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## **Accumulation of Knowledge in Theoretical History**

A Review Essay on *Historical Macrosociology: Methodology and Methods* by Nikolai S. Rozov (Novosibirsk State University, 2009).

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*Historical Macrosociology*: is announced as a textbook on macrosociology, or theoretical history, which the author rightly understands as two aspects of the same discipline. The book, which was published in 2009 by Novosibirsk State University in Russian, consists of six parts and is addressed mainly at graduate students, as well as at more advanced researchers who wish to refresh or replenish their methodological toolkit.

There are three important points to make about the book. First, it is a modern textbook on methodology of macrosociological research, including methodological advances recently made by both Western and Russian scholars. The reviewer himself used part of this book when teaching the course on “Socio-Economic Dynamics” for a master-degree program in sociology and economics. Second, the fundamental sixth chapter of the book is a sophisticated methodological instruction for both beginners and experienced researchers. It is particularly convenient to use because of detailed (in places, perhaps, too detailed) enumeration of possible steps to take in research program with many examples and much practical advice. Third, the book presents the methodology developed by the author, based on the studies by Robert Carneiro, Randall Collins, Arthur Stinchcombe, Charles Tilly, Charles Ragin, and many other eminent researchers. However, at this point some important methodological differences between the author and the reviewer appear, which will be discussed below.

The central theme of the first chapter is the famous controversy on the methodology of the humanities, which began in the late 19<sup>th</sup> century with books by W. Dilthey, W. Windelbandt, and H. Rickert. The main thread of the dispute is still alive and continues to divide the two opposite approaches to doing science, nomothetic and idiographic.

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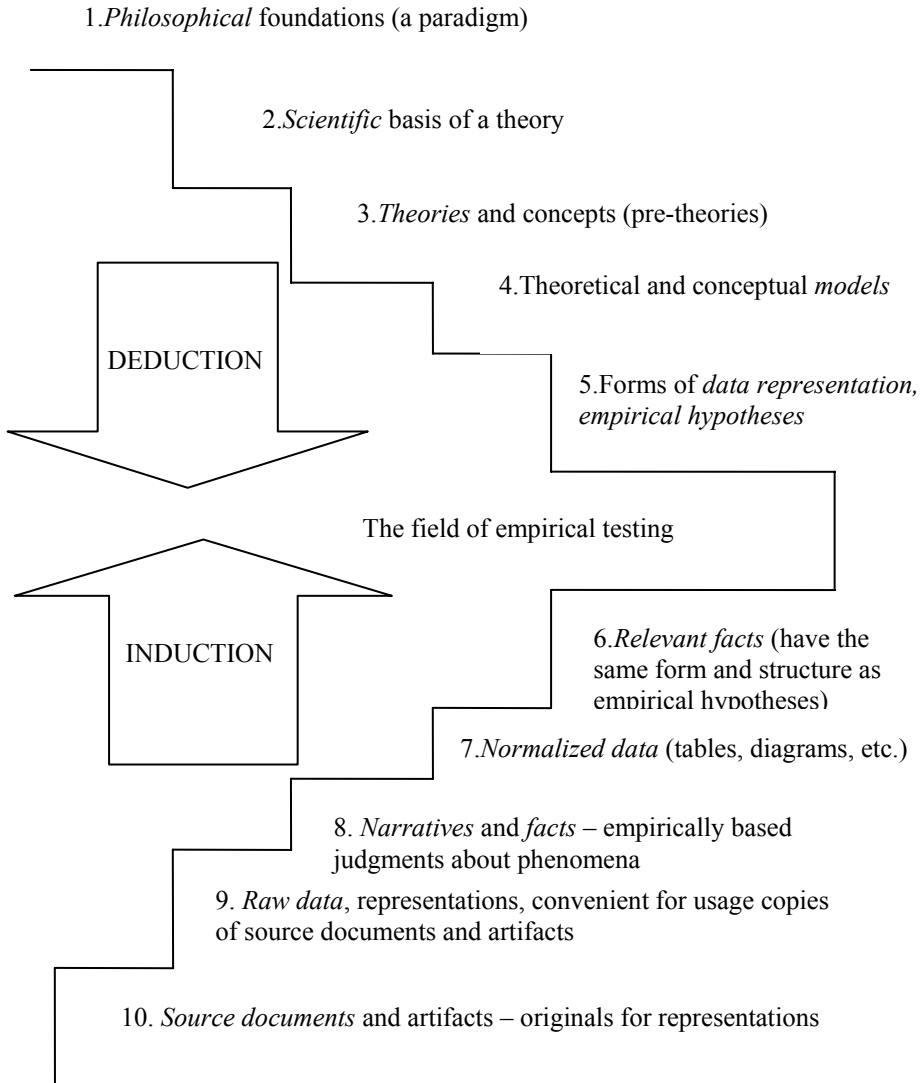
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*Nomothetics* involves a search for common patterns with the help of experiments, statistics, and formulation and testing of hypotheses. *Idiography* is a description of individual and unique phenomena. Being the student of Windelbandt, Rickert pointed out that the difference between these approaches includes not only the opposition between individualized and generalizing, but also the difference between the evaluative and value-neutral ways of thinking (p. 23). At issue is whether nomothetics, which is inherent in the methodology of natural sciences, can be used in the humanities and social sciences and, if yes, to what extent. Nikolai Rozov ably traces out the complicated historical trajectory of this dispute.

