Joachim Blatter
Universität Luzern
Joachim.blatter@unilu.ch

**Innovations in Case Study Methodology:
Congruence Analysis and the Relevance of Crucial Cases**

**Introduction and Overview[1]**

In recent years we have seen an explosion of methodological reflections on case study research. These reflections have challenged the co-variational orthodoxy that dominated the literature on case study methodology in Political Science since the 1970s. Alternative understandings of case study methodology have been presented mostly under the heading of "causal process tracing (CPT)". In this paper, I want to make the case for distinguishing between two alternatives to co-variational analysis (COV). Adding "congruence analysis (CON)" as a third approach for designing case studies has two major advantages:
- it broadens the available tools for drawing causal inferences in small-N research; and
- it allows to make each approach internally more coherent.

The latter aspect is especially warranted because the term "causal process tracing" is in danger to become a fuzzy catch-all phrase that can be used to justify all kinds of case study research, especially for those who do not go further as purely descriptive story telling.

If we take terminology serious, and if we want to grasp the "scientific realist" epistemological foundations, which make "causal-process tracing" a device for inferring causality that actually complements those applied in deductive approaches (COV and CON), than we have to put "timing" and "temporality" into the heart of causal-process tracing.[2] This is especially important to highlight, because in recent treatments on causal process tracing, advocates like Andrew Bennett (2010) have introduced some forms of Bayesian updating in characterizing CPT. In contrast to these lines of argumentation, want to stress the fact that "process" refers to the object of our investigation and not to any temporal sequences within the research process. Furthermore, I want to show that Bayesian reasoning plays an important role in sophisticated case study designs, but that for theory-oriented research approaches it makes much more sense to infuse a dose of Bayesianism when we reflect on the status of theories in the scientific discourse and when we are looking for "crucial cases". I will come back to the latter point at the end of the paper. First, I want to make clear why it is important to distinguish the causal-process tracing approach from the congruence analysis approach.

It is its inductive features that make CPT a truly complementary tool for inferring causality. Based on specific kinds of observations, which provide density and depth to our description of a causal process, we can make a convincing claim that a configuration of specific causal conditions has effectively led to an outcome. A full-fletched explanation has to combine these empirical observations with formal logic and it has to connect them to social theory (see below). Nevertheless, only an inductive understanding of CPT provides us with an epistemological foundation for making the claim that a condition is necessary and – together with further conditions – sufficient for the outcome without having deduced this condition or configuration a priory from the theories that exist within the field of research (or without being able to link the empirical observations convincingly to one of those theories ex post). Especially those who use CPT not only in an opportunistic way to provide further confirmation for the findings that they have received through co-variational analysis or congruence analysis, but as a tool to test those findings, will welcome the existence of an epistemological foundation and of some methodological advice for doing so.

[2]    A first indication for this is the fact that in our use of the terminology we bind the two terms "causal" and "process" together by a hyphen in order to signal that this approach is actually focussing on "causal-processes" which lead from initial conditions to outcomes in specific situations or through specific sequences and not on causal factors as such.

Nevertheless, within this paper I do not want to focus on causal-process tracing, but on what we call "congruence analysis" as the other alternative to the co-variational template (Blatter and Blume 2008, Blatter and Haverland 2012). This is because this approach has not yet been spelled out in detail as a case study approach that is distinct to both, to the co-variational template and to process-centred approaches. On the contrary, often we find a mix between the CPT and the CON approaches – and often label and content do not really fit. Arguably this is the case with Peter Hall's description of "systematic process analysis" (Hall 2006), which comes very close to our CON approach, but rather misleadingly puts the term "process" into its label without emphasising the need to really observe "causal-processes" through dense clusters of observations necessary for showing the spatio-temporal proximity and contiguity of causes and effects or through deeper insights into the perceptions and motivations of actors necessary for a mechanism-based explanation (see below for a brief sketch of the core features of CPT, a full account and many examples can be found in Blatter and Haverland 2012).

The reason why there is such a confusing array of usages of the term "causal-process tracing" is the fact, that this term can be used in a more narrow way to denote a specific technique for drawing causal inferences based on a pair of distinct ontological and epistemological presuppositions ("configurational thinking" and "(spatio-)temporal proximity and contiguity"), but also in a broader sense as a label for a full-fledged research design, that includes not only a certain technique for drawing causal inferences but is affiliated with distinct research goals (prototypical research question: "what makes this possible?") and directions of generalization (towards set of "possible" causal configurations for a specific kind of outcome). The first understanding of CPT make it possible to use CPT as a complementary technique for inferring causality in all kinds of case study research designs, whereas the latter understanding leads to case study designs that are fully consistent with the ontological and epistemological foundations of this technique. Treating CPT as a full-fledged research design brings to the fore the fact that it is not the only alternative to the co-variational template, but that there exists a very different further approach for doing case study research.

A congruence analysis (CON) differs in many respects from a CPT approach. First, like the co-variational analysis it is strongly deductive endeavour, and it is the most theory-oriented one of all case study approaches.[3] Whereas the proponents of CPT stress the fact that their approach provides "useful" insights for practitioners and that they strive for "middle-range theories" within applied research contexts (George and Bennett 2005), a CON approach highlights the fact that paradigms and theories play an important role within and beyond the social sciences and the competition between different theoretical camps should not be discredited as "l'art pour l'art". Paradigms and theories provide the (normative-)cognitive frameworks that guide actual decision-makers and they structure the scientific discourse. A congruence analysis uses case studies in order to make a deliberative and reflective contribution to the theoretical discourse within the social sciences. This leads to specific research questions, to a much more reflective approach to theory selection and specification in comparison to what is usually the case, and to distinct guidelines on how to select cases; furthermore, its ontological and epistemological fundaments lead to specific techniques for drawing causal inferences for the case(s) under investigation; and finally, this approach has its own understanding of generalization.

The paper proceeds as follows: First, I will provide a generic and multi-dimensional definition of case studies which points already to the three different approaches for designing case studies that are presented in a comparative way in the first main part of the paper. The second

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[3]    Actually, one can argue that a co-variational analysis is not really theory-oriented (or at least, that it has not to be), at least we take the word "theory" serious and use it in the sense of a clearly specified explanatory approach that is anchored in a social science paradigm (below I get deeper into this).

main part of the paper contains a more in-depth description of the congruence analysis approach including rather extensive presentations of three examples. I end up by showing how a CON approach provides the basis for an understanding of "crucial cases" that is not only viable – something that has been questioned by John Gerrring (2007b) – but highly relevant for case study researchers who want to draw conclusions beyond the investigated cases in order to contribute to the scientific discourse in a specific field of research.

## Case studies: Toward a generic and multi-dimensional definition

There is little general consensus on what case studies are. In the literature, we find a broad spectrum of definitions and descriptions of case studies (Blatter, Janning, and Wagemann 2007: 123-4; see Gerring 2007a: 17, 2008 for slightly different overviews):
- case studies are empirical studies focusing on a single phenomenon or outcome (for example, Stake 1995; Muno 2003: 21);
- case studies are studies that are primarily interested in the causes of effects and less in the effects of causes (for example, Goertz 2003: 55); they are centered on the dependent variable (Y) in contrast to other research designs that focus on the independent variable (X) (for example, Ganghof 2005, who advocates a change in small-N research toward more X-centered designs);
- case studies are small-N studies conducted with the aim of generalizing across a population of similar cases (for example, King, Keohane, and Verba 1994: 51-3);
- case studies comprise a few, 'comparable' cases (for example, Lijphart 1971, 1975);
- case studies are 'case-centered', whereas large-N studies are 'variable-centered'. Case-centered research is based on configurational thinking; in contrast to variable-centered approaches, it starts with the assumption that there are strong interaction effects between individual causal factors and between specific factors and contexts (for example, Patzelt 2005: 21-4; Ragin 2000: 39, 2008: 109-23);
- case studies are studies in which no clear-cut boundary between the phenomenon of interest and its context exist (Yin 2009 [1984]: 18); in contrast to large-N studies that take established socio-political entities like nations or nation states as cases, case study researchers are "casing" (Ragin 1992: 218): they define the object and the boundaries of the object through the research project (Vennesson 2008: 230);
- case studies are characterized by the technique of "process tracing" (George and Bennett 2005); their primary goal is to uncover "causal mechanisms" rather than "causal effects" (Brady and Collier 2004: 277).

Although all of these definitions are appropriate for some types of case study research, they are too specific to serve as a generic definition, and they do not capture one of the most important features of case study research (our fourth aspect in the following list). In consequence, we (Blatter and Haverland 2012) define case studies as a non-experimental research design that differs from large-N studies through the following four characteristics:
1. a small number of cases;
2. a large number of empirical observations per case;
3. a huge diversity of empirical observations for each case; and
4. an intensive reflection on the relationship between concrete empirical observations and abstract theoretical concepts.

The first element of our definition represents a categorical decision; we do not make a fundamental distinction between the study of a single case and the study of a few cases

because the core characteristics are the same for all small-N studies. The small number of cases makes it easier for researchers to select cases that have no clear-cut boundaries but have to be delineated and specified on the basis of abstract theoretical concepts (for example, policy reforms or international regimes). Therefore, case studies are ideal for investigating new, complex or abstract phenomena.

In each of the three approaches to case study research that we advance in our book, one of the other three elements of our definition is predominant. The co-variational approach in case study research approximates in many ways statistical analysis, but there exists one major difference between the comparative method in small-N studies and correlation analysis in large-N studies: the number of observations that researchers take into account to arrive at the score for each variable and each case is much higher in case study research (and the reflection on the correct measurement is much more intensive). For the second approach, causal-process tracing, a large number of observations per case is also a key feature, but the variety of diverse observations is even more important here. In this approach, the observations need not be aggregated into standardized scores because causal inference is not based on cross-case comparison. Instead, a large set of diverse observations is necessary to produce 'comprehensive story lines', 'smoking guns' and 'confessions', which form the empirical basis for drawing causal inferences.

Probably the most important feature of case studies is the fact that limiting the research to one or a few cases allows the researcher to invest time and intellectual energy in reflecting on the relationship between empirical observations and the abstract concepts that form the core elements of hypotheses, theories and mechanism-based explanations. Many strengths and advantages of case study research result from this fact. For example, theories in which difficult-to-observe cognitive aspects of individual actors (for example, the problem perception of core decision-makers) play a central role can be included with much higher levels of validity in comparison to large-N studies. Furthermore, internal validity is enhanced because case study researchers can more easily employ context-specific indicators for theoretical concepts. Finally, case study researchers can take into account a broader set of theories and more abstract theories when analyzing and interpreting cases. In our third and last approach to case study research, 'congruence analysis', these features take centre stage and lead to a specific research design.

