leadership model in order to find evidence of the stability of the relations assumed to exist. Although social relations therefore cannot usually be studied under laboratory conditions, there is a procedure by which nomothetic statements can be tested in a similar manner (though not replicated or, hence, checked across subjects). This is the comparative approach. In comparisons, factors of the type outlined above can

be varied systematically, thereby permitting us to show the stability of certain relations.

One goal of comparison can be to provide the logical grounds for generalising particular results. The idea is to take statements about production policies relating to technology, organisation, and labour management, for example, and transfer them to larger populations on the basis of individual case studies or representative surveys. In other words, statements are to be formulated about production policies in specific firms, corporate groups, industries, regions, nations, geopolitical regions (such as the European Community or the Pacific Rim), economic and social systems (East-West), or at different levels of development.

The research design that is supposed to make such generalisation possible is what we call 'experimental' because key aspects of it are comparable to the design of a classical experiment in the natural sciences. Independent and dependent variables are established, with all other potential influences being neutralised appropriately. Causal and non-causal relations between the dependent and independent variables are then determined.

In the cross-national study of work and organisations, the most important method corresponding to this experimental design is the comparison of matched pairs, a special type of the 'most similar design' (see Przeworski and Teune 1970). To maximise contextual independence and the degree to which results can be generalised, the research design is typically constructed as follows:

- (a) The unit about which statements are to be made (often the plant or firm) is defined, as are the populations from which the plants to be studied are selected.
- (b) Certain dimensions of plant policies and plant contexts are defined as relevant on the basis of theoretical considerations. Indicators for these dimensions are chosen, and the conditions are defined under which the characteristics of the observed dimensions are to be regarded as like or unlike.
- (c) *Ceteris-paribus* conditions of matching criteria drawn from the set of relevant dimensions are determined. Then, plants having the same characteristics in these dimensions are selected from the respective populations (regions, nations, industries, etc.). Frequently, the complexity of the production process or the products, the sales-market orientation, technology, or size of firm are held constant.
- (d) Some of the relevant dimensions that remain are incorporated in the model as endogenous variables, others as exogenous variables. Different characteristics of the endogenous variables (such as production policies relating to technology, organisation, and labour management) can then be grouped with the exogenous variables (institutional contexts and systems of social norms and values, for example). Statements about the connection between the selected endogenous and exogenous variables can thereby be formulated under the assumption of certain contextual conditions.

Dore (1973), Lutz (1976), Gallie (1978), Maurice et al. (1982), Sorge et al. (1982), and Jürgens et al. (1989) are all studies based explicitly on the comparison of matched pairs.

Because the comparison of matched pairs is the most frequently used and plausible way of ensuring that results can be generalised, it will not be illustrated here. Let us instead turn directly to the limitations of the experimental research design.

- Integrity of the explanatory model: as in all models, the question is whether all relevant variables have actually been included or controlled for.
- The nation as one of many other possible levels of comparison: to what extent do the relevant contexts of firms actually vary on a national scale? Has the internationalisation of capital strategies and basic politico-institutional conditions already advanced so far that plant strategies are shaped primarily by contexts determined at the supranational level? Or, on the other hand, are the variations of plant strategies within a country just as stark as those between two countries? If so, an explanation at the national level would be devoid of meaning – at least in a research design that treats nations as the context (see Kohn 1989). Would comparison at higher or lower levels of aggregation be more meaningful, or even explanations cutting across territorial units?
- Reference to functionally equivalent solutions: when a uniform set of variables is defined, it is often overlooked that different contextual conditions can be relevant for some plant-related problems experienced in different countries and that all these variables must then be included in the explanatory model.
- Failure to take account of indirect effects: if, for example, the market orientation of plants is held constant in order to study the relationships between industrial relations and production policies, the fact that the choice of a company's product policies may well also be shaped by industrial relations is ignored (see Streeck 1986, for instance). If under such conditions one selects firms similarly oriented to sales, then the indirect (or mediated) relationships between industrial relations and production policies are disregarded. The result is that only the direct relationships are apprehended – or in statistical terms: it has been selected on the basis of the dependent variable.
- The definition and identification of 'comparable' plants: this is not just a practical problem. Dubois (1989) considers it unsolvable because plants always differ in one or more relevant dimensions, which should not be treated as endogenous or exogenous variables. Besides, it is questionable whether researchers ever obtain access to completely comparable plants.
- The non-comparability of comparable plants: if plants or firms having similar characteristics with regard to all the criteria for matched pairs are indeed found, it is conceivable that the one plant is typical in its country, whereas the other tends to be an exception. This is true of medium-sized, export-oriented clothing plants (those with anywhere from about one

hundred to five hundred employees). They are a key pillars of production concepts typical of the clothing industry in the Federal Republic of Germany, but their importance is minimal in France and especially in Italy. It would therefore make no sense to adopt two of the 'classical' criteria for matched pairs (size of firm and sales orientation). In formal terms, the criteria for the sample need not be identical for two different populations – in this case, countries, or the same industries in different countries. Criteria leading to a 'pseudo-representative sample' of plants (in general, a random sample as a condition for representativeness is not possible) in one country can distort the sample in another (see also Dubois 1989).

- Scepticism in respect of context-free definitions of terms and variables: at an even more basic level, there is doubt that a context-free use of concepts and terms is possible (see Przeworski and Teune 1970 : 10). Critics question whether the same terms really mean the same thing in different social contexts. The empirical evidence for this criticism is convincing. Many studies have shown that the categories used in official statistics cannot be compared without some difficulty. A given occupation in Great Britain, for example, entails something completely different from what it does in the Federal Republic of Germany – and has a completely different status in formal and informal negotiating relations on the shop-floor (see Campinos-Dubernet and Grando 1990, or Sorge and Streeck 1987). Maurice et al. (1982) point out that the role of the foreman in France and that in the Federal Republic of Germany cannot be compared. Maurice (1990) generalises this observation to all collective actors whose strategies can be seen only in relation to their respective social contexts. Bechtle et al. (1985) point out that the term productivity means something different in Italy from what it does in the Federal Republic of Germany and that a completely different value is attached to it in the strategies of the respective trade unions.