At the same time Rozov himself takes the position of an uncompromising supporter of nomothetics. The author's position is that it is possible to use generalizations and theoretical approaches in social sciences, although, naturally, subject to the specifics of historical and social knowledge. He argues for the possibility of knowledge accumulation, in this following on the ideas of Randall Collins. Moreover, Rozov claims that the main reason for the lack of knowledge accumulation is not in the obvious difficulties of "underdevelopment of convenient compact language for non-numerical representation of theoretical results and/or inability to use such means," but in the reluctance of researchers to overcome these and other difficulties.

Moreover, Nikolai Rozov accuses his Russian colleagues of an "antitheoretical consensus," that is, both a reluctance to perform theoretical work and repeated attempts to make broad generalizations without backing them by any empirical tests, or even indicating how such tests could be performed. Furthermore, most such broad, but ultimately sterile generalizations are proposed without any comparison with results obtained by either Russian, or foreign colleagues. In other words, generalizations are not brought to the level of theoretical knowledge and that is why no accumulation of knowledge occurs.

In the second part of the book the author considers the basis for the methodology of development of socio-historical theories. This platform includes the idea of research programs by Imre Lakatos (1978) supplemented by an approach of Arthur Stinchcombe (1987). "The methodological staircase" (Fig. 1) is the central concept of this chapter (p. 87). Movement on the staircase occurs in two opposite directions. One starting point is with philosophical theory (a paradigm, the core of a research program), and the other is the raw data ("sources"). Steps from the philosophical theory lead first to scientific foundations of theory and then to theories and concepts that are more formalized and elaborated. From the opposite direction, one can proceed from raw data to the narratives and facts (empirically grounded judgments about phenomena), and then to normalized data, the empirical models and schemes resulting from generalization. The convergence point, the goal of all sciences, is "the field of empirical testing."



**Figure 1.** The methodological staircase that integrates two main approaches in scientific thinking: the Cartesian tradition of rationalism (deduction from basic principles) and the Baconian tradition of empiricism (induction from raw data).

The third chapter presents intellectual resources and future prospects of macrosociology. It includes a review of main theoretical achievements of the recent decades, as well as a survey of the various models and approaches to data representation along with brief discussion of mathematical models and the “trend-structure” approaches (graphs of complex causal structures).

The same chapter provides examples of historical and social laws, which form a very diverse list of propositions made by various authors. This series includes some fairly trivial statements and rather abstract judgments (including non-falsifiable ones in Popper's terminology). On the other hand the list contains statements that obtain, at best, in a limited sample of cases. For example, on one hand,

- Each individual constructs his own subjective reality (taken from Collins 1975: 73)
- All human communication takes place in several modalities (visual, aural, emotional) simultaneously (Cicourel's multimodality principle; taken from Collins 1975: 153)

On the other hand, the list of laws includes the following propositions:

- Overextension brings resource strain and state disintegration (taken from Collins 1995: 1558)
- Any society that experiences a major strategic crisis through the exhausting of its dominant dynamic strategy and unable to develop a new dynamic strategy will collapse (taken from Snooks 1998: 204).

