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## Can there Be Causal Effects on the Macro Level?

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# Can there Be Causal Effects on the Macro Level?

by Karl-Dieter Opp

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One of the controversial issues in the debate about methodological (or structural) individualism (henceforth denoted as MI) is whether there are causal relationships between macro variables. One position, advanced by Analytical Sociology and the rational choice approach, is that there are only correlations [Hedström and Bearman 2009, 10-11; Opp 2011]. These approaches suggest a mechanism that explains macro relationships. The Coleman boat [Coleman, 1990, chapter 1; see also the first exposition of this scheme in McClelland 1961, 47] illustrates the basic argument: macro factors set in motion processes on the micro-level that end up in a macro outcome.<sup>1</sup> Thus, there is no direct causal effect on the macro level.

Daniel Little challenges this argument. He advances a “methodological pluralism” that uses a micro-foundation, but allows causality on the macro level [similarly Jepperson and Meyer 2011; Elder-Vass 2010]. In this comment, some arguments are provided that support the claim of MI.

## An Illustration

Some empirical studies show that increasing state repression correlates with an increase of demonstrations and other forms of protests. In explaining this macro rela-

<sup>1</sup> It is awkward that the macro variables in the Coleman boat are connected by a causal arrow. However, the argument is that there must be a correlation.

tionship, one might posit that state repression led to moral indignation and increased mutual encouragement of friends and acquaintances to participate (macro-to-micro relationship). These micro variables (moral indignation, encouragement) are individual motivations that instigate the repressed subjects to protest more frequently (micro relationship). The individual protests aggregate to the macro variable joint protests (micro-to-macro relationship). Figure 1 shows this model.

Note that there is only an *indirect* causal effect of repression – via the micro level – on joint protests. Note further that the micro-to-macro relationship is not an empirical but an analytical (or logical) one in the sense that there is a simple arithmetic aggregation.

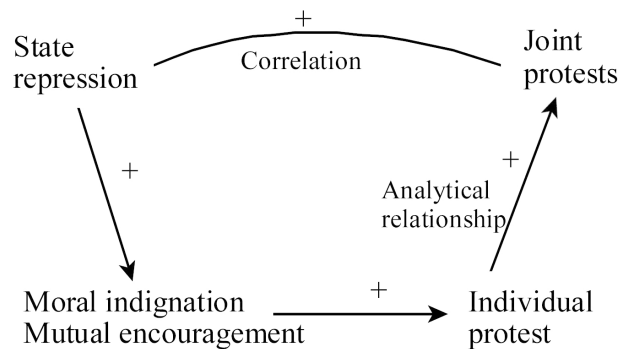


FIG. 1. Example of a Micro-Macro Model

Now let us expand this macro proposition (Figure 2, upper panel). Assume the hypothesis is that state repression has a causal effect on joint protests and on the formation of new protest groups. Furthermore, the newly formed protest groups increase the joint protests. Note that all the relationships are causal.

However, it seems plausible that there are only *indirect* causal effects via the micro level. For each of the bivariate “causal” relationships a micro-macro model can be formulated. The lower panel of Figure 2 shows this for the relationship between state repression and number of protest groups. It is held that state repression has the effects of the previous model (Figure 1). In addition, the belief that forming new groups could help to realize the goals of the protesters is relevant. These factors leads to mobilization activities which empirically lead to the formation of a higher number of protest groups. We will use these examples in the following discussion.

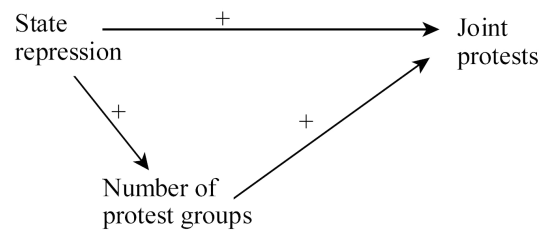
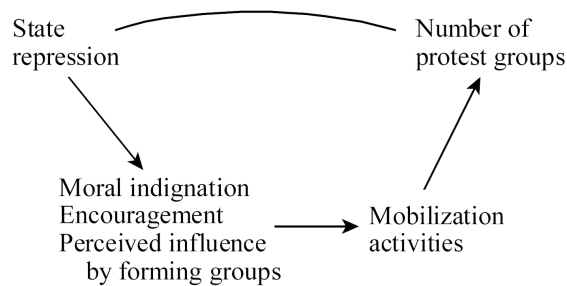
**2A: Initial macro model****2B: Partial micro-macro model**

FIG. 2. Example of a Micro-Macro-Model with a Meso-Level

***Argument 1: Strong Examples of Contemporary Sociological Research Include Causal Macro Propositions***

In his detailed analysis of case studies, Little finds: “The majority of these cases assign causal powers to meso- and macro-level social structures and causes.” However, sociological practice may be deficient. Philosophers of science have repeatedly criticized existing sociological theorizing and research because they are at odds with accepted methodological rules. An example is the failure of historians to apply explicitly social science theories [Kiser and Hechter 1991]. The question thus arises whether there are good arguments for this sociological practice. Little finds that with one exception all studies are actor-centered and provide a micro-foundation of their macro propositions. No argument for causality on the macro level is provided. Do the macro factors really have effects on other macro variables, beyond the micro-level mechanisms?