Although it makes sense to distinguish the three different approaches in order to provide internally consistent ideal-types, it is important to realize that all approaches share the characteristics of the generic definition—albeit with a different emphasis.


**Three Types of Case Study Design**

In the following, I want to provide a short comparative overview of our three explanatory approaches to small-N research. This overview (see table 1) reveals how the three approaches differ in terms of their main research goals and their focus; in respect to how to proceed with the selection of cases (and theories); in how data is generated and analysed in order to draw causal inferences for the cases under study, and in respect to the understanding and direction of generalization (Blatter and Haverland 2012).

**Table 1: Three explanatory approaches in case study research**

| | Co-Variational Analysis (COV) | Causal-Process Tracing (CPT) | Congruence Analysis (CON) |
|---|---|---|---|
| Research questions and research goals | **Does variable X make a difference?** Testing whether different values of X lead to different outcomes | **What makes the outcome (Y) possible?** Revealing the temporal interplay among conditions or mechanisms that lead to specific outcomes | **Which explanatory approach provides more/new insights?** Comparing the descriptive and explanatory merits of different theories |
| Focus | **Independent variables** as: - factors of influence - factors that have an autonomous influence | **Causal configurations** as sequential and situational combinations of causal conditions or social mechanisms | **Comprehensive theories** that compete with and/or complement each other |
| Selection of cases and theories | Select **multiple cases** according to: - strong **differences** in respect to the independent **variable of interest**, AND - high **similarity** in respect to **control variables** Selection of a plurality of **'comparable' cases** | Select one or more cases according to: - their **accessibility**, AND - the practical or theoretical relevance of the outcome Selection of one or more cases **sequentially:** 1. 'positive' case(s) 2. 'possible' case(s) | Select **multiple *theories*** according to: - their place in the scientific discourse, AND - the researcher's theoretical aspiration Selection of one or more *cases* according to the ex-ante **'likeliness' of cases** in respect to the selected theories |
| Data generation | **Observations:** Information corresponding to the indicators specified for the variables **Resulting data:** Scores of each variable for all cases | **Observations:** - Information on the temporal unfolding of the process; - information on spatial-temporal proximity between causes and consequences; - information on perceptions and motivations of actors **Resulting data:** - Causal chains + conjunctions - Smoking guns - Confessions | **Observations:** Information corresponding to the expectations (propositions, hypotheses, predictions) deduced from theories **Resulting data:** A set of confirmations and/or contradictions for each theory |
| Data analysis = drawing causal inferences for the cases under investigation | **Necessary content of data:** Co-variation among scores of the dependent variable (Y) and scores of the independent variable of interest (X) **Conclusion:** X has a causal effect on Y **Further necessary conditions for conclusions:** No theoretically plausible co-variation among scores of the dependent variable and scores of other independent (control) variables | **Necessary content of data:** - Comprehensive story line - Smoking guns - Confessions **Conclusion:** Identification of configurations of conditions and/or mechanisms that are necessary and together sufficient for the outcome **Further necessary tools for drawing conclusions:** Counterfactuals AND/OR Theoretical concepts of mechanisms and process dynamics | **Necessary content of data:** Differences among the theories in respect to the level of congruence between expectations and observations **Conclusion:** - Relative importance of selected theories - Comprehensive explanation through a combin. of theories **Further possible conditions for drawing conclusions:** Ex-ante expectation about the 'likeliness' that the case is congruent with the expectations derived from different theories |
| Generalization = drawing conclusions beyond the cases under investigation | **Statistical generalization** Drawing conclusions about the causal effect of X on Y from the selected cases and generalizing to a population of cases that are similar in respect to all control variables | **Possibilistic generalization** Drawing conclusions from the identified causal configuration(s) and mechanisms for an outcome and generalizing to the set of potential configurations and/or to the set of proven causal configurations and mechanisms | **Theoretical generalization** Drawing conclusions from the explanatory power of theories in more or less 'crucial' cases to the relevance of theories in the scientific discourse |

*Research goals and research questions*

Each empirical research project, whether or not it follows a case study approach, starts with a research question that needs to be answered to achieve the goal of the research project. The co-variational approach (COV) to case study research typically aims to investigate whether a specific factor makes a difference. For example: Does government reorganization reduce public spending? As this kind of research is interested in the effect of a specific causal factor, or independent variable, this research can be labelled X-centred research. But the focus on 'independent variables' has a further, deeper meaning because the COV approach assumes that the causal factors function independently of each other; this approach is based on the ontological assumption that each factor has autonomous causal power.

Contrast this with research projects that start with an interest in a specific (kind of) outcome. They ask what factors lead to a concrete outcome or what makes a specific kind of outcome possible. For example: Which conditions lead to social revolution? Because the researcher is interested in a relatively complete explanation of an outcome or a full-fledged understanding of a social process rather than the effect of a specific variable, this approach can be called Y-centered research. Nevertheless, with respect to causal analysis, the main difference between the causal-process tracing approach (CPT) and the COV approach is that, within CPT, the researcher starts with the assumption that a plurality of factors work together to produce the outcome of interest. Such a holistic ontological starting point leads to the search for configurations of causal conditions or social mechanisms.4

Other case studies are conducted primarily with the aim of contributing to the theoretical debate in a discipline or field of research. Typical research questions read as follows: Which theory of organizational decision-making is most consistent with the real decision-making processes in business organizations? Is Liberal Intergouvernmentalism the best explanation for European Integration? Such research questions recognize that paradigms and theories have an important function in the process of knowledge generation because they provide the anchor points for research programs and structure the scientific discourse. In the congruence analysis approach (CON), theories are not reduced to single independent variables (as in the COV approach) but are treated as comprehensive explanatory frameworks that are specified through a set of constitutive and causal propositions. Case studies are used to elucidate and to compare the explanatory merits of competing or complementary theories.

*Case and theory selection*

For the COV approach, case selection is crucial to demonstrate that it was indeed variation in x and not another factor that caused the effect (variation in Y). In other words, case selection is crucial to making valid causal inferences. A plurality of cases is selected according to the experimental template. This means that the cases must express strong differences with respect to the main independent variable of interest, and they must be as similar as possible with regard to variables associated with other potential explanations. This design is described using the term "most similar system design" (Pzeworski and Teune 1970) or, alternatively, a term

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4   In accordance with theory-oriented adherents of a mechanism-based social science, we view causal mechanisms as configurational entities combining three different types of social mechanisms: 'situational mechanisms', 'action-formation mechanisms', and 'transformational mechanisms' (Elster 1998; Esser 1993, 1999-2001; Hedstroem and Swedberg 1998: 22; Hedstroem and Ylikoski 2010). Please note, that also in accordance with these theorists, this does not imply a rational choice conceptualization of the action-formation mechanism. The social sciences have developed a much broader set of micro-foundations (e.g. normative action, communicative action, rhetorical action).

that that emphasizes the underlying logic, the "method of difference" (Mill 1875); this design also corresponds to the "comparable cases" approach of Lijphart (1975).

Because causal-process tracing depends on gaining a comprehensive overview over the temporal unfolding of the causal-process, the ability to provide a dense descriptions of critical moments and the possibility of gaining deep insights into the perceptions and motivations of important actors, the accessibility of a case is the primary precondition for investigation. Causal-process tracing is a within-case analytical technique; therefore, we need not select more than one case, although we do have the option to do so. In the ideal typical form of the CPT approach, those cases are selected that show a strong positive result with respect to the outcome of interest. In a second step, further 'possible' cases can be selected to test the relevance of specific factors that have been identified as necessary for the outcome in the first study (see Mahoney and Goertz 2004).

Within the CON approach, the selection of theories has to be done more explicitly than in the other approaches. Ideally, this step precedes the selection of cases. We advocate selecting more than one theory and avoiding the ex-ante integration of those theories in a synthetic explanatory approach. The researcher should consider a plurality of theories and should reflect on the status of these theories in the scientific discourse. This allows for selecting a 'crucial case' – whereby the 'crucialness' of the case depends on the 'likeliness' that it is congruent with the expectations that we can deduce from the selected theories. This ex-ante likeliness, in turn, depends on some prior knowledge about specific features of the case.

When we apply the above guidelines for case selection, it becomes obvious that for the COV and the CON approach significant prior knowledge about the cases is necessary if we want to select optimal cases. Nevertheless, this knowledge is often not available ex-ante or it turns out to be superficial when we learn more about the cases. For the CON approach, selecting a non-crucial case only reduces the impact of the study on the theoretical discourse; but for the COV approach, the selection of non-similar cases can be devastating because it undermines the possibility of drawing valid causal inferences. This is one major reason why the COV approach is often complemented by causal-process tracing which allows reducing indeterminacy.


*Data generation and data analysis*

While it is a defining characteristic of all case study approaches that a large number of (diverse) empirical observations are collected per case and that there is an intensive reflection on the relationship between concrete empirical observations and abstract theoretical concepts, there are strong differences in the ways in which observations are transformed into data and in the ways this data is analyzed to draw causal inferences. Despite these differences, all case study approaches share one feature: in case study research, it is the first step, data generation, that is most crucial; case study researchers invest much more time and intellectual energy in this first step in comparison to the time and energy they invest into the second step of data analysis, and the cogency of case studies depends almost fully on this first step (whereas in large-N studies the result is often evaluated on the basis of the technical skills applied in data-analysis).

In table 1, we present the processes of data generation and data analysis separately to present clearly the functional equivalents in each approach. Whereas for the rather deductive approaches COV and CON, this neat separation represents the way we conduct case studies (or at least, it corresponds to the way we present the findings), this is not the case with the

inductive CPT approach, in which the separation of data generation from data analysis is less clear-cut.

In the COV approach, indicators that scholars have selected for operationalizing variables into observable entities define which empirical information is seen as relevant and which information must be collected for each case. The relevant empirical information is used to determine the scores for each of the variables; therefore, we call the corresponding information 'variable-scoring observations'. Researchers invest significantly in making sure that each score is valid, and they typically employ a large number of empirical observations for this task. As a result, a crucial step in this research approach is the process of transforming the information that we find 'out there' in the social world into scores for individual variables. Compared with large-N studies, the COV approach makes it much easier to apply indicators in a context-sensitive way, which means that nominally different states of the social world (for example, number of parties in a parliament) can be treated as functionally equivalent (for example, for the concept of 'competition'), and nominally equal states can be scored differently. Data analysis takes place in a second distinct step after we have transferred all scores of all cases for all variables into a rectangular data sheet. Through visual inspection, we discover whether there is co-variation among the scores of the dependent variable of interest (Y) and the scores of the independent variable (X). If so, we can conclude that X has a causal effect on Y. A necessary condition for this inference is that there exists no other theoretically plausible co-variation among scores of other independent variables and the dependent variable – which is what we try to guarantee through the careful selection of cases but which has to be controlled for in the process of data analysis.