The only quantitative laws that are included in this list are:

- the dependence of the number of organizational features on population number
- an order of appearance of cultural traits

(both taken from Carneiro 1970a).

The author himself acknowledges the heterogeneity of these principles and refers the reader to another of his books for a more thorough conceptual integration (Rozov 2002). However, since not all readers of this book will want to read another book by the same author (incidentally, the previous one is more difficult to understand), most will probably be disappointed. The reader may be left with an impression that historical sociology has such a rudimentary theoretical basis that even the most ardent supporter of nomothetics could hardly manage to present it in a formalized structured form, and without mixing trivial truths with rather controversial statements.

The fourth, rather short chapter, “The Diversity of Comparative Historical Approaches” is, in my opinion, not a very successful attempt to combine the approaches of Charles Tilly (1984), Theda Skocpol and Margaret Sommers (1994), and Christopher Chase-Dunn (1991) with a number of other researchers. In my opinion the chapter mixes up approaches based on different principles, such as the following:

- classifications based on the scale of historical generalization (from individual countries and historical regions to world-systems);
- classifications based on the nature of similarities and differences;
- classifications based on the number of forms and cases covered by a comparison.

The author makes an attempt to base his methodology on the comparative method of Charles Tilly. However, this attempt is presented in such a brief and abstract fashion that the reader is left with many questions. In my view, these issues would be much more appropriately considered in section 2 of the 6<sup>th</sup> chapter (p. 253) where the approach of Charles Ragin (1994) is discussed. Following Ragin, Rozov focuses on three substantive research domains:

- individual communities (“commonalities”) with a small number of cases (examples of communities), but with a large number of aspects;
- “diversities” with a moderate amount of both examples and aspects in each case;
- relationships between variables that express few aspects, but are presented in a large number of examples.

The author identifies three research approaches to the study of these issues: qualitative research, comparative approach, and quantitative study.

Next, fifth chapter deals with logical analysis of causal relationships. If the end of the first chapter played a central role in explaining Rozov’s confidence in the possibility of knowledge accumulation in Historical Macrosociology, this chapter is central for the demonstration of logical devices that are recommended for conducting macrosociological research.

It is quite possible to agree with the author that the inductive methods of Bacon and Mill “should be perceived not as museum relicts in logical handbooks, which are too simplistic for today’s complex problems of theoretical history, but as a bundle of still very effective working tools for analysis, although with some well-known limitations” (p. 202–3). One can also agree with another statement that their main role is not to prove a final hypothesis, but to look for explanation and for formulation of initial hypotheses. However, when analyzing a small sample, in my experience, there is no need to build any tables or to use other formal approaches. But in the analysis of large samples, various methods of correlation, cluster and factor analysis, as well as other modern means of “data mining” are both more efficient and more convenient than the technique of 19<sup>th</sup> century logical analysis. At the same time in some intermediate zone, when the number of cases is insufficient for effective application of quantitative statistical methods, this (seemingly forgotten and obsolete) technique may serve to be quite modern and efficient.

This reviewer believes that, in the final analysis, the chief problem lies not in using more sophisticated methodological tools, whether logical or statistical,

but in deciding how to choose, or even define the appropriate variables to study.

1) A pre-existing consensus (or, at least, consent) of a large part of researchers on the variables that need to be taken into account is crucial. If such consensus does not exist, then an author must overcome the challenge of convincing the research community in the correctness of his choice (of variables to focus on). It is easy to imagine how difficult, time-consuming (as well as unconvincing for a critically-minded reader) is the approach recommended by *Historical Macrosociology*. According to the author's advice, justification for the variables (*explanans*, explaining variable) appearing in the final list is that each fulfills the adopted criteria (with respect to *explanandum*, explained variable), while those variables that were rejected do not fulfill the criteria (p. 185–6).

