

CRITERIA FOR THE SYNTHESIS OF THEORIES

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Abstract

The panel contribution discusses meta-theoretical criteria for the synthesis of theoretical perspectives. The paper starts with a discussion of the benefits of theory-synthesis. By systemizing scholarly contributions on the issue, the remainder of the paper elaborates criteria for theory-synthesis, thereby differentiating between theory-integration and theory-combination. Following Lakatosian concepts and terminology, the conditions for theory-integration are: sharing the “hard core”, multi-causal consistency, novelty, and empirical accuracy; for theory-combination, the criterion of non-contradiction of hard-core assumptions can be relaxed. The paper concludes with a discussion of the pitfalls of theory-synthesis.

1. Introduction

Should meta-theory be left to the philosophers? Not at all. For science to advance knowledge, one must be aware of how this knowledge is advanced and how one distinguishes “good” from “less good” theoretical approaches. This is what meta-theory is about. If theory-synthesis is assumed to be a means of knowledge advancement, one will need to decide how to do this, based on some sound criteria. Meta-theory provides guidelines for how to evaluate theories and how to judge scientific progress, and it should also guide the synthesis of theories.

While the meta-theoretical “toolbox” is still not well developed within international relations theory and foreign policy analysis, there are some worthwhile points of departure. The remainder of this short paper is build around the concept of Scientific Research Programs (SRP) by Imre Lakatos (1970). I argue that a synthesis of theories needs to follow criteria of coherence and consistency and that its results are to be judged by the same criteria by which Lakatos chose to judge research programs, namely their “ability to successfully generate predictions of novel facts that are subsequently corroborated with empirical evidence.”¹

2. Benefits of Theory-Synthesis

Linking theories to each other can be a mechanism for scientific progress. There are good reasons to assume that theory-synthesis is a better, i.e. more systematic, approach than making theoretical speculations arising from inductive findings as those tend to be “marred by vague, unarticulated first principles and behavioral assumptions that have not been carefully thought through.”² A phenomenon may be deemed “new” within a certain strand of

¹ Colin Elman and Miriam Fendius Elman, “Introduction. Appraising Progress in International Relations Theory,” in Colin Elman and Miriam Fendius Elman, eds., *Progress in International Relations Theory. Appraising the Field* (Cambridge: MIT Press, 2003) , p. 20.

² Barbara Geddes, *Paradigms and Sand Castles. Theory Building and Research Design in Comparative Politics* (Michigan: University of Michigan Press, 2003), p. 5. As Lakatos put it, they are “unimaginative series of pedestrian ‘empirical’ adjustments which [...] may [...] make some ‘novel’ predictions and may even conjure up some irrelevant grains of truth in them. But this theorizing has no unifying idea, no heuristic power, no continuity. They do not add up to a genuine research programme and are, on the whole, worthless.” Imre Lakatos, “Falsification and the Methodology of Scientific Research Programmes,” in Imre Lakatos and Alan

literature – while at the same time, there are theories of a different discipline that do make statements on many aspects of the very issue. A case in point is the phenomenon of UN transitional administrations: the discipline where international peace operations have been traditionally discussed, namely international relations theory, is not of use when it comes to the organisational problems that such ventures are facing – but administrative science, for instance, is. Hence, a combination of theories may be able to account for the success and failure of these operations.³

In this perspective, the very endeavor of theory-synthesizing is deeply rooted in the so-called generative tradition. It holds that “new theories are motivated by, and derived from, a body of previous results and guiding principles. According to this view, scientific progress is seldom achieved by boldly striking out into unknown territory. Rather, it arises from concentrated attacks on carefully framed questions and theories generated by extant research programs.”⁴

In order to defy the lurking risk of theoretical eclecticism, theory-synthesis should adhere to some basic criteria though.

3. Criteria for the Theory-Synthesis: Integration vs. Combination

The bottom-line is: theories to be synthesized must not contradict each other and the resulting theoretical framework has to produce an added value. In addition, the theoretical framework to be constructed has to stand the test of being empirically accurate.

Before I am going to discuss these conditions for theory-synthesis in detail, I make the case for a distinction between theory-integration and theory-combination.⁵

Musgrave, eds., *Criticism and the Growth of Knowledge* (New York: Cambridge University Press, 1970), pp. 91-195 (175).

³ Cf. Elisabeth Schöndorf, *Against the Odds. A Theoretical Argument and Two Cases of Successful UN Peace Operations* (Baden-Baden: Nomos, forthcoming).

⁴ Colin Elman and Miriam Fendius Elman, “Lessons from Lakatos,” in Elman and Elman, eds., *Progress in International Relations Theory. Appraising the Field* (Cambridge: MIT Press, 2003), p. 32.