In the CPT approach, the search for relevant empirical information proceeds in a much more inductive fashion. The researcher has to search for all kinds of information about the temporal unfolding of the causal-process that allows her to present a comprehensive story line with a sequence of causal steps. For decisive situations and phases of transformation, the researcher searches for information that gives her a more detailed picture of the 'scene' and a denser description of the temporal unfolding of events during these critical times. Finally, she has to dig deeper and collect information about the perceptions and motivations of major actors. The data generation process in the CPT approach is not only more inductive in comparison to the COV approach, but the separation between data generation and data analysis is also less clear-cut. Nevertheless, the functional equivalents to scores for the variables in the COV approach are 'comprehensive story lines', 'smoking guns', and 'confessions'. From the comprehensive story lines, the scholars extract 'causal chains' and 'causal conjunctions'; detailed descriptions of critical situations lead to strong evidence for a dense connection between a cause and an effect (corresponding to the observation of a 'smoking gun'), and 'confessions' provide deep insights into the perceptions and motivations of major actors. These kinds of condensed empirical information have to be combined with counterfactual thought experiments and/or with theoretical reflection on the working of causal mechanisms and process dynamics in order to identify those configurations of conditions and/or mechanisms that are individually necessary and jointly sufficient for making the outcome possible.

In the CON approach, the sort of information required is delineated by expectations (propositions, hypotheses and predictions) deduced from the theories that have been selected and specified ex-ante. This is to some extent similar to the COV approach. Nevertheless, in this approach, the information is not transformed into variable scores but is used to determine whether the formulated expectations are confirmed or contradicted. As a result, the investigator obtains a set of confirmations and/or contradictions for each of the theories. As a

second analytical step, he uses the differences among the theories with respect to the level of congruence between expectations and observations either for drawing conclusions about the relative importance of the selected theories in explaining the case(s) or for combining the theories into a comprehensive explanation. If the researcher is interested in judging the relative merits of the selected theories, he has different options for doing so: he can compare the absolute levels of confirmations and/or contradictions or he can compare the results with what he was expecting on the basis of some prior knowledge about the case(s) and reflections about the 'likeliness' of the case(s) to be congruent with the selected theories. Whereas reflections on the ex-ante 'likeliness' are not necessary for drawing conclusions about the relative merits of different theories in explaining the case(s) under investigation, such reflections are necessary for drawing wider conclusions beyond these cases and to make a case for the relevance of the theories in the wider scientific discourse.

Conclusions beyond the cases under investigation are usually discussed under the heading of 'generalization' – we follow this practice, although one of the main messages of our book is that 'generalization' means something quite different within the different case study approaches.

*Generalization*

In principle, drawing conclusions within the COV approach is similar to the understanding of generalization in large-N studies; we therefore call it 'statistical generalization'. The researcher draws conclusions from the selected and investigated cases to a wider population of cases. Nevertheless, unlike the findings of large-N studies, which are broadly generalizable, the findings of COV studies can only be generalized to a relatively small population. It is reasonable to assume that the independent variable (X) has a particular effect on a specific outcome (Y) only in cases that are similar with respect to all control variables (assuming that such similarity exists in the cases selected).

It is important to realize that the CPT approach does not strive for this kind of generalization but for something that we call 'possibilistic generalization'. The findings of a CPT case study lead to knowledge about the causal configurations (combinations of causal conditions or social mechanisms) that make specific outcomes possible. The configurations of conditions and/or mechanisms that the researcher identifies as necessary and sufficient for an outcome within the cases under investigation are used to elucidate the set of 'potential' configurations (all possible combinations of the identified conditions and mechanisms) and/or the set of 'proven' causal configurations. The first set is helpful for developing 'typological theories' inductively; the second set includes all those configurations that have been shown to lead to the outcome of interest.

Within the CON approach, the researcher uses the insights gained in the case study for the debate on the relevance of theoretical approaches in the broader scientific discourse. The impact that the case study might have on this theoretical discourse depends on how 'crucial' the selected case is for the theories that 'populate' the scientific discourse.

In the last part of this paper, I will lay out the factors that determine the theoretical 'crucialness' of cases. One of these factors is the standing of the selected theories within the scientific discourse (central or peripheral) – which makes clear the importance of case and theory selection for the possibility of drawing conclusions beyond the cases under investigation.

## Congruence Analysis

A congruence analysis is a small-N research design in which the researcher uses case studies to provide empirical evidence for the explanatory relevance or relative strength of one theoretical approach in comparison to other theoretical approaches. She achieves this by deducing sets of specific propositions and observable implications from abstract theories in a first step and then by comparing a broad set of empirical observations with these implications drawn from diverse theories.

In the following, I am going to specify in more detail the research goals of this approach and the ways causal inferences are drawn through the congruence analysis proper. Furthermore, I illustrate the real applications of the CON approach with examples from different fields of the social sciences. Important topics like how we select cases and how we draw conclusions beyond the case(s) under investigation are addressed afterwards in the last section of the paper, which is devoted to clarifying the meaning of "crucial cases".

*Research goals and research questions*

The principle goal of small-N studies applying congruence analysis is to make a contribution to the scholarly discourse on the relevance and relative importance of specific theories and/or general paradigms. In principle, such a contribution can take four forms:
- refining specific theories within a paradigmatic research program;
- developing a new theoretical synthesis within or across paradigms;
- strengthening the position of a theory or paradigm in comparison to other theories or paradigms in a theoretical discourse; and
- bolstering the aspiration of new theories or paradigms to be recognized in a field of research.[5]

These goals lead to two prototypical questions:
- does theory A provide a better explanation in comparison to other theories?
- does theory A provide relevant explanatory insights that no other theory has revealed?

The two questions indicate two slightly different perspectives on the major goals of the social sciences and on how scientific progress occurs in these academic fields. Therefore, we distinguish between two subtypes of the congruence analysis:
- a competing theories approach; and
- a complementary theories approach.[6]

It seems important to stress that both subtypes remain firmly in the 'epistemological middle ground' between more fundamentalist accounts of Positivism, Constructivism and Realism (Blatter and Haverland 2012: chapter 1), although with slightly different leanings. The first subtype demonstrates a clear affinity to positivist and realist epistemologies but stops short of any strong epistemological assumption that we can actually verify or falsify theories through

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[5]  Andrew Moravcsik's (1998) contribution to the debate on how to explain European integration is a successful example of using congruence analysis for the struggle for paradigmatic dominance in an important subfield of Political Science. In contrast, Frank Schimmelfennig's research on the Eastern enlargement of the European Union (EU) and *North Atlantic Treaty Organization* (NATO) (2003) shows how an empirical congruence analysis can be used for developing and bolstering a new synthesis of major paradigmatic approaches in International Relations (IR). Joachim Blatter's (2009) study on the relationship between symbolic performances and international environmental regulation is an example for the last goal – since its main message is that the already elaborated theoretical arsenal of International Regime Theory has to be expanded in order to capture important bread-through in international environmental regulation.

[6]  Whereas Scott Sagan's study (1993) on risk-management concerning the safety of nuclear weapons represents the competing theories approach, Graham T. Allison and Philip Zelikow's best-selling study on the Cuban Missile Crisis (1999) is an example of the complementary theories approach.

empirical testing. Instead, it presupposes that we can use empirical information to judge the explanatory power of a theory in relative terms by comparing these actual observations with expectations that are deduced from this theory and with the expectations that we deduced from another theory. It assumes that divergent theories lead to contradictory implications in the empirical world, that theories stand in stark opposition to each other, and that the goal is to identify the best or most important theory.

These assumptions are relaxed in the case of the second subtype. This approach implies that theories lead to complementary implications in the real world and that a plurality of theories is not a source of confusion and uncertainty but rather provides the basis not only for more comprehensive explanations and understandings but also for conceptual and practical innovations. Furthermore, the assumptions of the second subtype legitimize the search for theories that are able to provide new or neglected explanatory insights (even if these aspects might not be the most important with respect to causal power). These features place the second subtype of this explanatory approach closer to a constructivist or conventionalist epistemology.

Nevertheless, the congruence analysis approach contains two methodological elements of control that work against any strong epistemological relativism. A first – 'vertical' – element of control consists of an explicit separation of the two steps:
- deducing specific propositions and concrete predictions from abstract theories; and
- comparing these deduced expectation with empirical observations.

A second – 'horizontal' – element of control arises because a theory must show not only that its implications correspond to empirical observations but also that it has a higher level of empirical congruence than other theories, that it predicts crucial aspects of the empirical process more correctly than other theories or that it leads to additional causal implications that are empirically corroborated and useful for theory development.

In principle, a congruence analysis can also be conducted with only one theory, but such an approach loses the second element of control and is in many ways less compelling (see Blatter and Haverland 2011, chapter 4.3 for an extensive reflection on this point). In line with Peter Hall (2006), we stress that good theory-oriented social science is a "three-cornered fight" involving empirical information and (at least) two different theories! This will get very clear in the following when I lay out the logical steps of the congruence analysis proper before illustrating how the CON approach is applied in various fields of the social sciences. But first it is necessary to introduce briefly how scientific knowledge is organized vertically and horizontally, since the CON approach draws heavily on these insights.


*The organization of scientific knowledge*

Empirical research in the Social Sciences is embedded in practical and theoretical discourses. The main goal of a congruence analysis is to make a contribution to a scientific discourse, which is characterized by the implicit or explicit rivalry of divergent paradigms and theories. In consequence, the scholar must reflect much more intensively on the discursive context in which her research occurs than in other approaches. Today, most scientific discourses are only loosely coupled with practical discourses, and they are usually differentiated and structured through (sub-)disciplinary boundaries and by divergent fields of research. For scholars who want to be influential beyond a specific field of research or theoretically innovative, it is very helpful to have a broad theoretical horizon, which means that they should be able to apply general and abstract theories and/or a broad range of specified

theories. Nevertheless, for a sound congruence analysis, it seems even more important that the researcher know the most influential theories in his field of interest, that he reflects on the relationship between the selected theories, and that he explicitly justifies his selection of theories. Until now, there has not been much advice on how to select theories. In the following, I will provide some logical foundations for this task. The following reflections are based on the premise that we can transfer insights from the literature on concept formation (especially Goertz 2006 but also Adcock and Collier 2001; Collier and Mahon 1993; Sartori 1984) to the task of causal theory selection, specification and concretization.