2) Most of the variables (both *explanances* and *explananda*) actually are poorly represented by discrete binary (yes/no) or, somewhat more elaborate, 5 or 6-point scales. The conceptually simplest and most precisely defined variables are demographic indicators, which are best represented as continuous numbers. The most complex variables are multi-valued vector quantities composed of a number of poorly measured and poorly distinguished from each other's values. Then come extremely vague "humanitarian" concepts such as "freedom," "level of trust between people," "the degree of collective solidarity," etc. The transformation of these and other such vague concepts into precise variables is a difficult task of operationalization, the main part of which, again, being to convince the research community in the appropriateness of choices made by the investigator.

Among other methodological procedures and logical devices, recommended in the book, are the scheme by J. Mackie (Mackie 1975) for identification of causes (INUS-conditions, i.e. elements of complex conditions), the apparatus of Boolean algebra, methods of testing theories proposed by Arthur Stinchcombe, etc. Unfortunately, the author pays very little attention to modern methods of "data mining," including the methods of multivariate statistics. Also, throughout the book there are only a few (even if highly complimentary) mentions of mathematical modeling and cliodynamics. The latter one is understood only as part of empirical, and mainly economic history (p. 111).

In my opinion, such a slight attention to complex statistical procedures is largely due not only to a lack of personal experience on the part of the author with statistical software packages, but also to the author's faith in purely deterministic explanations such as "necessary and sufficient conditions," or the possibility of finding the sole cause, the main mechanism, etc. However, in some cases the author's position is ambivalent. For example, he several times repeats sympathetically the assertion by Emile Durkheim, that the same effect always corresponds to the same reason (p. 201, 211–212, 219). At the same

time, he rightly stresses multifunctionality of many social practices, which may imply multicausality (p. 216).

Examples of classical macrosociological research Rozov cites are not very convincing. Contrary to the opinion of Durkheim and according to current studies, around 75–90% of suicides are connected to various mental illnesses or psychiatric deviations (e.g. Asukai 1995; Lonnqvist et al. 2001; Conwell et al. 1996). This fact, though, does not contradict the Durkheim's conclusion about the relationship between individualism and frequency of suicide because of the rarity of suicides in the general population. However, in Russia and other countries the majority of suicides are related not to individualism or collectivism but to immoderate alcohol consumption or to its social consequences (Alcohol Catastrophe 2008; Cher 2006).

A second example of a critical experiment mentioned in the book (based on the reasoning of Randall Collins) is the political future of Chinese state, which compares the theories of Jack Goldstone and Randall Collins on the main causes of state stability/instability. According to Goldstone's demographic-structural theory, overpopulation is one of the main factors of instability, while Collins considers a large population as an important geopolitical resource. Thus, whether the Chinese state strengthens or weakens as China's population continues to grow will allow us to test the two theories.

However, in our view, this statement is wrong. Of course, Chinese Government firmly adheres to the demographic-structural (or, perhaps, simply Malthusian) point of view and conducts a cruel struggle against the birth of new citizens. Thus, any outcome can be considered as support for either theory. If China's economic growth stalls, and it experiences difficulties, it could be an indication that the overpopulation of China was initially too great, and all further efforts, including widely practiced infanticide, were unable to solve the problem. Or, perhaps, the troubles were a result of the harmful effects of such harsh efforts to reduce fertility. If, however, China continues to rise, it can be explained both by correct population policy and by initially large population of the country. Moreover, there are many other theories besides those proposed by Goldstone and Collins that could explain any future course of China's development.

The sixth chapter of the book comprising about a quarter of its volume summarizes the contents of previous chapters. The author attempted to build a manual for young researchers that explains in detail, with many examples, the methodological procedures presented in the first chapters, and how they should be applied. Although the manual is addressed primarily at young researchers, the magnitude of the task greatly exceeds what could be a realistic research project for a graduate student or postdoc. Taking into account the above comment, one can divide presented approaches into several groups: for young researchers, for experienced researchers, and for both.