If the very terms used are the products of social structures and negotiating processes, then the same is just as true of the 'variables' to be measured in the experimental research design. Are there really context-free 'variables' whose characteristics have only to be measured and compared point for point in international studies – as assumed by the Aston group (see Hickson and McMillan 1981)?

This objection, which challenges the universality of the dimensions and concepts of analysis, points to a different methodological orientation as an alternative to the experimental design – the holistic research design.

2. *'Holistic research designs – problems and possibilities.* Approaches classified under this type of research design are responses to criticisms of the experimental approach, which takes constellations of action on the shop-floor and breaks them down into discrete 'variables' and thereby loses its grip on the context of action in its interdependencies and strategic implications. This criticism is expressed in its clearest terms by the researchers of LEST (see

Maurice et al. 1982).³ But even concepts referring to a nation's work cultures and work traditions (d'Iribarne 1989), 'social compromises' (Dubois 1989), or plant strategies (Chave and Düll 1988) do not concentrate much on defining the relevant variables and their characteristics. Instead, such concepts focus on the social structure of the plant's exchange relations and on the internal and external factors conditioning it.

Methodologically, these approaches are attempts to grasp the interaction between various aspects of production policies and the background of the economic and socio-cultural context and to reconstruct the underlying strategies, kinds of logic, and types of regulations or exchange relations. In that sense, no attempt is made to isolate easily measurable 'variables' but to apprehend social phenomena in their totality (see Casassus-Montero 1990 on this point).⁴ Since the French discussion is not the only one to have been strongly influenced by Maurice et al. (1982), this work is presented below in somewhat greater detail than others as the prototype of a 'holistic' research design (see also Rose 1985).

The authors show that the three different aspects of the employment relationships in France and the Federal Republic of Germany are shaped according to a common system of logic that reflects the social character of plant actors in different institutions. These three aspects are the occupational socialisation and mobility behaviour of the employees; the forms of co-operation and power relations manifested in the work structures of a plant, and the ways of managing conflict or industrial relations.⁵ Having studied plants equipped at comparable levels of technology, Maurice et al. (1982) came to the following conclusions:

1. Much more value is attached to the system of initial vocational (dual) training in the Federal Republic of Germany than in France because many French employees have only a general secondary education. Status within a French plant, at least at the beginning of working life, thus depends mostly on having completed secondary school. Vocational training is of little significance.
2. The impact that seniority has on advancement within the plant is considerably higher in France than it is in the Federal Republic of Germany.
3. The organisation of work in West German plants is based on so-called master craftsmen teams (senior craftsmen, foremen, and, especially, skilled production workers), which are relatively autonomous in a certain area of work and which can rely on broad and flexible labour deployment that has been systematically developed. In French plants, by contrast, these multiple qualifications and frequent task reassignments are blocked by a job classification system keyed to job requirements rather than to the qualifications of the employee. Because of this wage system, each change of job within the more hierarchical and formalised plant structures can amount to upgrading or downgrading. That is why personnel reassignments are avoided whenever possible. Accordingly, the occupational autonomy of skilled West Germany workers is greater than that of their French counterparts. Linked with this broad occupational autonomy is the fact that there are fewer foremen, that is, a larger 'range of control'. Incidentally, these foremen legitimate their role

more through their technical competence than through their position in the hierarchy.

4. This organisation of work is buttressed by the apprenticeship system because the training of master craftsmen and graduate engineers builds on their training as skilled workers. In France, however, the role of an immediate supervisor is defined less by technical and professional competence; the corresponding tasks tend to be performed by special technical staff. French foremen owe their positions to their seniority and experience within the plant, not necessarily to specialised knowledge in the field. Because French supervisors have less technical expertise than German master craftsmen, their position in the plant is weaker.

5. Since upgrading and personnel reassignments in France are managed uniformly at the company level beyond the jurisdiction of the master craftsmen, and because advancement within the French plant depends largely on seniority, the system of industrial relations within the plant is more centralised in France than in the Federal Republic of Germany. Conflicts are not handled within departments between master craftsmen, employees, and shop stewards; instead, they tend to be dealt with between the plant management, personnel departments, and employee representatives. In French plants, then, the technical control of the production process is decentralised, whereas labour management is centralised. In West German plants, by contrast, technical and social management of production are handled at the departmental level. This decentralisation of the levels of conflict and negotiation makes for pragmatic and cooperative relations between the works council and the firm, a tendency that is reinforced by the legal obligation of the works councils to preserve harmony within the plant and by the organisational independence of the works councils from a trade union. Thus, works councils and firms seem to strive jointly to keep the peace within the plants and to make them an arena free of conflict. This effort is promoted by the organisational independence of the works councils from external trade unions.

The objective of the authors, however, is not only to analyse these differences in isolation but to work out a coherent pattern or underlying logic according to which these differing aspects of employment relationships are shaped. They assume that country-specific differences reinforce each other through interaction between the three policy areas studied (qualifications and vocational training, work structures, and industrial relations). The actors on the shop-floor and the constellations of action of which they are a part are thus influenced by these specific national patterns of industrial relations, training systems, and work structures.

The complexity of the resulting explanatory models and the comprehensive and coherent interpretation of plant strategies are bought at the price of limiting the range of generalisation that is possible. This trade-off ensues from the effort to grasp the particularity of individual constellations of action and explain them (often from a historical perspective). One can 'compare the incomparable' only by contrasting intact 'totalities', not by comparing variables and their characteristics.

3. *The creation of ideal types.* Unlike the experimental procedure, 'holistic' analysis takes into account the fact that social phenomena are embedded in a social context. Admittedly, one can construct highly complex explanatory models that are, above all adequate at the level of meaning, but the price is that the results are restricted to the units of analysis. These units may be aggregates as large as those used by Maurice et al. (1982) who chose countries. In that case, further generalisations might not be necessary, and the limits of the statements derived can be accepted on the grounds that much can be learnt from careful and extensive case studies – at least far more than from largely shallow and banal generalisations.