If we want to describe the relationships between the theories we apply in an empirical study, we first have to reflect on how scientific knowledge is organized (or how scientific discourses are structured, to frame it in discourse-theoretical terms). Three aspects are especially important:

- the vertical differentiation of the system of knowledge,
- the horizontal differentiation of the systems of knowledge, and
- the centralization of the system of knowledge.

I will address the first two aspects in the following and go deeper into the last aspect when I develop a useful understanding of "crucial cases" at the end of the paper. But first, I want to stress the instrumental aspect of this endeavour. I cannot take up the major debates in the Philosophy of Science; I only want to scrutinize some logical and terminological foundations for empirical studies following a CON approach.

Vertically, knowledge systems are differentiated according to the level of abstraction. There are three basic levels of abstraction; each level is characterized by its content and its connections. We will briefly point to the content and the connections of each level for the process of causal theory formulation, which is presented in the right column of Table 2. The middle column on concept formation is added to illustrate the fact that we are transferring insights from methodological reflections from descriptive-comparative analysis to causal analysis.

| Table 2: Three levels of abstraction in concept formation and in causal theory formulation | | |
|---|---|---|
| | **Concept formation** | **Causal theory formulation** |
| **Most abstract level** | Concepts | Paradigmatic perspectives: Ontological and epistemological assumptions |
| ↕ | Properties/attributes/ dimensions | Theoretical propositions: Constitutive concepts and causal connections |
| **Most concrete level** | Indicators | Empirical predictions: Concrete potential observations |

Theories form the middle level of abstraction, and they contain specific propositions about constitutive concepts (elements of the theories) and causal connections between these

concepts (the relational structure of the theories). On a higher, more abstract level, there are meta-theories (paradigms); they contain cognitive signifiers, which function as anchor points for the organization of knowledge (in other words, as focal points for the scientific discourse or as "hard-core" scientific research programs in the sense of Imre Lakatos 1970). Paradigms provide the connections between theories in specific fields of research and more generic ontological and epistemological perspectives. On the lowest, most concrete level, there are the observable implications that we deduce from theories (predictions); they form the connecting points between abstract systems of knowledge and the empirical world.

Horizontally, scientific knowledge is organized (scientific discourses are structured) as systems of centers and peripheries. This can be observed on two levels:

At the first level, scientific discourses consist of a multiplicity of paradigms, and these paradigms occupy more or less central places within the scientific discourse, depending on whether they are established/dominant or new/subordinate. I will take up this aspect in the final section of the paper, where I reflect on the centralization of systems of knowledge.

Second, theories contain specific configurations of constitutive concepts. Each of these constitutive concepts occupies a more or less central place within the theories, which means that each theory has 'core concepts' and 'peripheral concepts'. The 'core concepts' represent the anchor point for paradigms, but paradigms comprehend not only the core concepts but also the full set of peripheral concepts that can complement the core concepts to formulate specific theories. In other words, a theory is a specified configuration of core and peripheral concepts and a subset of a paradigm that represents all possible configurations between the core concept and various peripheral concepts. Those who are interested in the logical structure of the relationship between theories and paradigms, will get a more formalized characterization below, but let us first illustrate the meaning of core and peripheral concepts.

Core concepts can be filled in various ways – for those theories that are usually used in case-study research, it is very common that they comprise a behavioral theory as a micro-foundation (for example, Rational Choice or Communicative Action).

Specific theories do not only contain a core concept but also add further conceptual elements to provide full-fledged explanatory frameworks. For example, Schimmelfennig (2003) specifies three different rationalist explanations to explain the Eastern enlargement of NATO and the EU by complementing the core concept (rational decision-making of state actors) with three different peripheral concepts that contain the goals that the actors strive for: a) security, b) power, and c) welfare (later on I provide a more detailed presentation of his study).

*The Logical Steps of the Congruence Analysis Proper*

At the heart of the congruence analysis approach is a systematic comparison of the collected empirical information with the expectations deduced by the researcher from divergent theories. The congruence analysis proper consists of the following steps:

1.  The empirical observations are compared with the expectations deduced from one theory (A). The comparison, which most often involves inferential leaps between different levels of abstraction, is based on interpretation and requires explicit reflection and justification. The comparison can lead to the following results:
    a) the observations are in line with the expectations;
    b) the observations are contradictory to the expectations; or
    c) the observations are not in line with the expectations, but they also do not directly

contradict the expectations; instead, they lie outside the set of expectations that can be linked to theory A.
2. The same empirical observations are compared with the expectations deduced from another theory (B). This comparison can lead to the same types of results.
3. The results of the two comparisons of empirical observations and theoretical expectations are combined to evaluate the relative explanatory power of the two theories for the case(s) under investigation.

Table 3 provides the logical foundations for conducting this form of data analysis in a way that is methodologically consistent with the CON approach. Furthermore, the table helps to identify the ways researcher actually apply the logic of the congruence analysis.

*The Full Set of Possible Conclusions*
A congruence analysis that is most consistent with the notion of a "three-cornered fight" (Hall 2006) begins the analysis with an empirical observation and simultaneously reflects on its congruence with theory A and theory B. Given that both comparisons can lead to three possible results, the combination can produce nine potential conclusions for each observation (see table 3).

| Table 3: Ways of drawing conclusions in the congruence analysis proper | | | |
|---|---|---|---|
| | Observation(s) in line with expectations deduced from theory B | Observation(s) in contradiction to expectations deduced from theory B | Observation(s) beyond the expectations deduced from theory B |
| Observation(s) in line with expectations deduced from theory A | Conclusion A: Connections to other observations necessary for discriminatory evidence | Conclusion B: Strong evidence for preferring A to B | Conclusion C: Evidence underscores explanatory power of A |
| Observation(s) in contradiction to expectations deduced from theory A | Conclusion D: Strong evidence for preferring B to A | Conclusion E: Strong evidence for the need for other theories | Conclusion F: Evidence undermines explanatory power of A |
| Observation(s) beyond the expectations deduced from theory A | Conclusion G: Evidence underscores explanatory power of B | Conclusion H: Evidence undermines explanatory power of B | Conclusion I: Evidence for the need of expanded or other theories |

The nine possible types of conclusions can be clustered into the following groups:
- The most important empirical evidence with the strongest theoretical conclusions is provided by those observations that are simultaneously in line with one theory and in contradiction with the other theory (conclusions B and D). For a competing theories approach, these are clearly the most valuable observations.
- Observations that are confirming or disconfirming for a theory but cannot be connected to another theory represent clear but less important evidence and lead to weaker theoretical

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conclusions (conclusions C, F, G, and H). These observations often form the bulk of observations. For a competing theories approach, these observations must be aggregated in some form, and the aggregated results must be compared with the results of the other theory to draw strong theoretical conclusions. For a complementary theories approach, those observations that are in line with a non-dominant theory are the most valuable – the latter will get clearer in the next section where we introduce the notion of "crucial cases" and its implications for theoretical generalization.

- Observations that are in line with the expectations of both theories provide less clear evidence. Especially for a competing theories approach, these might be seen as useless observations. Nevertheless, a CON approach is based on a holistic understanding of theories as a consistent set of concepts that are linked together in a coherent way. Consequently, a purely technocratic approach of comparing individual observations with single expectations is not adequate. For the interpretation of observations that fit both theories at first sight, it is helpful to examine the set of connected observations. The internal consistency of a cluster of observations serves as a second (horizontal) point of reference when deciding whether an empirical observation is evidence for theory A or for theory B.

- Finally, table 3 reveals that a sound congruence analysis also takes into account observations that are important for explaining the case but are in line with neither theory A nor theory B. The first possibility, that an observation contradicts the expectations of both theories, is an important piece of evidence that leads to strong theoretical conclusions (conclusion E). If an observation cannot be connected (positively or negatively) to both theories, we can conclude either that a theory has to be expanded or that another theory is needed (conclusion I). Note that such a conclusion is based on the assumption that these observations have been identified as 'important' for explaining the case(s) under investigation. For example, they have provided empirical evidence for a "smoking gun observation", which allows us to assign a causal factor the status of a necessary and – maybe in a configuration with other conditions – sufficient conditions for the outcome. Because these observations fall outside the expectations that we can deduce from our theoretical starting points, such an identification and attribution must have its epistemic basis in the 'natural foundations' of causal-process observations![7]

**Examples**

In the following, I present three examples in order to make clear how data collection and data analysis takes place within a CON approach. The first two examples have been chosen to illustrate the fact that congruence analysis can be based on very different methods of data collection and data analysis. Whereas John Owen (1997) draws primarily on the works of other scholars and historical sources in his study on the liberal basis of democratic peace, Elizabeth J. Wilson and David T. Wilson (1988)[8] generate the data in their study on organizational decision-making through in-depth interviews and apply statistical tools for the congruence test. The last example – Frank Schimmelfennig's analysis of Eastern enlargements of the EU and NATO – is in its proceeding a very typical example (and its theoretical ingenuity and methodological sophistication an outstanding one) for how the CON

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[7]    In chapter 5 of our book (Blatter and Haverland 2012), where we deal with combinations of research designs, we provide an example (Blatter 2009) that shows how causal-process observations are used inductively in order to provide the empirical foundation for arguing that a new theory is necessary to explain the outcome of interest.

[8]    The original study published by Elizabeth J. Wilson and David T. Wilson in 1988 has been represented in a methodologically oriented article written by Elizabeth J. Wilson and Arch G. Woodside (1999). I will draw on both sources.

approach is applied in International Relations: In contrast to the first two examples, the presentation of the empirical observation is more theory-led and lays much more emphasis on contradictory evidence since it is shown first that existing theories cannot account for the enlargement decisions and processes before a new theoretical synthesis is introduced and bolstered with empirical observations.

*John Owen (1997): Liberal Peace, Liberal War*

John Owen begins the congruence analysis proper with the presentation of empirical observations and performs a two-step comparison of these observations with the expectations that he deduced from theories. In his theoretical chapter, Owen deduces three hypotheses from three theories to consider what shapes liberals' perceptions of foreign states: a) Idealism: liberal ideology, b) Realism: balance of threat, and c) Rationalism: parochial interest (ibid. 58-61). Nevertheless, in the empirical section of his book, Owen begins by describing ten political crises between the US and foreign states that (potentially could have) led to war in the 19th century. For each crisis, he draws on a large set of primary and secondary sources to detail how the liberal elites in the US (and their major factions, for example, Federalists versus Republicans) and in the other country perceived the adversary country.