Some of the approaches (especially those discussed in the last sections of the 6<sup>th</sup> chapter) can be described as part of the author's credo, rather than practical tools for an empirical researcher. In these sections one can find both very interesting proposals for development of historical macrosociology and rather controversial statements, especially on the role of mathematical methods.

Among the interesting proposals are the idea of multi-stage attempts to falsify one's own theories that can broaden and deepen the theory without affecting its core. Such attempts at falsification can help further clarify and operationalize the main concepts of the theory.

However, the transition from these procedures to constructing quantitative theories raises numerous questions and objections. The first such objection concerns the order of qualitative and quantitative research. Rozov believes that quantitative regularities usually appear at the last stage of theory development, when its conceptual structure is more or less clear. At the same time, he does not deny the possibility of a reverse order: "Inverse relations and numerous iterations are surely possible and moreover they are assumed" (p. 233), although according to the order of presentation he still considers it a deviation from normal order of research.

I believe that as researchers' work towards an "ideal theory," the path they take could include complex and even unexpected sequences of qualitative and quantitative research. For example, the starting point of Malthus' theory was quantitative regularities (albeit incorrect). In further development, the Malthusian theory shifted to qualitative methods, and then reverted again to quantitative approaches. This theory is now a part of the most developed theoretical framework in cliodynamics (see Turchin and Nefedov 2009). The hyperbolic character of the global population growth became the subject of numerous studies only after it was quantitatively characterized by Foerster (Foerster et al. 1960). One can give many other examples.

Another recommendation in *Historical Macrosociology* is the use a "quasi-interval scale" with 12–13 values for a rough estimation of qualitative variables. I do not object to this technique, which has found wide application in theoretical sociology, yet I should note that the estimates obtained in this approach do not fully qualify as quantitative variables. First, the author himself is not sure what type of operations is better to apply to them: algebraic or logical ones. Second, even if we choose algebraic operations, it is unclear whether the recommended numerical values characterize the values themselves or their logarithms (his examples have quite pronounced character of multiplicative scales). Third, Rozov mainly focuses on algebraic equations but historical processes occur in the time domain, so it would be more natural to talk about differential or difference equations. In general, the question of the relationship between qualitative and quantitative regularities in macro-

sociology still remains a complicated problem requiring further methodological research and discussion.

As a conclusion, I consider the macrosociological theories that are repeatedly used to illustrate various propositions of the book. Let us evaluate how much support they provide to the general approach advocated in the book. The most frequent mention is made of Carneiro's circumscription theory of state formation (Carneiro 1970b, 1973, 1987) and Collins' theory of geopolitical dynamics (Collins 1978, 1986b, 1995), and these are the theories I will focus on.

The analysis below consists of a thesis followed by an antithesis, while the synthesis is left to the reader. The thesis is that both theories have not reached the level of credibility where one could consider them to be proven laws of historical macrosociology (at today's level of knowledge). The antithesis is that, despite the possibility of different interpretations, both theories have greatly enriched macrosociology, and their importance is so high that no further study of state formation and decay can be developed without taking into account these theories. I think that this antithesis is supported by numerous references to these studies in the scholarly literature.

Much more problematic is the thesis itself. My purpose is not to give a detailed analysis of Collins' geopolitical theory, so I will focus only on his "realized prediction" of the Soviet Union collapse, which is treated at length in *Historical Macrosociology*, as well as in many other publications.

Generally speaking, it is not unusual to periodically hear predictions of imminent collapse of any large empire, especially if it is disliked by its neighbors. Sometimes these forecasts simply reflect the author's hatred and wishful thinking ("the source of *such* evil must die"), sometimes they are based on analogies with other empires (all ancient and medieval empires sooner or later collapsed), sometimes on more carefully defined assumptions.

The Soviet Union was not an exception. Some of these predictions Collins discussed in his article (Collins 1995). Among them, he highlighted the predictions based on the ratio of Russian to non-Russian population in the USSR and its vassal countries (this was also discussed in d'Encausse 1979). However, as Collins notes, a multiethnic state has always a tendency to decay, but at the peak of its power the desire of minor ethnic groups to assimilate with the dominant *ethnos* overcomes this trend. Other authors do not explain why in some cases the tendencies to ethnic assimilation prevail, while in others the disintegration tendency prevails. That is why Collins rejected their versions of prediction as theoretically not well founded. For the same reasons he rejected the predictions based on the weakness of socialism in the production

of goods of mass consumption, degradation of Marxist ideology, the role of personal factor, etc.