But the researcher seeking to formulate statements and concepts of a more general nature will encounter theoretical problems that social scientists and epistemologists have been grappling with since at least the methodological dispute between Schmoller and Menger of 1883–84 – the question of how general statements can be arrived at in the humanities, where analytical attention is usually focused on something historically unique. One possible answer to this question is the ideal type proposed by Max Weber. Despite all its epistemological problems (see Pfister 1928; Janoska-Bendl 1965; and Küttler 1986, for example), it still appears to be a suitable response for our empirical purposes. Before discussing this view with an example, let us first present the concept of the ideal type and some of its implications.

As Weber explained in his famous essay on objectivity, the ideal-type:

mental construct unites certain interactions and phenomena of historical life into an internally consistent cosmos of conceptualised relationships. Substantively, this construction has the character of a utopia per se that is arrived at through the mental accentuation of certain elements of reality.

(Weber 1968 : 42–3)

The ideal type is characterised by its adequacy at the level of meaning and by internal consistency:

In order to give a precise meaning to these terms, it is necessary for the sociologist to formulate pure ideal types of the corresponding forms of action which in each case involve the highest possible degree of logical integration by virtue of their complete adequacy on the level of meaning. But precisely because this is true, it is probably seldom if ever that a real phenomenon can be found which corresponds exactly to one of these ideally constructed pure types.

(Weber 1978 : 10)

Ideal-type concept formation is especially engaging because it is not intended to be a description of reality. However, the ideal type can be compared with reality and, hence, can be said to have a heuristic function. Because the ideal type is an instrument, a 'measuring stick', for revealing historical particulars and because it can serve as a basis for causal explanations (see Weber 1968 : 159), it is interesting for international comparative research, one objective of which after all is to offer general, empirically supported statements. But one must bear in mind that ideal types are always mental constructions whose meaning and importance in reality first have to be shown. In the process, the

deviations from patterns of action taken as ideal types are just as illuminating as actions that 'conform to the type'.

Implicitly or explicitly, many international comparative studies contain references to ideal-type constructions. Writing about technology, the organisation of work and employment, for example, Dubois (1989) describes social compromise structures that are typical for socialist and capitalist countries, respectively, and that cannot be found empirically in the pure form in which they are described. (In every socialist national economy, aspects of the market economy are becoming very important and are receiving ever more official sanction.) By comparing empirical observations with the reconstructed patterns of socialist and capitalist societies one can identify particulars and perhaps interpret them as processes of change or as special historical features.

The kinds of social logic expressed by Maurice et al. (1982), and the interaction of the training system and employment system, as described by Lutz (1976), can be used as ideal types to examine, for example, whether and to what extent Spanish, Portuguese, Italian, or even Latin American, work structures differ from the French pattern. Presumably, features of training systems, systems of industrial relations, and principles of work organisation in Romance countries can be shown to be quite similar. If the description of the French model is therefore generalised into a certain 'Romance' ideal type, then differences and similarities between the countries just mentioned can be pointed out and national institutions and value systems explained.

Formulating the French model of organisation as an ideal type would be highly advantageous not only for the study of similar national patterns but also for a differentiated analysis within a national arena of action. The authors just cited would no longer have to ignore obvious differences within a country but could instead treat them as interesting variations of the national norm that need to be explained. This is true, too, of variations specific to a particular industry (on this point, see Campinos-Dubernet and Grando 1990). But that is not all. The major ways in which the regions of the Loire and Alsace differ from the traditional industrial centres in the North and in Lorraine could also be systematically related to a national norm.

In practical terms, the construction of ideal types is a major aid in the researcher's reasoning process because an ideal type can be proposed before the variations of plant policy must be examined. By contrast, it often seems as if researchers building their explanatory models are presently inclined to forget (or to avoid mentioning) all the plant's special features that they encountered in their empirical work. The necessity of formulating empirically more appropriate, yet more highly aggregated, patterns of explanation seems to encourage the tendency to 'measure everything by the same yardstick'. We consider it more fruitful first to formulate general, consistent and explicable models that do not yet have to reflect reality in every detail ('reducing complexity') so that variations can be studied afterwards ('allowing for "interesting" complexity'). In this way ideal types are a kind of tool for us.

How can ideal types be scientifically categorised? How can their special attraction in the cross-national study of organisations be explained? Which problems and challenges are entailed by their use?

Hempel (1965 : 161) analyses ideal types as an 'attempt to advance concept formation in sociology from the stage of description and "empirical generalisation", which is exemplified by most classificatory and ordering types, to the construction of theoretical systems or models'. He points out that ideal types are theories that do not differ in principle from explanations in the natural sciences; 'their heuristic function is to aid in the discovery of regular connections between various constituents of some social structure or process' (ibid. : 165-6). Therefore, 'the method of ideal types becomes indistinguishable from the methods used by other scientific disciplines in the formation and application of explanatory concepts and theories' (ibid. : 171). However, this convincing argument that ideal types could basically be replaced does not help in the analysis of social science procedures (Lazarsfeld 1962). It overlooks the limitations on the empirical testing of general laws in cross-national research on organisations – and it is those limitations that explain the attraction of ideal types and what they can contribute to knowledge.⁶

In international comparative organisational sociology, theoretically satisfactory models must contain a large number of economic, socio-cultural, political, technical, structural, and other variables, whereas the number of societies that can be studied is very restricted.

Can the entire content of system residua be exhausted? The answer in principle is positive. Since the number of societies, cultures of political systems is highly limited and the number of relevant variables is very high, however, we may often find that explanatory systems will be overdetermined. The number of observations or degrees of freedom will be too small to allow consideration of all relevant factors. This disparity between the model and the practice of science will result in statements that will generally have a historical residuum – statements in which names of social systems will be cited after theoretical explanations have been exhausted. Although 'specific' factors may not be completely removed, they are reinterpreted as residua from theoretical explanation.