For each case, Owen structures the historical reconstruction by answering the following questions: a) How liberal was the US, and how liberal was the other country? b) How did the US perceive the other state, and how did the other state perceive the US? Furthermore, Owen describes the actions, interpretations and reactions during each crisis and closes each case study chapter with a short summary, in which he draws initial conclusions from the crises regarding the adequacy of the hypotheses. In other words, Owen aggregates the plurality of observations in a non-formal way and provides an initial judgment with respect to the congruence of the observations with the theories. Often, he finds that the information provides evidence for more than one theory.

In the third part of his book, Owen "engages in a structured, focused comparison of the cases to see if two crucial expectations of [his] argument are bone out" (Owen 1997: 185). By drawing on the findings of the case studies, he discusses for each case whether the perceptions and the causes of these perceptions are in line with the idealist, the realist or the rationalist theory. Because he applies this kind of congruence analysis for both countries, each crisis actually consists of two cases. Owen (ibid. 208) sums up the findings of the comparative congruence analysis in a table that reveals that there is evidence for the 'idealist theory' in 17 of the 19 cases, six cases contain evidence for the 'realist theory' and observations point to the 'rationalist theory' in ten cases.

It is important to note that, when Owen is formulating the overall findings of his small- to medium-N study, he does not simply draw on the larger number of cases in line with the 'idealist theory' in comparison with the cases that exhibit observations congruent with the other theories. He acknowledges that for two cases, Realism is indeed a better explanation than his idealist account, and for two other cases, Realism best explains the perceptions of many actors. Owen interprets all other cases as confirming the core of his 'idealist theory', that liberal ideology shapes the perception of the other country. He counts not only cases for which he has found evidence for the 'idealist theory' but also cases for which he has found evidence for the idealist and for alternative theories. He uses different kinds of evidence and logic to argue that ideology is the crucial factor shaping perceptions. For a first group of cases, Owen uses causal-process observations and shows that changes in perceptions closely

follow institutional changes. For other cases, Owen convincingly shows that ideology clearly shapes self-interest. Actors perceive their interests in a way that other actors and external observers would find irrational, and they do this in line with their ideology.

Owen primarily uses evidence that confirms one of the three theories, and he draws the corresponding types of conclusions (types C and G in Table 3). His analysis is not geared toward detecting disconfirming evidence. Accordingly, the summary table in his study contains no negative scores for the theories. Because he is aggregating the individual observations and conclusions on the level of cases, he ends up with many cases that show some congruence with multiple theories. He uses discriminatory observations (close temporal connections between institutional and preference change, interests that are more consistent with ideology than with rational calculation) and the corresponding kinds of conclusions (types B and D in Table 3) only at a late stage in the data analysis.

*Elisabeth J. Wilson and David T. Wilson (1988): "Degrees of Freedom" in Case Research of Behavioral Theories of Group Buying*

In their study on organizational decision-making, Wilson and Wilson approach the tasks of data collection and analysis quite differently. For each concept – an element of the organizational decision-making process – the empirical data is compared to the predictions derived from four theories, and confirming or disconfirming conclusions are drawn for all applied theories. In other words, these authors draw conclusions according to types A, B and D in our typology.

First, Wilson and Wilson selected four theories: the rational choice model, the bounded rationality model, the political model and the garbage can model. Next, they formulated 14 questions – two for each phase of a decision-making process – and deduced a priori the answers that they saw as most consistent with the four theories they selected (see Table 4).

After having set up this "prediction matrix" – as they call it – they started to collect the empirical information through conducting in-depth interviews with several members of four different organizations. The interviews were guided by the questions formulated in the predictions matrix, but they were semi-structured and included open questions. In addition to the transcripts of these interviews, the researchers collected other documents with relevant information on the decision-making process (Wilson and Woodside 1999: 219). The interviewers did not ask the questions from the prediction matrix directly; rather, they attempted to stimulate narrative storytelling about the decision-making process: "Please describe, in your own words, the decision making process that you and your colleagues experienced in buying the copier" (Wilson and Wilson 1988: 590). Thus, the acquired data was qualitative in nature. Before the scholars could use statistical techniques to analyze the data, it had to be translated into quantitative data.

Table 4: Predictions of four models on decision process activities

| Decision phase and operating mechanism | Rational model | Bounded rationality | Political model | Garbage can model |
|---|---|---|---|---|
| 1. Problem definition | | | | |
| Do the participants view the problem in the same way? | Y | P | N | P |
| Does the problem definition represent the goals of the organization? | Y | Y | N | Y |
| 2. Search for alternative solutions | | | | |
| Is search limited to a few familiar alternatives? | N | Y | P | P |
| Are potential solutions considered simultaneously and compared with one another? | Y | P | N | N |
| 3. Data collection, analysis, and use | | | | |
| Is information collected so that an optimal decision can be made? | Y | N | N | N |
| Is control over data collection and analysis used as a source of power? | N | N | Y | N |
| 4. Information exchange | | | | |
| Is information biased so as to conform to the preference (position) of the person transforming it? | N | Y | Y | N |
| Is information exchange negatively affected by people entering and leaving the decision process and changing their focus of attention? | N | P | N | Y |
| 5. Individual preferences | | | | |
| Do preferences change as problems become attached to or detached from the decision? | N | P | N | Y |
| Are individual preferences a function of personal goals and limited information about the alternative? | N | Y | P | P |
| 6. Evaluation criteria tradeoffs | | | | |
| Are criteria for a solution agreed on *a priori*? | Y | P | P | N |
| Do tradeoffs across solution criteria occur? | Y | N | P | N |
| 7. Final choice | | | | |
| Is the first alternative that exceeds the cutoff level(s) selected? | N | Y | P | N |
| Is the alternative chosen one that is expected to maximally benefit the organization, compared with other alternatives? | Y | P | N | P |

Y, yes (prediction confirmed); P, partial (prediction partially confirmed); N, no (prediction not confirmed).
Source: Wilson and Woodside 1999: 220[9], based on Wilson and Wilson 1988

In the process of interpreting the transcripts and documents, the researchers decided on the right 'answer' to their 14 questions for each case and compared these answers with their deductions from the four theories. Three 'judges' (members of the research team) independently searched for answers to the formulated questions in the empirical material and decided whether the empirical evidence was fully, partly or not at all in line with the predictions of the theories. Each judge made 56 evaluations (seven phases x two statements each x four cases), and the team tested the inter-judge reliability of the evaluations. Next, for each case, the number of 'hits' (congruence between reality and prediction) for each theory was counted. In three of the four cases, the bounded rationality model clearly received the most hits. The authors conducted a chi-square test to determine whether the number of hits was significantly higher than the number that could be expected by chance, and they applied a z-test to determine whether the number of matches for 'bounded rationality theory' was significantly greater than the hits for the other three theories. These statistical techniques were applied for each individual case and for the results of all cases (Wilson and Woodside 1999: 222).

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In the original study, Wilson and Wilson not only compared the level of correct predictions between the four theories; they also formulated hypotheses concerning the level of congruence they expected for each theory given the characteristics of the decision-making process under investigation (buying decisions for copier machines). Consequently, the conclusions drawn by Wilson and Wilson (1988) were quite different from those in the revised study presented by Elizabeth J. Wilson and Arch G. Woodside (1999). The high level of congruence for 'bounded rationality theory' was in line with their theoretical expectations. However, they were surprised by the lower but still significant congruence between the empirical results and the expectations derived from the political model and the garbage can model. These findings were not what they expected given the context conditions (Wilson and Wilson 1988: 592-3).

The difference between the original study (Wilson and Wilson 1988) and the reconstruction of the study (Wilson and Woodside 1999) is a first hint for what a difference a Bayesian approach to case study research can make for the conclusions that we draw. Formulating specific expectations based on the context conditions of the investigated cases leads to quite different interpretations of the same results of the congruence analysis proper than a simple comparison of the level of congruence between the theories. Nevertheless, Wilson and Wilson did not reflect on the position of the four theories they applied in the theoretical discourse. This reduced their ability to draw conclusions form their findings for the broader theoretical discourse beyond the cases under investigation. We have to introduce Bayesian thinking on the level of the theoretical discourse in order to find out how "crucial" the findings of the case study are beyond the cases under investigation. We will come back to this in the last part of the paper.

Another way to proceed with the congruence analysis proper can be found in the studies of Schimmelfennig (2003) and Blatter (2009). In contrast to Wilson and Wilson, these authors do not simultaneously compare the empirical data with expectations from different theories. However, evidence that is contradictory to theoretical expectations plays a much more important role in their analytical proceedings. Do to space restrictions I present only the Schimmelfennig study.

*Frank Schimmelfennig (2003): The EU, NATO and the Integration of Europe*

In the first part of his book, Schimmelfennig (2003) derives a differentiated and precisely specified set of propositions for the Eastern enlargement of the EU and NATO from three different theories, which share the conceptual core of the rational institutionalist paradigm. For the first theory – the security approach – Schimmelfennig deduces the following propositions in the form of necessary preconditions:

> "According to the security approach, enlargement will take place if it is necessary and efficient for both the non-member state (S) and the member states (M) of the organization (O) in order to balance the power or threat of another state or coalition of states (the rival R). The following specific conditions must be jointly present for a state to seek membership:
> (1) R is (becoming) more powerful than S or threatens S.
> (2) S is not capable of balancing the power or threat of R internally.
> (3) O is less powerful or threatening than R.
> (4) O is able to deter R from attacking S or to defend S effectively against an attack by R, or R is unalterably aggressive.
> (5) The security benefit for S of membership in O are higher than those S would reap from any other relationship with O" (Schimmelfennig 2003: 30).

For the organization (EU, NATO), Schimmelfennig specifies the following necessary preconditions:

> "(1) R is (becoming) more powerful than O or threatens O.
> (2) O is not capable of balancing the power or threat of R on its own.
> (3) S is less powerful or threatening than R.
> (4) For each M, the accession of S enhances its net internal and external security, or those members that benefit from the membership of S possess the bargaining power or provide the compensation to make M agree to the accession of S.
> (5) For each M, the security benefits of the membership of S are higher than those of any other relationship with S, or those members that benefit from membership more than from any other relationship with S possess the bargaining power or provide compensation to make M agree to the accession of S." (Schimmelfennig 2003: 30).

Schimmelfennig formulates similar sets of necessary preconditions from the other two theories within the rationalist paradigm (the power and welfare approaches; Schimmelfennig 2003: 32-3). Furthermore, Schimmelfennig reflects explicitly on the relationship among the various preconditions. Each condition within an approach has the status of a necessary condition. In other words, each approach is disconfirmed as an explanation for Eastern enlargement if one of the preconditions is not fulfilled. Schimmelfennig applies the "principle of charity" to the rationalist paradigm by specifying each of the three theories as sufficient for confirming the rationalist paradigm: "If a single approach produces a successful explanation, I count this as a confirmation of rationalist institutionalism as a whole" (ibid. 35).