I find it possible to agree with Rozov on many of Collins' ideas. But at the same time, in my opinion, Collins' analysis presents an overly formal approach to the problem. Additionally, the rapidity of the Soviet collapse greatly exceeded the rate envisioned by Collins.

As is well known, the Soviet Union initially had a dual nature: a) a new incarnation of the Russian Empire, and b) the state of a new type, which was to replace all previous regimes on the globe. The dual nature of the Soviet Union was indicated by symbols of the State: a) Moscow, the Kremlin, Russian as the state language, the Russian history as the history of the whole country, Pushkin and Russian literature of the 19<sup>th</sup> century as the supreme cultural achievement; and b) red star, hammer and sickle, the globe on the country's coat of arms, the name of the country that did not refer to ethnicity, and so on.

The analysis of Collins focuses entirely on the first aspect (the new Russian Empire). For the second one, which was most relevant during the 1920s–50s, when China was an ally, rather than an adversary, Collins' argument is inappropriate. Focusing on the first incarnation, Collins' prediction would fit the entire history of the Soviet Union, including the period when it rapidly expanded. Conversely, had the Soviet ideology remained the guiding star in the 1980s for Chinese Communists, Western leftist intelligentsia, and Eastern Europe, as well as for the majority of Russian intelligentsia, his prediction would not fit even the Gorbachev's era.

The causes that determined the transition from one incarnation to the other were mutually reinforcing processes of economic backwardness in production of mass consumer goods and the collapse of communist ideology, which was accompanied by the growth of consumerism. This process in turn stimulated the process of replacing Marxism by Russian nationalism as ideology, while strengthening of Russian nationalism led to an increase of the peripheral ethnic nationalisms. Thus, Collins' forecast, even remaining within the framework of his theory, turns out to be a consequence of other phenomena, which Collins rejects as insufficiently theoretically developed and unnecessary for forecasting at the macro-level.

The second example, the circumscription theory by Robert Carneiro is developed in the book gradually, as new elements are sequentially added to the theory. According to Rozov, this process is equivalent to a repeated modification of the protective belt in the methodological concept of Imre Lakatos. However, the changes made by Carneiro in his theory, in my view, surpass the limits that could be characterized as a protective belt. For example, in response to new and emerging anomalies to his primary theory, Carneiro replaced the emergence of statehood with the increase in the number of organizational levels. Circumscription was transformed from a purely geographical (ecological) concept into a complex concept, which has both

environmental and social content. Later the notions of the center and the periphery were introduced. Finally, it turns out that the rise of organizational complexity may be avoided even in conditions of geographical circumscription, by means of various methods of population control. For example, a lack of state formation in New Guinea is explained with the help of “infanticide, headhunting for members of neighboring tribes and related vendetta, cannibalism, regular raids and robbery (without territorial conquest), with the relevant systematic destruction of the population” (p. 319). Thus, the evolution of Carneiro’s ideas is rather an example of building new generalizing theories in which previous versions enter just as particular cases.

My task was not to challenge, suggest significant changes, or even reformulate the theories by Collins and Carneiro. To do so would require a more extensive investigation than a book review. The previous paragraphs just show that neither the debate about the causes of the origin of the state, nor the debate about the collapse of the Soviet Union and other great powers have been resolved, despite the emergence of theories with stronger logical and statistical justification. Still, the appearance of sophisticated theories with very substantial level of empirical adequacy (although much work remains) means that general knowledge is accumulating in historical macrosociology. This new discipline has moved far beyond many other branches of social sciences characterized by sterile disputes between incommensurable views of individual researchers. And the book of Nikolai Rozov, despite some controversial statements, illuminates the road to further accumulation of knowledge. Moreover, it presents methodological techniques of macrosociological research not only for beginners but also for advanced scholars.

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