(Przeworski and Teune 1970 : 30)

By reducing the number of variables to be studied, one can test nomothetic-like statements but also considerably reduce the scope of one's explanation (see, for example, Hickson and McMillan 1981). That is why the theoretical integration of small-group and large-group research results is difficult, if not impossible (cf. the suggestion by Ragin 1989, however). In cross-national organisational research, it may be that methodologically unsatisfactory forms of movement are all that exist between the devil of unsophisticated models and the deep blue sea of complex but ungeneralisable descriptions.

One way of dealing with the dilemma posed by high complexity and a small number of cases, on the one hand, and the aspiration of formulating and testing general laws, on the other, is to create ideal types. They constitute a suitable tool for conveying the complexity of case-study research in an incompletely explained, but very 'compact' figure,⁷ and for keeping the way open for the formulation of general statements stimulated by an exploratory-inductive procedure (see Nowak 1989).

However, at least two things are required of an ideal type in order for it to facilitate a scientific discussion about the integrity (*Adäquanz*) of the implied explanatory model, and, if need be, to falsify, differentiate, or expand on some

of the assumptions on which it is based. First, the concepts used and their presumed empirical interrelations must be explained in the most inclusive terms possible. Second, the greatest possible number of different realities must be brought to bear as the premise for the further inductive development and supplementation of the ideal types construed.

Based on my own study of the French and West German clothing industry, the following section is a description of how ideal-type patterns of consensual and non-consensual ways to increase the flexibility of production were constructed and how such patterns can be used.

An example of how to form and use ideal types – consensual and non-consensual policies for increasing flexibility in the Federal Republic of Germany and France

A Franco-German study was the framework in which processes of change within plants were to be reconstructed and corresponding ideal types conceived (see Heidenreich 1990). This was done in three steps, each at the micro-level (the 'firm') and the macro-level (the 'nation' or society). First, the market and production concepts pursued by the plants since the mid-1970s in the two countries under study were reconstructed and interpreted as divergent forms of plant policies on increasing flexibility. These results were then explained in terms of interdependencies between the context's socio-cultural factors and production policies. Second, these empirical results served as the point of departure for constructing types of plant policies on increasing flexibility and types of relevant contextual factors. The idea of the third step was to link these ideal types back to empirical observations by asking which special historical and institutional features help explain how these patterns are varied and combined in other national contexts, regions and other industries.

1. *Structural change in the French and West German clothing industry.* In this sub-section the market and production concepts chosen in the French and West German clothing industry since the mid-1970s are described. The term 'concepts' is used to refer to patterns of production and market policies that are pursued in relevant sectors of an industry. The reconstructed patterns of structural change are subsequently explained in terms of socio-cultural context factors, which are primarily understood to mean national systems of industrial relations, vocational training, and industrial policies. The policies pursued in French and West German clothing firms in response to the changes on the clothing market are described first. These changes have been observed in both countries since the mid-1970s, and they coincide with increased international competition, changes in consumer preferences, and a relative stagnation or decline in the demand for clothing.

A systematic analysis of production policies, which are different in France and the Federal Republic of Germany, can begin with the question of how plants in the two countries increase the flexibility of their manufacturing processes, that is, how they have increased their capacity to deal with complex environmental conditions, their 'requisite variety'. When increasing the flexibility of manufacturing processes, firms can tie into the three different

dimensions described by Braczyk, Knesebeck and Schmidt (1982) by using more flexible technologies, creating more flexible work structures, or making greater use of the workforce's productive capacity. This is called increasing the flexibility of technology, organisation and personnel.⁸

On the whole, it was possible to reconstruct four different production concepts (and, hence, different patterns for increasing flexibility). Three were pursued in France; one, in the Federal Republic of Germany. The three French production concepts can be described as follows:

1. Production in large factories with limited flexibility: the post-war 'Taylorist' production concept is developed to move toward streamlined production by elaborate production-planning systems and by a more socially integrated workforce working for a relatively calculable, albeit unstable, market. This production concept is usually found in large plants. In many cases, the stability of the workforce's employment prospects is protected by externalising production, primarily in the national context. For the most part, however, the focus is not on greater social integration of the workforce but primarily on more flexible work structures. This emphasis tends to permit the perpetuation of hitherto piecemeal standardised tasks despite increased demands for flexibility. New organisational technologies are precisely what can help entrench these principles of work structuring. All in all, the emphasis is on a definite increase in organisational flexibility combined with only limited use of the workforce's flexibility.

2. The spread of sub-contracting: firms with their own production capacity, that is, specialised firms with small workforces (including department stores and mail-order firms) assume the creation and marketing of apparel. They use sub-contractors – whom they usually supply with fabric – only for cutting, assembling and finishing. About one third of the employees in the French clothing industry worked in sub-contracting firms in 1982. The production concepts of these plants are presumed to be aimed at increasing the flexibility of the production process by drawing broadly on the motivations and qualifications of the employees. In these plants, most of the emphasis is on the flexibility of the workforce; little or none is placed on organisational flexibility.

3. Revival of the classical form of the putting-out system: in addition to the client who creates and markets the products, there is a 'sweater', or 'putter out', who employs the workers in his/her home or as an outworker and who assumes the planning and control of the production process. This system is made possible only by using workers (especially women and foreigners) who cannot or will not press legal or union-backed claims to a minimum wage, regular working hours, protection from dismissal and collective representation. Under this work arrangement, the emphasis is almost solely on the flexibility of the workforce.

By contrast, it is less common for native sub-contractors in the Federal Republic of Germany to work to the order of such a merchant or putter out

than is the case in France. The two most important advantages of this production structure, the reduction of labour costs and the additional reserves of flexibility that become available – usually accrue to West German clothing firms in a different way. In the Federal Republic of Germany internationalisation is sought even by medium-sized firms because it is a functionally equivalent solution to the problem of high labour costs. By contrast, increased production flexibility is not sought externally (as in France) as much as internally through the creation of more flexible technical-organisational structures. For that reason, the production concept centred on the medium-size and large firm is the only one of significance in the Federal Republic of Germany. Another special feature is the greater relative importance placed on flexible labour policies in the Federal Republic of Germany as opposed to increased technical-organisational flexibility emphasised in France. 'Residual market production' is handled in more flexible technical structures with a workforce that can be variously deployed.