Overall, Schimmelfennig's first chapters concentrate only on causal factors (specified in the language of necessary and sufficient conditions) and on the outcome to disconfirm Rational Institutionalism. Next, he follows the same procedure for Sociological Institutionalism and confirms this approach as far as preconditions and outcomes are concerned. Later, Schimmelfennig went beyond input factors and outcome to derive empirical implications from Sociological Institutionalism for the process of enlargement. As with Rational Institutionalism, he considered two different theories within this paradigm (differentiated by their divergent micro-foundation/action-formation mechanisms, habitual action and normative action). For the normative action approach, he formulates five hypotheses (I provide only a selection here):

> "(N1) The CEECs' desire to become NATO and EU members was a corollary of their identification with the Western international community and its constitutive values and norms. (N2) […].
> (N3) The Western organizations offered membership to, or reacted favorably to the membership requests of, democratic CEECs.
> (N4) […] (N5) …" (Schimmelfennig 2003: 162)

For the 'habitual action theory', Schimmelfennig formulates a similar list of hypotheses, but the combination of the two approaches is very different from the way he connected the different rationalist theories. Schimmelfennig argues:

> "The main assumption the habitual and normative action hypotheses have in common – and that distinguishes them from the other process hypotheses [which he formulated in later chapters, JB] – is that social values, norms and identities […] shape the actors' identities, interests, and preferences. […] Therefore, in order to test these process hypotheses, the most important facts are the enlargement preferences of the member and applicant states. If the preferences are, in general, uniform among the relevant actors, follow the community values, norms and identity and correspond to the enlargement rules of the organization, the analysis supports the sociological-institutionalist perspective" (Schimmelfennig 2003: 163).

Consequently, the two theories are not presented as two potentially different pathways to enlargement but as theories that share three necessary preconditions, which can be evaluated by examining the enlargement preferences of the member and the applicant states.

In his empirical chapters, Schimmelfennig takes up the propositions that he formulated in his theoretical sections and painstakingly explains the extent to which they are in line with the empirical data in his two case studies. For NATO enlargement, Schimmelfennig (ibid. 37-44) shows that all of the conditions deduced from the security approach in the rationalist paradigm were fulfilled for the Central and Eastern European Countries (CEEC), but this was not the case for the formulated conditions for the NATO member states. After demonstrating that the empirical reality is not in line with the security approach with respect to member states, he compares the congruence between the propositions of the power approach and the empirical evidence and comes to the same conclusion: none of the rationalist approaches can explain why member states accepted the NATO enlargement (ibid. 43-51). He proceeds in the same way for his second case – EU enlargement – and produces the following finding: Rationalist Institutionalism can explain the interest of the CEEC in joining NATO and the EU, but it cannot explain the willingness of the member states of these two organizations to accept their bid because the preconditions deduced from rationalist approaches are not in line with the empirical findings.

After showing that the empirical findings contradict rationalist expectations, Schimmelfennig turns to an evaluation of the propositions that he deduced from Sociological Institutionalism. This chapter is structured according to the theoretical propositions. First, Schimmelfennig refers to primary and secondary sources to show that NATO and the EU are international communities with a liberal political culture. Second, with reference to databases like POLITY and Freedom House, he tests the sociological institutionalist hypothesis that only states that exhibit a certain level of liberal culture are accepted as new members. Overall, this kind of data shows a high level of congruence with the formulated propositions on the relationship between causal conditions and outcomes. Nevertheless, in the second part of the book, Schimmelfennig shows that the empirical information does not correspond to the expectations derived from Sociological Institutionalism with respect to the process of enlargement. For this argument, Schimmelfennig presents data that indicate that the preferences of many member states and the initial steps in the enlargement process do not confirm Sociological Institutionalism.

At the beginning of the final part of the book, Schimmelfennig develops two alternative theoretical mechanisms that link individual state preferences and community norms (rhetorical action and communicative action), and he deduces partly competing observable implications (ibid. 193-226). He tests the partly congruent and partly competing implications by interpreting the authoritative speech acts of representatives of the major actors in the process of NATO expansion. Schimmelfennig presents many examples of statements by CEEC countries as confirming evidence for the rhetorical action hypothesis. He explicitly states why these statements are more in line with the theoretical concept of rhetorical action than with communicative action (ibid. 235). The most convincing evidence for the rhetorical action proposition is presented when Schimmelfennig shows that most sceptics of Eastern enlargement did not change their preferences; they were silenced because they could not argue against the liberal community values they had previously upheld. Schimmelfennig then discusses alternative explanations. He stresses that rhetorical action is confirmed by empirical evidence, but he acknowledges that there are other plausible explanations based on materialist

theories. Consequently, rhetorical action loses the status of a necessary condition to explain NATO enlargement. Thus, he embarks on another case study (sequential selection of cases!) and selects a case in which this alternative explanation is less likely – the EU enlargement process. In this case study, he focuses on the intergovernmental decision-making process and attempts to disentangle the potentially confounding effects of bargaining and shaming (ibid. 264-5). In fact, he provides considerable empirical evidence in line with Rhetorical Action Theory and uses the case study to further elaborate on the various elements of this theory: "rhetorical commitment," "rhetorical argumentation", and "rhetorical entrapment".

Overall, Schimmelfennig mainly compares empirical information with the expectations from only one theory. He shows the extent to which the data are in line with the first established theory and what gaps remain, and then he does the same with the next established theory. In his final attempt to make a case for Rhetorical Action Theory, he uses confirmatory evidence and the corresponding types of conclusions (C, G in Table 3).

These examples show that there are different ways to proceed with the congruence analysis proper and that, after comparing the congruence of the empirical information with the expectations deduced from theories, scholars use different ways of reaching conclusions for the theories' adequacy to explain the investigated cases. In the next section of the paper, I am going to show how further conclusions can be drawn from the findings in the studied cases to the broader theoretical discourse within a CON approach.


**Crucial Cases and Theoretical Generalization**

In widely recognized article, John Gerring (2007b) has questioned the viability of "crucial cases" in case study research. The notion of "crucial cases" goes back to Harry Eckstein (1975) who introduced this term together with the terms "most-likely case" and "least-likely case" in order to point to the fact that often cases are not chosen according to the rules of the co-variational approach – securing variation in the independent variable of interest and similarity in respect to all other independent variables – but with reference to the ex ante likelihood that the cases correspond to the theories applied in the study. Nevertheless, Eckstein's classical treatment of this topic remains open for various interpretations, and Gerring's understanding remains firmly within the ontological and epistemological confines of the co-variational approach and in consequence, he ends up questioning whether we are really able to find "crucial cases." In the following I want to show that the congruence analysis approach provides the basis for a much better understanding of what "crucial cases" actually are. Searching for "crucial cases" is not only a viable case selection strategy for theory-oriented scholars, a sophisticated and differentiated understanding of "crucial cases" is the very basis for drawing reflective conclusions from the studied cases to the theoretical discourse in a field of research.


*Eckstein's original notions and examples*

Eckstein (1975) argues that case studies had a significant impact in the theoretical discourse when scholars selected 'most-likely cases' or 'least-likely cases'. These "crucial cases" have undermined or boosted the aspiration of theories to dominate the scientific and practical

discourse.[10] Eckstein points to Malinowski's influential study on obedience to norms, in which Malinowski chose a primitive, socially coherent society for empirical analysis. This was a 'most-likely case' for the assumption held by other anthropologists that obedience to norms is automatic and spontaneous in small and homogeneous societies because individuals are strongly embedded in the collective. When the findings conflicted with this assumption, the assumption was seriously undermined. The impact of Malinowski's study has been strong because he showed that automatic obedience to norms does not occur, even under the most favourable circumstances and because he challenged a widely held assumption.

According to Eckstein, Michels chose a 'least-likely case' to bolster the claim that oligarchy in organizations is a ubiquitous phenomenon because the distinction between delegates and ordinary members invariably leads to the former's power over the latter. To construct a particularly strict test for this theory, Michels chose the German Social Democratic Party during the Weimar Republic. As Eckstein explains, the antecedent conditions did not look promising for this theory: the party was dedicated to grassroots democracy and associated ideologies, represented classes whose interest was in such a democracy, had elaborate intra-party democratic procedures and the delegates had the same social background as the members. All of these characteristics made the equivalence between organization and oligarchy extremely unlikely in this case. Nevertheless, Michels demonstrated that even this organization had an oligarchic structure (Michels 1962, as discussed in Eckstein 1975: 118). In consequence, Eckstein argues that Michels study has been 'crucial' for the oligarchy in organization hypothesis because it hold even under the most unlikely circumstances.

*Gerring's limited introduction of Bayensianism and his critical rationalist stance*

Gerring's (2007b) treatment connects Eckstein's notions to more recent terminology by introducing Bayesianism. This represents an important step for an adequate understanding of "crucial cases". Nevertheless, since Gerring's thinking is very much confined to the co-variational approach in all his writings on case studies (with the minor exception of a small chapter on causal process tracing in his book, Gerring 2007a), he does not recognise that Bayesian reasoning must be applied at least as much on the abstract level of theories as on the concrete level of cases in order to get and understanding of "crucial cases" that is helpful for theory-oriented scholars.

Let's have a brief look at Gerring's argumentation before we lay out the fundaments of the CON approach, which lead to a more fruitful and differentiated understanding of "crucial cases". Gerring describes a Bayesian approach as follows:

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[10] I deliberately avoid terminology with the falsificationist associations that positivists like Gary King, Robert O. Keohane, and Sidney Verba use in the debate about crucial cases when they state that Lijphart's work on the Netherlands has been "the case study that broke the pluralist camel's back" (2004: 186). Since Pluralism certainly was not falsified by Lijphart's single case study, it seems much more adequate to formulate the consequences of Lijphart's study for the theoretical discourse on the preconditions for stable democracies in a languages that indicate the sensitivity a) of a critical realist epistemology to the diversity of the social world and b) of a constructivist epistemology to the power relations in the social sciences: a) Lijphart has shown that there are multiple paths towards a stable democracy; and b) Lijphart's study undermined the monopoly or hegemony that Pluralism had in the academic discourse at the time of its writing. Both claims can be disputed, of course. But they certainly better represent the impact of Lijphart's study on the scientific discourse than King, Keohane and Verba's statement.

> „The degree to which h [a hypothesis] is confirmed by e [a set of evidence] depends […] on the extent to which P (e|h) exceeds P (e), that is, on how much more probable e is relative to the theory and background assumptions than it is relative just to background assumptions. […] Thus, the stranger the prediction offered by a hypothesis – relative to what we would normally expect – the greater the degree of confirmation that will be afforded by the evidence" (Gerring 2007b: 234, with reference to Howson and Urbach 1989: 86).