***Argument 2: It Is Not Clear How Causality Can Be Established On The Macro Level***

Assume we find that person P got lung cancer. The cause is, it is held, that P was a heavy smoker. “Causality” means that always (or with a high probability) events of

*type X* (smoking) are associated with events of *type Y* (cancer), and that X precedes Y. This means that there is a lawful relationship between smoking and cancer. We can thus maintain that P's smoking was a cause for his cancer.

How could we establish causality between macro variables? Take the example of state repression and joint protest in Figure 1. The smoking example suggests that applying a lawful statement is necessary for knowing whether a relationship between singular events is causal. Do such laws exist on the macro level? Is there a law that events of *type X* (state repression) always (or with a high probability) are associated with events of *type Y* (increase of protest)? Such a law does not exist. State repression sometimes leads to deterrence and sometimes to escalation of protest, and sometimes has no effect at all. Furthermore, the relationship need not be linear. It has been found that there is an inverted u-curve, where the x-axis represents repression and the y-axis some form of dissent. Why? Gurr [1970, 238-239] argues that repression generates anger of dissidents which first outweighs their fear of sanctioning. When repression exceeds a certain threshold, fear is so strong that protest decreases. Thus, there is no macro law that can be used to derive the macro proposition. This is the *general problem of assigning causality on the macro level*: there are no laws that could be applied. The procedure in the literature is simply to assert singular causal statements claiming that a macro event X at time t and place p is a cause of event Y at time t and place p. Causality claims are based on plausibility only. This is insufficient.

### ***Argument 3: The Differential Effects of Macro Variables Indicate that Causality Runs via the Micro Level***

The repression example illustrates that the relationship between macro variables depends on the effects of repression on variables on the micro level. For example, repression may reduce further protest, *if* dissidents do not believe that their protest will lead to government concessions, and *if* dissidents are not members of protest encouraging networks. There will be other cases where these conditions on the individual level do not hold: protesters will increase their protest if they believe that the government will ultimately fulfill their demands. These explanation sketches suffice for the point to be made: it is very implausible that macro variables can be causes for other macro variables if their effects entirely depend on what happens on the micro level.

### *How Can Causality on The Macro Level Be Tested?*

To test the effects of state repression on joint protests, assume we select 150 countries. The data set includes information about state repression, individual protests and individual attributes (such as beliefs and discontent). A multi-level analysis could be performed with individual protests (which aggregate to collective protest) as a dependent variable. Independent variables would be individual attributes as well as state repression. Our expectation would be that state repression does not have a causal effect on protests. I am not aware that such tests have ever been provided.

### **Conclusion**

The position held by Little is a “methodological pluralism” that allows “meso-level causal linkages, constrained always by the requirement of microfoundations.” When “meso-level causal linkages” is replaced with “meso-level *indirect* causal linkages” I agree. It is important to emphasize that MI does not imply that macro-level theorizing is illegitimate. Of course, it is of interest, for example, what the relationship between state repression and revolutionary action are. But such relationships are not laws, they sometimes hold and sometimes do not, depending on the micro-macro mechanisms. Thus, at least in the long run, we always need a microfoundation for macro propositions.

Denying causality on the macro level does not imply that “structure” does not have “causal power.” On the contrary, MI accepts the importance of “structure and agency,” as it is sometimes put. However, structure works through individuals (i.e. “agency”) and not as an autonomous force on the macro level.

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## Can there Be Causal Effects on the Macro Level?

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Abstract: The comment focuses on a classic controversial issue for methodological individualism, whether there are causal relationships between macro variables. According to analytical sociology and rational choice theory only correlations obtain at the macro level, and suggest mechanisms to explain them. Daniel Little challenges this argument, advancing a “methodological pluralism” that uses a micro-foundation, but allows causality on the macro level. In this comment, some arguments are provided that support the claim of methodological individualism.

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*Keywords: Macro laws, micro-macro modeling, analytical sociology, rational choice theory, methodological individualism.*

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**Karl-Dieter Opp** is Professor Emeritus at the University of Leipzig, Germany, and Affiliate Professor at the University of Washington (Seattle). His areas of interest include collective action and political protest, rational choice theory, methodology of the social sciences, and social norms and institutions. He is author of *The Rationality of Political Protest* (1989) and coauthor of *The Origins of a Spontaneous Revolution* (1995). His most recent English book is *Theories of Political Protest and Social Movements. A Multidisciplinary Introduction, Critique and Synthesis* (2009). He has further written numerous books in German. His articles were published in scholarly journals such as the *American Sociological Review*, *Social Forces*, *Rationality and Society*, *American Political Science Review*, and *The American Journal of Political Science*.