Let us summarise the discussion thus far:

1. In the Federal Republic of Germany, higher and lower demands pertaining to flexibility are decoupled by selectively allocating the former to domestic sites and the latter to foreign sites. This strategy has led to a selective increase in flexibility, particularly in domestic manufacturing plants. In the French clothing industry, however, a wide range of demands of flexibility were dealt with domestically. In this sense one can say that lower and higher demands of flexibility have been coupled.

2. In the Federal Republic of Germany, medium-size and large clothing plants pursue production policies that suggest a coupling of personal flexibility and organisational flexibility. In France, these two ways of increasing the flexibility of production tend to be decoupled from one another. In small plants priority is put on the productive capacity and self-management of the workforce, whereas in large firms broad deployment of the workforce is restricted in favour of complex, frequently EDP-aided, organisational structures and a variety of incentive-wage policies.

The choice of these national patterns of production policies for increasing flexibility becomes understandable when one looks at the macro-level institutional factors that interact with production policies which are characterised by similar kinds of logic. We are focusing particularly on interdependencies between production policies and three socio-cultural contextual factors of enterprises (industrial relations, systems of vocational training and government support programmes).

– The special structure of West German industrial relations facilitates a largely harmonious internationalisation of production as well as a large measure of workforce flexibility, whereas the structure of industrial relations in France encourages a shift of production to sub-contractors and putting-out systems and an increase in organisational flexibility in

large plants. In the one country, the creation of high-trust relations within the plant is facilitated by the dominant pattern of industrial relations; on the other low-trust relations are institutionally pre-structured.

- Because of the different system of vocational training, French firms cannot require the same professional background as West German firms can when production policies change. Although the proportion of qualified workers has risen in recent years, it still lags far behind that of West Germany. Hence, the professional and normative implications of an apprenticeship that could serve as a foundation for policies designed to increase the flexibility of the workforce in large plants have been lacking in France. The 'incentive' to change the 'Taylorist' model for the organisation of work by increasing the professional involvement of employees has thus been absent. For that reason, decision-makers have opted to enhance organisational flexibility – largely with policies that allow the scope of a job (not its intensity) to be restricted by structural arrangements and increased advance planning.
- Even the industrial policies of the state conform to the respective national patterns of ways to increase flexibility. In West Germany, industry-wide projects conducted as part of the government's effort to improve the quality of working life became the forum for the cooperative testing of policies designed to increase the flexibility of the workforce. In France, however, the government provided investment grants only. The attempts to stimulate cooperative participation and representation (through the Auroux laws, for instance) have had no notable impact on the clothing industry.

These observations conclude the description of the processes of change in the West German and French clothing industry and the identification of possible interactions with socio-cultural factors of the context in which firms operate.

2. *Consensual and non-consensual policies for increasing flexibility.* The second step is to construct two ideal types of plant policies for increasing flexibility. These two ideal types should also encompass the socio-cultural context of plant policies. They are thus clusters of mutually consistent conditions at the micro-level (the shop-floor) and the macro-level (society at large). We call these two policy patterns consensual and non-consensual forms of increasing flexibility. They have the following characteristics:

1. The key difference at the plant level is the higher or lower degree of social integration⁹ characterising the patterns of change that have been described for the French and West German clothing industry.¹⁰
2. This difference corresponds to the different relative value attached to personnel-centred and organisation-centred policies for increasing flexibility. Whereas a consensual approach to increasing flexibility is oriented more to personnel components – and thus to a broader range of tasks, greater elasticity

of deployment, and wage policies that are not linked solely to output targets – a non-consensual approach is based primarily on new control and organisation technologies and on more flexible technical equipment.

3. Usually it is not possible for product policies to be identical either; organisational strategies have only limited potential for increasing flexibility. In the specific case of the clothing industry, this means that policies to increase the flexibility of the workforce reinforce a concentration on high-fashion or high-quality products manufactured in small lot sizes ('residual market production') and vice versa, whereas organisational policies to increase flexibility tend to promote larger-scale production.
4. Just as production policies for increasing flexibility differ, so does the degree of required motivation and qualification. In other words, the broad deployment of the labour force can be contrasted with its restricted Tayloristic use.
5. The formalised negotiating relations in the plant, that is, industrial relations on the shop-floor, are marked either by broad consensus about the 'good of the plant' or by the view that the interests of management and those of the employees are antagonistic. The latter attitude reflects the tense, if not outright adversarial, relations pitting the workforce and its representatives against management.
6. On the social level, these work relations within the plant are complemented by correspondingly cooperative or non-cooperative industrial relations.
7. The societal ways of providing occupational skills and 'expertise' also match the consensual patterns of ways to increase flexibility. This function is not necessarily fulfilled by formalised training systems; family structures, regional working and industrial cultures, or professional associations can do it as well.
8. Government action in its many and varied aspects can also reflect the respective patterns of approaches to increase flexibility.

These eight points are aimed at providing a coherent and consistent reconstruction of plant policies for increasing flexibility and of their social contexts. There is no claim that they describe reality, however. Instead, possible discontinuities, trends and combinations of change are intentionally disregarded in order to have a general analytical measuring stick for describing plant-related, regional, industry-wide, national, international, or other patterns of ways to increase flexibility.

Before contrasting these ideal types with empirical observations in the next section, we shall turn to the analytical link between the plant and society at large, the two levels involved in our ideal types. We shall establish this link by beginning with the question of how socio-cultural contexts can be important for plant policies.