In other words, the riskier an explanatory proposition or a hypothesis is given what we know about the case and given what we would perceive as 'normal', the more potential leverage confirmatory evidence has for the hypothesis. The decisive step in applying these Bayesian insights within a CON approach is to realize that the 'background assumptions' and the 'normal expectations' are derived from two different sources:

a. from contextual factors or antecedent conditions within the cases, and
b. from the constellation of theories within a scientific discourse.

I will come back to this fundamental insight in a moment. But first I want to show how much Gerring is stuck in the ontological and epistemological presuppositions of the co-variational approach and therefore has to end up with a sceptical stance in respect to the viability of finding "crucial cases".

First, the terminology is already revealing: In the most important statements, Gerring writes about a hypothesis and not about theories. In other words, as it is typical for the co-variational approach, he reduces theories to a hypothetical causal relationship between an independent and a dependent variable. Furthermore, for Gerring a Bayesian approach involves only one hypothesis, the resulting prediction and the empirical evidence. As shown, within a CON approach, a theory is explicated through a much broader set of specified constitutive and causal propositions, which can be compared with a broad set of empirical observations. But this comparison between theoretically deduced expectations and empirical observations is not used to verify or falsify one single theory but it is compared again to the level of congruence that another theory is able to produce. The end result is a better understanding of the relative merits of the applied theories in explaining the case(s) under investigation.

Second, Gerring's methodological reasoning is grounded in a strongly positivist epistemology, which implies further ontological presumptions that are not helpful for finding an adequate understanding of theoretically crucial cases. In a hard-core positivist fashion, he assumes that we use case studies to verify or falsify theories through the verification or falsification of the hypotheses that we derive from them (in the ideal-typical form of this approach, there is only one causal hypothesis deduced from each theory). Based on these epistemological premises, he argues that there is an important difference between 'least-likely cases' and 'most-likely cases', which has not been sufficiently laid out by Eckstein in its original treatment of "crucial cases". 'Least-likely cases' can only be used for confirming a theory. In contrast, 'most-likely cases' are used to disconfirm a hypothesis, and therefore, the underlying theory must be deterministic in the sense that the existence of a cause is necessary and sufficient for producing the effect (Gerring 2007b). For Gerring – and for most positivists cum critical rationalists (e.g. King, Keohane and Verba 2004) – both characteristics seriously undermine the value of a crucial case approach in case study research. As followers of Karl Popper, they value falsification much more than verification and question the viability of deterministic theories in the social sciences.

In our book (Blatter and Haverland 2012), we show that on the basis of a non-fundamentalist and pragmatist epistemological stance in the middle ground between Positivism, Constructivism and Realism we can identify certain places within specific research

approaches where both – verification as an epistemologically grounded methodological approach, and determinism as an ontological presupposition – make good sense (and many others where they do not). But in order to get to a useful understanding of "crucial cases" we have to leave the narrow confines of hard-core Positivism and co-variational thinking. We must start all over again by taking into account the theoretical discourse in which empirical research projects are embedded. This is because we must consider *ex ante* not only the relationships between theories and cases but also the constellation of theories within a scientific discourse in order to find out how crucial specific cases could be for this discourse.

*Towards a theory-oriented understanding of crucial cases*

In order to get to a fruitful understanding of crucial cases, we have to take into account two important insights, which represent cornerstones of the CON approach:

- a theory-oriented case study has to compare the empirical observations with (at least) two theories, and
- the constellation of theories within the theoretical discourse provides the most important background information about what we would "normally" expect as the outcome of the congruence analysis.

In our book (Blatter and Haverland 2012: chapter 4.2.3) we provide an extensive list of arguments why a congruence analysis that applies (at least) two theories is much better than a CON approach that applies only one (which is logically possible). At this point (and with the word limits of a conference paper already stretched tremendously), I just want to refer to Peter Hall (2006) again, who has been stressing the fact that good social science is a "three-cornered fight" between two theories and the empirical observations, and I want to point to the fact, that our emphasis on a plurality of theories is very much in line with Eckstein, who states: "Crucial case study obviously proceeds best when a case is treated in both senses [as a most-likely case and as a least-likely case] and confronted with both theory and countertheory" (Eckstein 1975: 119).

The crucial step for a theory-oriented understanding of "crucial cases" is to apply the Bayesian rational that empirical evidence for the unexpected has a stronger impact than proof of the expected (also) on the level of the theoretical discourse. An explicit reflection of the status of various theories within a scientific discourse in a specific field of research provides the basis for defining what result we would expect when conducting a congruence analysis for a case that belongs to this field of research. The "normal expectation" is that the established or dominant theories would prevail. They would produce the most explanatory insights into the cases; or in other words: we would expect that the empirical observations would show a higher level of congruence with the established or dominant theories in comparison to new or peripheral theories.

For a full list of factors that influence the theoretical importance of "crucialness" of cases, we should include the insights provided by Eckstein and Gerring and take the relationship between ex-ante observed context factors or antecedent conditions and theories into account. In other words, Bayesian reasoning should be applied on both levels of abstraction. Nevertheless, applying the Bayesian rational on the level of the theoretical discourse is the most important step for arriving at a fruitful understanding of "crucial cases". Before we end up with a full list that influence the theoretical crucialness of cases and display the entire set of potential cases from the "most crucial" to the "least crucial", we have to go back to the organization of scientific knowledge. In the following section, I pick up the first aspect that I

mentioned in my description of the horizontal organization of knowledge and show that in most fields of research we can identify central and peripheral theories.

*Central and peripheral theories within more or less centralized systems of knowledge*

Systems of knowledge can be organized as hierarchies with a single center or as polyarchies with multiple centers. Today, there are still some social theorists who aim for a fully integrated and consistent theoretical approach to understanding and to explaining the entire social world. Hartmut Esser, for example, has laid out such a full-fledged theoretical approach in seven volumes (Esser 1993, 1999-2001). At the heart of his endeavor is the expected utility theory, the behavioral model of the 'homo oeconomicus', which is also the basis for Rational Choice and Game Theories. Esser is able to integrate a large range of social theories into one consistent theoretical approach by adding material, institutional, ideational and cultural structures as complementary concepts to his behavioral core concept. In consequence, his approach to the organization of knowledge in the Social Sciences is mono-centric. Although many social scientists implicitly follow such a mono-centric understanding of knowledge accumulation (by designing their empirical research on the basis of a single theoretical approach), the reality in most fields of research is characterized by a plurality of paradigms and theories, which partly compete and partly complement each other. Acknowledging this reality leads to the conclusion that a congruence analysis should include a plurality of theories and not just one theory.

A scholar who applies a congruence analysis approach with the aim to contribute to the scientific discourse should reflect on the existing horizontal organization of the system of knowledge. Ideally, a system can be either centralized (if there exists a clearly dominant paradigm or theory) or polycentric, whereby two or more theories occupy a similarly powerful position in the scientific discourse. As always in the Social Sciences, the description of the system is influenced by one's own interpretations. Nevertheless, most fields of research are certainly characterized by a mix of these ideal-types, which means that there is neither just one hegemonic theory nor a situation where all theories are equally respected. Therefore, it seems very well possible to come up with a widely agreed description of the relative status of various theories within a field of research. In consequence, for each pair of theories, we know which one is the more central or powerful and which one is the more peripheral and less influential in the moment when the case study is conducted.

*The theoretical "crucialness" of cases: factors of influence and a hierarchical typology*

Overall, the conclusions that we can draw from small-N studies for the broader theoretical discourse depend on four aspects:
-   the positions of the applied theories in the scientific discourse;
-   the likeliness of theories to explain the case, which can be estimated upfront on the basis of context conditions or general characteristics of the case;
-   the empirical support that the theories receive in the empirical study; and
-   the real world relevance of the studied case.

The first three aspects have been introduced and discussed before. The last aspect reminds us that even theory-oriented research depends at the end on how much it is connected to cases that have a strong impact in the social reality. It is quite obvious that a study on the major integration steps of the EU or a study on the Eastern enlargements of NATO and the EU has a stronger impact on the theoretical discourse in the field of IR than a study on a policy-field specific agreement between Spain and Portugal, for example.

We can presume that a small-N study (like any other study) has the strongest impact if it modifies the positions of theories within the scientific discourse by undermining dominant theories and by strengthening new theories. Consequently, a case has the highest level of relevance for the theoretical discourse if it is a 'most-likely case' with respect to the dominant theory and a 'least-likely case' with respect to an alternative theory and if the congruence analysis leads to clearly better results for the alternative theory than the dominant theory.

This leads to an ideal-typical definition of a 'crucial case' as a case that has been a 'most-likely cases' with respect to a dominant or established theory in scientific discourse, but the empirical observations provided no confirmation; and, at the same time, a case that has been a 'least-likely cases' with respect to a peripheral or new theory, and which has received much empirical confirmation. Nevertheless, the core insight of these reflections is that "crucialness" is not an either-or concept but comes in various degrees because it depends on a plurality of factors. The full set of possible constellations of (most of) these factors of influence is displayed in table 5.

| No. of case-type | Dominant theory | | Alternative theory | | Theoretical relevance ('crucialness') |
|---|---|---|---|---|---|
| | Context Conditions | Empirical Result | Context Conditions | Empirical Result | |
| 3 | Most–likely | Disconfirmation | Least-likely | Confirmation | Very Strong |
| 2 | Most-likely | Disconfirmation | Likeliness unclear | Confirmation | Very Strong/ strong |
| 3 | Likeliness unclear | Disconfirmation | Least-likely | Confirmation | Strong |
| 4 | Least-likely | Disconfirmation | Least-likely | Confirmation | Strong |
| 5 | Most-likely | Disconfirmation | Most-likely | Confirmation | Strong |
| 6 | Least-likely | Confirmation | Most-likely | Disconfirmation | Strong |
| 7 | Least-likely | Confirmation | Likeliness unclear | Disconfirmation | Strong/ medium |
| 8 | Likeliness unclear | Disconfirmation | Most-likely | Confirmation | Medium/ strong |
| 9 | Least-likely | Disconfirmation | Likeliness unclear | Confirmation | Medium |
| 10 | Least-likely | Confirmation | Least-likely | Disconfirmation | Medium |
| 11 | Likeliness unclear | Confirmation | Most-likely | Disconfirmation | Medium/ weak |
| 12 | Most-likely | Confirmation | Most-likely | Disconfirmation | Weak/ medium |
| 13 | Most-likely | Confirmation | Likeliness unclear | Disconfirmation | Weak |
| 14 | Least-likely | Disconfirmation | Most-likely | Confirmation | Weak |
| 15 | Likeliness unclear | Confirmation | Least-likely | Disconfirmation | Weak/ very weak |
| 16 | Most-likely | Confirmation | Least-likely | Disconfirmation | Very weak |

**Table 5: The relevance and crucialness of cases for the theoretical discourse**

Assumptions:
a) for at least one theory, information on 'likelihood' is available or produced;
b) the two theories are competitive; if one is confirmed, the other is disconfirmed.