⁵ I use the term “theory-synthesis” as the umbrella term for both, theory-integration and theory-combination.

3.1 Theory-Integration vs. Theory-Combination

It is important to distinguish between the integration and the combination of theories. The result of an integration of theories is a new theory, with one hard core and one “protective belt” of auxiliary hypotheses;⁶ the result of a combination of theories is a conglomerate of theories that themselves are not being altered. Theory-integration needs to adhere to stricter conditions: the theories to be integrated need to share a common hard core, i.e. they must not contradict themselves in their fundamental ontological assumptions. For theory-combination, on the other hand, conditions can be relaxed. Theory-combination may be the appropriate procedure, for instance, for synthesizing theories of different disciplines, such as combining theories from organizational psychology or from administrative science with foreign policy analysis.

At the end of the day, there is no qualitative difference between theory-integration and theory-combination: neither one is more desirable than the other. But we should be clear and explicit about what is being done.

3.2 Criteria

The title of this paper, *Criteria for Theory-Synthesis*, may indicate a well-defined set of guidelines that one just needs to fall back on when he or she wants to set out on theory-integration or -combination. But there is no such comfort zone. The matter is much less clearly cut. In fact, there is no epistemological consensus or standard procedure on how to build or synthesize theories, beyond pragmatic use. The meta-theoretical discussion of theory-synthesis is still some sort of white spot. However, there are interesting starting points in meta-theoretical contributions. One of the most promising ones, to my view, is the work of Imre Lakatos and of other distinct scholars who have engaged in further developing

⁶ The so-called protective belt of auxiliary hypotheses denotes the propositions of a given theory that are “tested, adjusted and readjusted, and replaced as new evidence comes to bear.” Ibid. “For example, in the neorealist research program, scholars typically distinguish two versions of the protective belt: defensive realism, in which states maximize security by defending the status quo; offensive realism, in which they do so by maximizing power.” Ibid.

his (sometimes admittedly erratic) reasoning⁷ – such as Alan Musgrave (1974), but also Andrew Moravcsik (1997, 2003), Colin Elman and Miriam Fendius Elman, (2003), Andrew Bennett (2003) or David Dessler (2003).⁸ While these contributions do not explicitly deal with theory-synthesis, or –integration or –combination for that matter, they make statements on how to bring about and how to judge the overall goal of scientific progress. In what follows, I deduct from their arguments what I call basic criteria for the synthesis of theories.

Sharing the Hard Core

Based on Lakatos' (1970) Methodology of Scientific Research Programmes, each theory has its hard core, reflected by its basic assumptions.⁹ For instance, liberalist views have an assumption on absolute gains while realists assume relative gains. Similarly, one of the hard core assumptions of neo-realism is that “states, not sub-state or supra-state actors are the primary actors in international politics.”¹⁰ For theories to be integrable, they have to share the same “hard core” in order to be logically coherent.¹¹ Based on a shared hard core, the

⁷ “[Lakatos] is not an easy author to pin down to a precise interpretation. His tendency to make vital points in footnotes, to proliferate labels for different intellectual positions, to coin new phrases and expressions, and to refer back and forth to his own writings – as if it were impossible to understand any part of them without understanding the whole – stands in the way of ready comprehension.” Mark Blaug, *The Methodology of Economics, Or how Economists Explain*, 2nd ed. (Cambridge: Cambridge University Press, 1992), p. 32, note 24.

⁸ Alan Musgrave, “Logical versus Historical Theories of Confirmation,” *British Journal for the Philosophy of Science*, Vol. 25 (1974), pp.1-23; Andrew Moravcsik, “Taking Preferences Seriously. A Liberal Theory of International Politics,” *International Organization*, Vol. 51, No. 4 (1997), pp. 513-553; Andrew Moravcsik, “Liberal International Relations Theory. A Scientific Assessment,” in Elman and Elman, eds., *Progress in International Relations Theory. Appraising the Field* (Cambridge: MIT Press, 2003), pp. 159-204; Elman and Elman, “Introduction. Appraising Progress in International Relations Theory;” Elman and Elman, “Lessons from Lakatos;” Andrew Bennett, “A Lakatosian Reading of Lakatos: What Can We Salvage from the Hard Core?,” in Elman and Elman, eds., *Progress in International Relations Theory. Appraising the Field* (Cambridge: MIT Press, 2003), pp. 455-494; David Dessler, “Explanation and Scientific Progress,” in Elman and Elman, eds., *Progress in International Relations Theory. Appraising the Field* (Cambridge: MIT Press, 2003), pp. 381-404.

⁹ Lakatos, “Falsification and the Methodology of Scientific Research Programmes,” pp. 91-196. An example of how to identify the hard cores of theories, see, e.g., Moravcsik, “Liberal International Relations Theory. A Scientific Assessment.”