First, we define the term of socio-cultural contexts as the socially embedded patterns of norms and values that characterise job-holders, including their work behaviour, interests and motivation. Through the conscious use – or neutralisation – of this social ‘preshaping’ of work behaviour, it is possible to increase the degree to which certain types of employee behaviour can be expected. Herein lies the significance that socio-cultural contexts have for plant policies.

The following aspects of this concept must be stressed:

- ‘Culture’ is not conceived of as an independent social sub-system; it is defined in relation to plant concepts of labour deployment.
 - Just as the choice of corporate policies is a function of the availability or non-availability of certain social models for integrating work behaviour, plant policies have an impact on socio-cultural contexts.
 - Socially preshaped patterns of labour deployment cannot be used ‘free of charge’ in the plant; drawing on regulatory models outside the plant always also limits the latitude for moulding plant concepts of utilisation. For example, if ‘professional’ work attitudes are emphasised, then major friction can be avoided only if the employees recruited are, in fact, treated as experts or skilled workers by means of appropriately defined tasks and bonus policies. In a certain way organisations thereby depend on a structural ‘isomorphism’ with the institutions whose socialisation input they use.
 - Patterns of social norms and values have a certain temporal and material continuity. This stability is ensured partly by institutions like the system of industrial relations or vocational training, in which workers acquired some of their work-related expectations and orientations to action. To that extent, we can consider such institutions as ‘reified’ forms of social norm and value systems and thus as relatively stable reference points for models of plant integration.
3. *On work with ideal types.* This section presents an initial short list of planned and possible ways of working with the ideal types just outlined.
- Both ideal types are focused on the reciprocal stabilisation of plant policies and societal contexts. Beginning with the previously indicated positive feedback loops, one can look for factors that bring about ‘cultural’ discontinuities or breaks with tradition.
 - One aspect being studied in a current research project¹¹ is the extent to which the described non-consensual model for increasing flexibility in France and Italy (countries with a similar socio-cultural context) is being varied. Likewise, the ways of using these contextual factors in plants of the clothing and electronics industries are being compared and the variations specific to each of the two industries recorded (see GIFT 1990).
 - Other investigations have already established that national patterns can also be regionally discontinuous or even neutralised. For example,

studies in some regions of Central Italy (such as Emilia-Romagna) and France (Alsace) suggest that the policies pursued there to increase flexibility enjoy a high degree of consensus and thus clearly diverge from the dominant national patterns. This observation raises the question of regional traditions and special features by which national institutions and systems of norms and values can be neutralised (such as by replacing an underdeveloped formal system of vocational training with regional contact networks and local labour markets that impart vocational skills as well).

It is therefore necessary and important not to stop with the construction of ideal types but to compare them with a variety of empirical findings in order to analyse empirical hybrids and historically explicable variations and processes of change.

A key objective of this article is to warn of the all-too naive adoption of universalist assumptions and strategies of concept formation in comparative studies of organisational behaviour and to draw attention to the social character of what is being studied. It may be that resorting to a methodological concept as laden with tradition as the ideal type makes it possible to respect the special properties of the subjects investigated in cross-national studies without renouncing the goal of arriving at general statements.

Notes

1. Cf. the observations that Maurice (1990) makes about ways to include dynamic aspects in the approach of ‘societal effect’.

2. For example, see d’Iribarne (1989), who alludes to traditions of work and social relations that may be centuries old.

3. Its roots, however, go back to Weber: ‘It is important to realise that in the sociological field as elsewhere, averages, and hence average types, can be formulated with a relative degree of precision only where they are concerned with differences of degree in respect to action which remains qualitatively the same. Such cases do occur, but in the majority of cases of action important to history or sociology the motives which determine it are qualitatively heterogeneous. Then it is quite impossible to speak of an ‘average’ in the true sense’ (1978 : 10).

4. The contrasting of the experimental and the ‘holistic’ designs, which are the most important nomothetic and idiographic approaches in the field of cross-national studies of organisations, has parallels in the positivist dispute in West German sociology. See, for instance, the following early passage from works of the Frankfurt School, which turned against positivist sociology in the Comtean tradition and which sowed the seeds of the later positivist dispute: ‘Mere induction replaces the awareness of society’s dynamic totality. . . . Only when the collection of all the tenets on record has been completed would it be time to formulate the comprehensive and obligatory theory. But even where one speaks of the whole, it is thought of in terms of ‘a world that can be fabricated out of elements’. From the outset, positivist sociology breaks subjects down into the social sectors of which they are simultaneously a part, such as family, occupation, religion, party, residential area. It keeps to classification lists; the interdependence of those aspects is not comprehended’ (Institut für Sozialforschung 1956 : 12).

5. Maurice et al. (1982 : 12) label these three aspects *rapport éducatif ou rapport professionnel, rapport organisationnel, and rapport industriel*.

6. Hence, we do not presume that social phenomena are incomparable in principle (cf. Przeworski and Teune 1970 : 10–1). But given the fruitfulness of intensive case-study research (see Ragin 1989), we do consider a typological procedure necessary despite its weakness from the standpoint of a general theory of science drawing on ideals of the natural sciences. Kohn (1989 :

23) seems to take a similar position. Although he accepts the goal of transforming 'nations' (as explanatory factors that are not specified further) into explicit, explanatory 'variables', he draws attention to the paramount significance of the methodologically less satisfactory research design ('nation as context of study' as opposed to 'nation as unit of analysis').

7. Corradi (1990) uses the metaphor in a similar vein. In a completely different discipline – artificial intelligence – the inadequacy of rules or logical statements in attempts to depict complex routine situations likewise led to the development of highly aggregated ways of representing knowledge (frames, scripts). Hayes (1985) shows that such constructs which are similar to ideal types can be broken down into simple rules and statements without compromising the pragmatic utility of frames.

8. For greater detail, see Heidenreich (1990 : 81 ff.) and Fischer and Minssen (1986 : 67).

9. See Lockwood (1964). Drawing on Weber, one can distinguish two forms of social integration called 'higher' and 'lower' for short in the present context. In the one case, the behaviour of the employees is integrated solely by tying into their immediate interests; in the other, certain kinds of behaviour are elicited and stabilised normatively as well. The latter requires a common foundation of consensus between management and the workforce.