The main message of this table is that scholars should reflect on the position of the applied theories in the theoretical discourse and on the 'likelihood' of the cases they select for all relevant theories upfront. Scholars can use these reflections to select cases that have a good chance of being theoretically relevant. Nevertheless, the relevance of the small-N study for the theoretical discourse ultimately depends on the empirical findings.

We have not included the fourth factor that influences the theoretical 'crucialness' of a small-N study – the real world relevance of the case(s) under investigation – in the table for two reasons. First, including this factor would have made the table overly complex and would have distracted from the main message of the table: the 'crucialness' of a case depends on the a priori expectations and the empirical findings with respect to two theories, not just one theory. The other reason is that the fourth factor is located outside the scientific system and serves as a reminder that the struggle for recognition and dominance in the theoretical discourse takes place not only on the bases of methodological rigor and formal logic, as the table seems to suggest.[11]

**Summary and conclusion**

Overall, in this paper I tried to make the case for a diversified understanding of case study research. Causal-process tracing is not the only alternative to the co-variational template. For theory-oriented scholars, the CON approach holds a lot of potential. From a methodological point of view, the biggest promise it to overcome the strong cleavages that emerged between positivist and interpretative scholars. The main part of this presentation has been devoted to show that we have developed an understanding of CON that acknowledges that interpretation is an unavoidable aspect of inferential leaps between various levels of abstraction, but introduces formal logic in order to control these inferential leaps or to make them more intersubjectively comprehensible. Furthermore, the CON approach provides the ontological and epistemological fundaments for a valid and useful understanding of "crucial cases". It contains important insights for overcoming the narrow confines of the co-variational approach, which still hampers the recognition of the full potentials of case study research.

Having stressed the potentials and advantages of the CON approach throughout the paper, I would like to end up with a cautionary note in order to signal our awareness that each research approach has its limits and problems. One of the major problems and dangers of the CON approach, which is especially virulent within a competing theories approach, is the fact that the goal of contributing convincingly to scientific discourse demands a significant investment in theoretical knowledge and specification. This might come at a price when it leads to superficial observations of the empirical case. Furthermore, there is a strong temptation to use empirical information selectively. For example, it has been shown that Andrew Moravcsik, in his book on European Integration – which is in many ways a showcase for the CON approach – made grave mistakes in the interpretation of the empirical material that he used for his theoretical stance in favour of Liberal Intergovernmentalism (Lieshout, Segers, and van der Vleuten 2004). Nevertheless, it is exactly one of the main tasks of methodology to provide the concepts and tools for reducing these problems and mistakes. We hope that our teaching book is a valid contribution to this task.

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[11] The impact of small-N research on the theoretical discourse depends on the real world relevance of the selected cases – and, we should add, on the reputation of the scholars and their institutional affiliations. This factor has not only be left out of the table, but it has not been included in the list of factors of influence, since it is not a normatively valid factor of influence bit a matter of fact.

**List of References**

Adcock, R. and D. Collier (2001). 'Measurement Validity: A Shared Standard for Qualitative and Quantitative Research.' *American Political Science Review* 95(3): 529–46.

Allison, G. and P. Zelikow (1999). *Essence of Decision: Explaining the Cuban Missile Crisis.* New York: Longman.

Bennett, A. (2010 [2004]). "Process Tracing and Causal Inference." In *Rethinking Social Inquiry: Diverse Tools, Shared Standards,* eds H. E. Brady and D. Collier. Lanham: Rowman & Littlefield, 207-220.

Blatter, J. (2009). 'Performing Symbolic Politics and International Environmental Regulation: Tracing and Theorizing a Causal Mechanism beyond Regime Theory.' *Global Environmental Politics* 9(4): 81–110.

Blatter, J., F. Janning, and C. Wagemann (2007). *Qualitative Politikanalyse: Eine Einführung in Forschungsansätze und Methoden.* Wiesbaden: Verlag für Sozialwissenschaften.

Blatter, J. and T. Blume (2008). 'In Search of Co-Variance, Causal Mechanisms or Congruence? Towards a Plural Understanding of Case Studies.' *Swiss Political Science Review* 14(2): 115–56.

Brady, H. E. and D. Collier, eds (2004). *Rethinking Social Inquiry: Diverse Tools, Shared Standards.* Lanham: Rowman & Littlefield.

Collier, D. and J. Mahon (1993). 'Conceptual "Stretching" Revisited: Adapting Categories in Comparative Analysis.' *American Political Science Review* 87(4): 845–55.

Eckstein, H. (1975). 'Case Study and Theory in Political Science.' In *Handbook of Political Science*, eds F. Greenstein and N. Polsby. Reading: Addison-Wesley, 79–138.

Elster, J. (1998). 'A Plea for Mechanisms.' In *Social Mechanisms: An Analytical Approach to Social Theory*, eds P. Hedstroem and R. Swedberg. Cambridge: Cambridge University Press, 45–73.

Esser, H. (1993). *Soziologie: Allgemeine Grundlagen.* Frankfurt am Main: Campus.

Esser, H. (1999-2001). *Soziologie: Spezielle Grundlagen.* [Volumes 1 to 6], Frankfurt am Main: Campus.

Ganghof, S. (2005). 'Kausale Perspektiven in der vergleichenden Politikwissenschaft: X-zentrierte und Y-zentrierte Forschungsdesigns.' In *Vergleichen in der Politikwissenschaft*, eds S. Kropp and M. Minkenberg. Wiesbaden: Verlag für Sozialwissenschaften, 76–93.

George, A. and A. Bennett (2005). *Case Studies and Theory Development in the Social Sciences.* Cambridge (MA): MIT Press.

Gerring, J. (2007a). *Case Study Research: Principles and Practices.* Cambridge: Cambridge University Press.

Gerring, J. (2007b). 'Is There a (Viable) Crucial-Case Method?' *Comparative Political Studies* 40(3): 231–53.

Gerring, J. (2008). 'Review Article. The Mechanismic Worldview: Thinking Inside the Box.' *British Journal of Political Science* 38(1): 161–79.

Goertz, G. (2003). 'Cause, Correlation and Necessary Conditions.' In *Necessary Conditions: Theory, Methodology, and Applications*, eds G. Goertz and H. Starr. Lanham: Rowman & Littlefield, 47–64.

Goertz, G. (2006). *Social Science Concepts: A User's Guide.* Princeton: Princeton University Press.

Hall, P. (2006). 'Systematic Process Analysis: When and How To Use It.' *European Management Review* 3(1): 24–31.

Hedstroem, P. and R. Swedberg (1998). 'Social Mechanisms: An Introductory Essay.' In *Social Mechanisms: An Analytical Approach to Social Theory*, eds P. Hedstroem and R. Swedberg. Cambridge: Cambridge University Press, 1–31.

Hedstroem, P. and P. Ylikoski (2010). 'Causal Mechanisms in the Social Sciences.' *Annual Review of Sociology* 36: 49–67.

King, G., R. O. Keohane, and S. Verba (1994). *Designing Social Inquiry: Scientific Inference in Qualitative Research.* Princeton: Princeton University Press.

King, G., R. O. Keohane, and S. Verba (2004). 'The Importance of Research Design.' In *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, eds H. E. Brady and D. Collier. Lanham: Rowman & Littlefield, 181–92.

Lakatos, I. (1970). 'Falsification and the Methodology of Scientific Research Programs.' In *Criticism and the Growth of Knowledge*, eds I. Lakatos and A. Musgrave. Cambridge: Cambridge University Press,

Lieshout, R., M. Segers, and A. van der Vleuten (2004). 'De Gaulle, Moravcsik, and The Choice for Europe.' *Journal of Cold War Studies* 6(4): 89–139.

Lijphart, A. (1971). 'Comparative Politics and the Comparative Method.' *American Political Science Review* 65(3): 682–93.

Lijphart, A. (1975). 'The Comparable-Cases Strategy in Comparative Research.' *Comparative Political Studies* 8(2): 158–77.

Mahoney, J. and G. Goertz (2004). 'The Possibility Principle: Choosing Negative Cases in Comparative Research.' *American Political Science Review* 98(4): 653–69.

Mill, J. (1875). *A System of Logic, Ratiocinative and Inductive: Being a Connected View of the Principles of Evidence and the Methods of Scientific Investigation.* London: Longmans, Green, Reader, and Dyer.

Moravcsik, A. (1998). *The Choice for Europe: Social Purpose and State Power from Messina to Maastricht.* London: Routledge.

Muno, W. (2003). 'Fallstudien und die vergleichende Methode.' In *Vergleichende Politikwissenschaftliche Methoden: Neue Entwicklungen und Diskussionen*, eds S. Pickel, G. Pickel, H.-J. Lauth, and D. Jahn. Wiesbaden: Verlag für Sozialwissenschaften, 19–36.

Owen, J. (1997). *Liberal Peace, Liberal War: American Politics and International Security.* Ithaca (NY): Cornell University Press.

Patzelt, W. (2005). 'Wissenschaftstheoretische Grundlagen sozialwissenschaftlichen Vergleichens.' In *Vergleichen in der Politikwissenschaft*, eds S. Kropp and M. Minkenberg. Wiesbaden: Verlag für Sozialwissenschaften, 16–54.

Sagan, S. (1993). *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons.* Princeton: Princeton University Press.

Sartori, G., ed. (1984). *Social Science Concepts: A Systematic Analysis.* London: Sage.

Stake, R. (1995). *The Art of Case Study Research.* London: Sage.

Vennesson, P. (2008). 'Case Studies and Process Tracing: Theories and Practices.' In *Approaches and Methodologies in the Social Sciences: A Pluralist Perspective*, eds D. Della Porta and M. Keating. Cambridge: Cambridge University Press, 223–39.

Wilson, E. J. and D. T. Wilson (1988). '"Degrees of Freedom" in Case Research of Behavioral Theories of Group Buying.' *Advances in Consumer Research* 15: 587–94.

Wilson, E. J. and A. Woodside (1999). 'Degrees-of-Freedom Analysis of Case Data in Business Marketing Research.' *Industrial Marketing Management* 28(3): 215–29.

Yin, R. (2009 [1984]). *Case Study Research.* Thousand Oaks: Sage.