¹⁰ Elman and Elman, “Introduction. Appraising Progress in International Relations Theory,” p. 19.

¹¹ In Lakatos's model of scientific research programs, the hard core is “protected by a negative heuristic, which is the rule that forbids scholars within this scientific research program from contradicting its fundamental premises of hard core (e.g., in response to newly discovered evidence that seems to disconfirm the theory).

main propositions – in Lakatosian terminology, “auxiliary hypotheses” – of each theory are linked to each other.¹²

The same principle holds when it comes to the integration of a new explanatory factor to a given theory: this variable must not contradict the fundamental premises of the theory. For instance, an autonomous international organization cannot be conceptualized as an actor in neo-realist theories.

An integration of a one or more new independent variable/s just adds one or more new auxiliary hypothesis/es, while the hard core remains intact.¹³ Theory-integration is thus only possible within a given research paradigm, defined as a series of theories based on the same fundamental premises.

Multi-Causal Consistency

Secondly, the different explanatory approaches must not contradict each other and they must be explicitly linkable to each other. That means every theory-synthesis needs to generate “linking” or “bridging” hypotheses that explain how the different perspectives relate to one another. This criterion of multi-causal consistency requires from the researcher to “[specify] the antecedent conditions under which it is valid and the precise causal links to policy outcomes.”¹⁴

For instance, the basic linking hypothesis of Alex Minz et al.’s (1997) poliheuristic theory is that political decision-making is a two-step process.¹⁵ The linking hypothesis in Alexander Wendt’s (1992) “Anarchy is what states make of it”, is – basically the title: “[A]narchy and

Alteration of the hard core would result in the creation of a new SRP, because the hard core essentially defines the SRP; if it changes, the SRP changes.” Ibid.

¹² This aspect will be elaborated in the next part, *Multi-Causal Consistency*.

¹³ For the sake of completion, changes in the protective belt (“problem-shifts”) should, according to Lakatos, follow the programs’ positive heuristic. This is “a set of suggestions or hints that guide the development of specific theories within the program. (For example, the positive heuristic of the neorealist research program would include the suggestion that scholars make predictions about international political outcomes, e.g., that balances tend to form in the international system, or that multipolar systems will be more war-prone than bipolar systems.)” Elman and Elman, “Introduction. Appraising Progress in International Relations Theory,” p. 20.

¹⁴ Moravcsik, “Taking Preferences Seriously,” p. 516.

¹⁵ E.g. Alex Minz et al., “The Effect of Dynamic and Static Choices on Political Decision Making: An Analysis Using the Decision Board Platform,” *American Political Science Review*, Vol. 91, No. 3 (1997), pp. 553-566.

the distribution of power only have meaning for state action in virtue of the understandings and expectations that constitute institutional identities and interests.”¹⁶ And as for the link for a potential synthesis of liberal theory with realism and institutionalism, Andrew Moravcsik (1997) argues that “[l]iberal theory is analytically prior to both realism and institutionalism because it defines the conditions under which their assumptions hold.”¹⁷

Novelty

The synthesis of theories needs to be based on scrupulous checks on the coherence and consistency of the multiple assumptions and explanations to be integrated. The result, however, should be theoretical innovation, producing predictions of novel facts or consequences. “Explaining things which were already known is cheap success and counts for nothing.”¹⁸ The problem, of course, is how to define what novel means. “[N]ovel in compare to what?” Lakatos, not surprisingly, has remained somewhat vague on the issue.¹⁹ Three definitions of novelty may be useful for judging the added value of theory-synthesis: new interpretation novelty, heuristic novelty, and background theory novelty.

First, new interpretation novelty denotes a new way of explaining an “old” fact, i.e. a well-known observation, thus converting it into a “new” fact.²⁰ Heuristic novelty is based on the question “whether the fact being offered to buttress a theory played some role in that theory’s construction. If so, the fact cannot be considered novel, and it thus provides no support for the theory in question.”²¹ The third approach, background theory novelty, was elaborated by Musgrave (1974), who argues that “in assessing the evidential support of a

¹⁶ Alexander Wendt, “Anarchy is What States Make of It,” *International Organization*, Vol. 46, No.2 (1992), pp. 391-425 (401).

¹⁷ Moravcsik, “Taking Preferences Seriously,” p. 516.

¹⁸ Douglas W. Hands, “Second Thoughts on Lakatos,” *History of Political Economy*, Vol. 17, No. 1 (1985), pp. 1-16 (6-7).

¹⁹ His vagueness sparked a vivid debate on the definition of novelty. See, e.g., Nancey Murphy, “Another Look at Novel Facts,” *Studies in History and Philosophy of Science*, Vol. 20, No. 3 (1989), p. 385-388.