10. In the Federal Republic of Germany, policies for increasing the flexibility of the workforce tend to emphasise the employees' normative integration as well, especially among qualified seamstresses, who are deployed as 'agents of flexibility'. All three French production concepts, on the other hand, are based more on the extrinsic motivation of the employees. Normative integration is minimal in large plants as well as among sub-contractors and in the *sentier*, the third French production concept.

11. 'New Technologies and Political Processes in the Plant – Paths for the Implementation and Forms of Use of Information and Communication Technologies in Production Control within French, Italian and West German Firms', conducted at the Universities of Bielefeld, Bologna and Paris X under the direction of Gert Schmidt (1989–91) and funded by the *Deutsche Forschungsgemeinschaft (DFG)* and the PIRTEM.

References

- BECHTLE, G., HEINE, H. and SCHMIDT, G. (in collaboration with Stefano Boffo et al.). 1985. 'Ökonomische Krisentendenzen, betriebliche Rationalisierungspolitik und Entwicklung industrieller Beziehungen – Veränderungsimpulse in Italien und in der Bundesrepublik Deutschland'. Discussion Paper No. 11 of the Research Unit 'Future of Work', University of Bielefeld.
- BRACZYK, H.-J., KNESEBECK, J. v.d. and SCHMIDT, G. 1982. 'Nach einer Renaissance. Zur gegenwärtigen Situation von Industrie- und Betriebssoziologie in der Bundesrepublik Deutschland'. *Kölnische Zeitschrift für Soziologie und Sozialpsychologie* 24 : 16–56.
- CAMPINOS-DUBERNET, M. and GRANDO, J.-M. 1990. 'International vergleichend angelegte Branchenstudien: Untersuchungsfelder, Ziele und Methoden', in Heidenreich, M. and Schmidt, G. (eds.), *International vergleichende Organisationsforschung*. Opladen: Westdeutscher Verlag. pp. 170–179.
- CASASSUS-MONTERO, C. 1990. 'Distanzierung und theoretische Neubestimmung des Untersuchungsobjektes im internationalen Vergleich', in Heidenreich, M. and Schmidt, G. (eds.), *International vergleichende Organisationsforschung*. Opladen: Westdeutscher Verlag. pp. 27–40.
- CHAVE, D. and DÜLL, K. 1988. 'Espaces nationaux, espaces stratégiques. Contribution à la table ronde "La comparaison internationale dans l'étude du travail industriel: problèmes méthodologiques"'. Paris, 1–3 June.
- CORRADI, C. 1990. 'Metaphorical Structure of Sociological Explanation'. Unpublished paper submitted to the First ISA Worldwide Competition for Young Sociologists. Rome.
- DORE, R. 1973. *British Factory – Japanese Factory*. Berkeley: University of California Press.
- DUBOIS, P. 1989. 'L'universel, le national et le cas de figure. A propos de comparaisons avec des pays d'Europe de l'Est'. *Sociologie du Travail* 2 : 193–204.
- FISCHER, J. and MINNSEN, H. 1986. *Neue Leistungs- und Arbeitsstrukturpolitik in der Bekleidungsindustrie. Arbeitsstrukturierung und Produktionsflexibilität*. Frankfurt/New York: Campus.
- GALLIE, D. 1978. *In Search of the New Working Class*. Cambridge: Cambridge University Press.

- German-Italian-French Research Team on New Technologies (GIFT). 1990. 'Computer and Culture in Organizations. The Introduction and Use of Production Planning Systems in French, Italian and German Enterprises'. Working Paper No. 50 of the Research Unit 'Future of Work', University of Bielefeld.
- HAYES, P.J. 1985. 'The Logic of Frames', in Brachman, R.J. and Levesque, H.J. (eds.), *Readings in Knowledge Representation*. Los Altos, CA: Morgan Kaufmann. pp. 287–96.
- HEIDENREICH, M. 1990. *Nationale Muster betrieblichen Strukturwandels. Am Beispiel der französischen und bundesdeutschen Bekleidungsindustrie*. Frankfurt/New York: Campus.
- HEMPEL, C.G. 1965. 'Typological Methods in the Natural and Social Sciences', in Hempel, C.G., *Aspects of Scientific Explanation and Other Essays in the Philosophy of Science*. New York: Free Press. pp. 155–71.
- HICKSON, D.J. and McMILLAN, C.J. eds. 1981. *Organization and Nation. The Aston Programme IV*. Westmead: Gower.
- Institut für Sozialforschung. ed. 1956. *Soziologische Exkurse. Nach Vorträgen und Diskussionen*. Frankfurt/Cologne: Europäische Verlagsanstalt.
- d'IRIBARNE, P. 1989. *La logique de l'honneur. Gestion des entreprises et traditions nationales*. Paris: Seuil.
- JANOSKA-BENDL, J. 1965. *Methodologische Aspekte des Idealtypus. Max Weber und die Soziologie der Geschichte*. Berlin: Dunker und Humblot.
- JÜRGENS, U., MALSCH, T. and DOHSE, K. 1989. *Moderne Zeiten in der Automobilindustrie. Strategien der Produktionsmodernisierung im Länder- und Konzernvergleich*. Berlin/Heidelberg: Springer.
- KOHN, M.L. 1989. 'Introduction', in Kohn, M.L. (ed.), *Cross-National Research in Sociology*. Newbury Park/London/New Delhi: Sage. pp. 17–31.
- KÜTTLER, W. 1986. *Marxistische Typisierung und idealtypische Methode in der Geschichtswissenschaft*. Berlin (East): Dietz.
- LAZARSELD, P.F. 1962. 'Philosophy of Science and Empirical Social Research', in Nagel, E., Suppes, P. and Tarski, A. (eds.), *Logics, Methodology, and Philosophy of Science*. Stanford: Stanford University Press.
- LOCKWOOD, D. 1964. 'Social Integration and System Integration', in Zollschan, G.K. and Hirsch, W. (eds.), *Explorations in Social Change*. London: Routledge and Kegan Paul. pp. 244–257.
- LUTZ, B. 1976. 'Bildungssystem und Beschäftigungsstruktur in Deutschland und Frankreich – Zum Einfluss des Bildungssystems auf die Gestaltung betrieblicher Arbeitskräftestrukturen', in Institut für Sozialwissenschaftliche Forschung e.V. (ed.), *Betrieb – Arbeitsmarkt – Qualifikation*. Frankfurt/Munich: Campus. pp. 84–151.
- LUTZ, B. 1983. 'Technik und Arbeit – Stand, Perspektiven und Probleme industriesoziologischer Technikforschung', in Schneider, C. (ed.), *Forschung in der Bundesrepublik. Beispiele, Kritik, Vorschläge*. Weinheim: Verlag Chemie. pp. 167–87.
- LUTZ, B. and SCHMIDT, G. 1977. 'Industriesoziologie', in König, R. (ed.), *Handbuch der empirischen Sozialforschung*, Vol. 8. Stuttgart: Enke. pp. 101–262.
- MAURICE, M. 1990. 'Methodologische Aspekte internationaler Vergleiche: Zum Ansatz des gesellschaftlichen Effekts', in Heidenreich, M. and Schmidt, G. (eds.), *International vergleichende Organisationsforschung*. Opladen: Westdeutscher Verlag. pp. 91–105.
- MAURICE, M., SELLIER, F. and SILVESTRE, J.-J. 1982. *Politique d'éducation et organisation industrielle en France et en Allemagne*. Paris: Presses Universitaires de France.
- NOWAK, S. 1989. 'Comparative Studies and Social Theory', in Kohn, M.L. (ed.), *Cross-National Research in Sociology*. Newbury Park/London/New Delhi: Sage. pp. 34–56.
- PFISTER, B. 1928. *Die Entwicklung zum Idealtypus. Eine methodologische Untersuchung über das Verhältnis von Theorie und Geschichte bei Menger, Schmoller und Max Weber*. Tübingen: J.C.B. Mohr.
- PRZEWORKSI, A. and TEUNE, H. 1970. *The Logic of Comparative Social Inquiry*. New York: Wiley.
- RAGIN, C. 1989. 'New Directions in Comparative Research', in Kohn, M.L. (ed.), *Cross-National Research in Sociology*. Newbury Park/London/New Delhi: Sage. pp. 57–76.
- ROSE, M. 1985. 'Universalism, Culturalism and the Aix Group: Promise and Problems of a Societal Approach to Economic Institutions'. *European Sociological Review* 1 (1) : 65–83.

- SORGE, A. and STREECK, W. 1987. 'Industrial Relations and Technical Change: the Case for an Extended Perspective'. Discussion Paper No. IIM/LMP 87-1 of the Wissenschaftszentrum Berlin.
- SORGE, A. et al. 1982. *Mikroelektronik und Arbeit in der Industrie*. Frankfurt/New York: Campus.
- STREECK, W. 1986. 'Kollektive Arbeitsbeziehungen und industrieller Wandel: Das Beispiel der Automobilindustrie'. Discussion Paper No. IIM/LMP 86-2 of the Wissenschaftszentrum Berlin.
- WEBER, M. 1968. *Methodologische Schriften*. Introduced by J. Winckelmann. Frankfurt: Fischer.
- WEBER, M. 1978. *Economy and Society: An Outline of Interpretive Sociology*. Ed. by G. Roth and C. Wittich. Berkeley/Los Angeles/London: University of California Press.

Biographical Note: Martin Heidenreich, Ph.D., was born in 1956. His studies in the social and economic sciences were conducted in Bielefeld, Paris and Bologna. His main focus of research centres on work and technology in a comparative international perspective.

Address: Fakultät für Soziologie, Universität Bielefeld, Postfach 8640, D-4800 Bielefeld, FRG.

UNINTENDED CONSEQUENCES: A TYPOLOGY AND EXAMPLES*

Patrick Baert

Abstract This paper addresses the question: what is an unintended consequence? It presents a classification which enables us to understand different types of unintended consequences. The classification refers to several questions: whether or not the effects are social, whether they are desirable, whether they fulfil the initial intention, whether they are unanticipated, and whether they occur later than the initial action. The classification is used to deal with the phenomenon of unintended-but-anticipated consequences and is exemplified by the cases of sub-optimality, counter-finality and structuration.

Introduction

The notion of unintended consequences has often been referred to in sociology. Although this sociological concept was first systematically developed by the functionalists, it is also a central idea in many other theoretical strands, for example, in rational choice theory, in organic theory or in figuration sociology.¹ In this context, the basic questions underlying this paper are: what is an unintended consequence? What forms can it take? Alternatively, one may ask: what is an adequate typology of unintended consequences? The main aim of this paper is to present such a classification.

The outline of the paper is threefold. I shall first discuss what we understand by 'unintended consequences'. Secondly, in the main part, I develop the typology. Thirdly, I briefly demonstrate the usefulness of the typology by applying it to the problem of the duality of structure, counter-finality and sub-optimality, arguing, among other things, that unintended consequences are not by definition unknown to the actor who initiated the action.

Preliminary definition

By Y being the consequence of X, I understand that X occurred before or at the same time as Y, that because of the occurrence of X, Y also occurred, and that some causal mechanism actually linked X and Y.² This does not imply that there would be no Y without X. For example, it might be the case that because of the Hopis being involved in the Hopi rain dance, solidarity becomes stronger, but the very same solidarity might also be intensified through other social practices. By an unintended consequence, I refer to a particular effect of purposive action which is different from what was wanted at the moment of carrying out the act, and the want of which was a reason for carrying it out.

*I thank the following people for useful comments on a first draft: Simon Caney, Matthew Clayton, Rom Harré, Ken MacDonald, Herminio Martins, Carlo Scarpa, Ben Steil, Alan Shipman and John Torrance.