²⁰ Cf. Lakatos, “Falsification and the Methodology of Scientific Research Programmes,” p. 118.

²¹ Elman and Elman, “Introduction. Appraising Progress in International Relations Theory,” p. 36. See also Elie Zahar, “Why Did Einstein’s Programme Supersede Lorentz’s?,” *British Journal for the Philosophy of Science* Vol. 24, No.2 (1973), pp. 95-123; John Worrall, “The Ways in which the Methodology of Scientific Research Programmes Improves on Poppers Methodology,” in Gerard Radnitzky and Gunnar Andersson, eds., *Progress and Rationality in Science* (Dordrecht: D. Reidel, 1978), pp. 45-70.

new theory we should compare it not with ‘background knowledge’ in general, but with the old theory which it challenges.”²² Applied to the endeavor of theory-synthesis, an integrated or combined new theoretical framework must be better than the best rival theory or rivalling synthesized approach available.²³

The bottom-line is that the result of a theory-synthesis must be an explanation of the hitherto unexplained by including new variables and perspectives. Quoting Hempel, “This condition must be met if we are to be entitled to say: ‘That explains it – the phenomenon in question was indeed to be expected under the circumstances.’”²⁴

Empirical Accuracy

Finally and obviously, the (novel) empirical claims of the synthesized theoretical framework as well as its “linking hypotheses” must be investigated and tested such as to be verified by evidence. It is not sufficient for a synthesized theoretical perspective to be just “plausible.”

This imperative implies that any theory-synthesis needs to be embedded within an adequate and conducive research design. Since certain theories correspond with certain methods of data collection and analysis, a synthesis of theories is likely to involve a synthesis of different methods. A qualitative within-case study may be the safest bet for a first-cut test of the new, synthesized theoretical framework.²⁵ Empirical testing and theory-synthesizing should be an iterative process and go hand in hand. The result may be further refinements of the synthesized theoretical framework.

²² Musgrave, “Logical versus Historical Theories of Confirmation,” p. 15.

²³ Cf. *ibid.* See also Martin Carrier, “On Novel Facts. A Discussion of Criteria for Non-ad-hoc-ness in the Methodology of Scientific Research Programmes,” *Zeitschrift für allgemeine Wissenschaftstheorie*, Vol. 19, No. 2 (1988), pp. 205-231.

²⁴ Carl Hempel, *Philosophy of Natural Science* (Englewood Cliffs: Prentice-Hall, 1966) p. 48, quoted in Dessler, “Explanation and Scientific Progress,” p. 393. This of course only applies to relevant phenomena: foreign policy theories do not have to explain, say, the extinction of the dinosaurs.

²⁵ Cf. Robert K. Yin, *Case Study Research*, 4th ed. (Thousand Oakes: Sage, 2009). On the construction of research designs, see Barbara Geddes, *Paradigms and Sand Castles. Theory Building and Research Design in Comparative Politics*.

4. Pitfalls of Theory-Synthesis

Theories “help us see the wood for the trees. Good theories select out certain factors as the most important or relevant if one is interested in providing an explanation of an event.”²⁶ Still, any theory only captures a certain part of reality and focuses on a certain set of explanatory factors, at a certain level of analysis. When we combine or integrate theories, our focus gets broader and can take into account more factors, and hence, account for more observations. But just as a “broad focus” is an oxymoron, an extensive combination or integration of theories eventually is of no use as a theory needs to reduce and not replicate complexity. Obviously, novelty is not the only one criterion to judge the success of a theory-synthesis. Another important aspect is theoretical leverage. This means that a social researcher should “[explain] as much as possible with as little as possible.”²⁷ As a rule of thumb, “The theory should be just as complicated as all our evidence suggests.”²⁸

Theory-synthesis should be done thoughtfully and guided by clear, explicit statements on procedure and criteria being applied. Clearly, political scientists need not be philosophers and they “need not be conversant with every detail of recondite conversations between epistemologists and their critiques.”²⁹ Still, meta-theory has in store a useful toolbox for theory-synthesis. The criteria suggested in this paper may serve as a starting point for discussion.

²⁶ Gerry Stoker, “Regime Theory and Urban Politics,” in David Judge, Gerry Stoker and David Wolman, eds., *Theories of Urban Politics* (London: Sage, 1995), pp. 54-71 (16).

²⁷ Gary King, Robert O. Keohane and Sidney Verba, *Designing Social Inquiry: Scientific Inference in Qualitative Research* (Princeton: Princeton University Press, 1994), p. 29.

²⁸ *Ibid.*, p. 20. The extent to which the leverage criteria is adhered to can, for instance, depend on how well studied the object of research is: the less we know about a phenomenon, the more potential causal factors or causal processes we should initially take into account.

²⁹ Elman and Elman, “Lessons from Lakatos,” p. 68.