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What's at Stake in the Agent-Structure Debate?

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# What's at stake in the agent-structure debate? David Dessler

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In this article, I seek to outline a structural model of international politics using principles drawn from the philosophy of scientific realism. To do so, it will be necessary to traverse the familiar theoretical terrain mapped out in Kenneth Waltz's *Theory of International Politics*<sup>1</sup> and intensively explored in the numerous analyses, assessments, and debates this work has sparked. The resulting literature, which covers a range of interconnected epistemological, ontological, methodological, and normative issues associated with the attempt to construct a theory of international politics, is as complex as it is extensive, and I will not attempt a survey or summary of it here. Instead, I would like at the outset to draw attention to a few of its salient features in order to configure as clearly as possible the aims of this article.

The critiques of Waltz fall roughly into two categories, representing what might be termed "internal" and "external" modes of assessment. Internal critiques accept Waltz's broad explanatory objectives: to uncover and explain regularities of state behavior, particularly those associated with cooperation and conflict.<sup>2</sup> External critiques of Waltz reject these explanatory goals in favor of projects defined within alternative analytic frameworks that in general downplay the importance of explaining behavioral regularities.<sup>3</sup>

For advice, encouragement, and comments on earlier drafts, I thank Michael Clark, Charles Doran, Robert Keohane, Kathleen McCarthy, and Andrew Moravcsik. I am also indebted to Stephen Krasner and the anonymous reviewers of *International Organization* for their insightful suggestions on the final versions of the article.

1. Kenneth Waltz, *Theory of International Politics* (Reading, Mass.: Addison-Wesley, 1979).

2. See, for example, Robert Keohane, "Theory of World Politics: Structural Realism and Beyond," in Robert Keohane, ed., *Neorealism and Its Critics* (New York: Columbia University Press, 1986), pp. 158–203; and John Gerard Ruggie, "Continuity and Transformation in the World Polity: Toward a Neorealist Synthesis," in Keohane, *Neorealism*, pp. 131–57.

3. Consider Robert Cox's historical materialism, as presented in "Social Forces, States, and World Orders: Beyond International Relations Theory," in Keohane, *Neorealism*, pp. 204–54; and the dialectical competence model offered by Richard Ashley in "The Poverty of Neorealism," *International Organization* 38 (Spring 1984), pp. 225–86. See also the work of Hay-

Like these external critiques, my article draws on an outside analytic framework—in this case, a framework based on scientific realism—to study the problems raised by Waltz’s theory. But unlike the external analyses, my article does not repudiate the explanatory goals set forth by Waltz. These goals reflect, as Robert Keohane has pointed out, long-standing concerns of political realism.<sup>4</sup> The case made in this article for an alternative to Waltz’s structural theory is not intended to displace or redefine the central questions of political realism.

The attempt to apply a philosophy of science (scientific realism) to specific scientific problems (those identified by political realism) requires a bridging of the gap between philosophy and the day-to-day practice of science. Surprisingly, although scientific realism has gained widespread recognition over the last decade for the coherence and cogency of its views of scientific practice, the implications of these views for substantive theory-building in the social sciences remain largely unexplored. The bulk of the literature explaining and defending scientific realism is critical in purpose, typically aimed at debunking the existing forms of “orthodoxy” in scientific practice rather than identifying concrete research alternatives. When such alternatives have been outlined, they have often been presented in terms too vague to be of practical use to interested scientists, even those sympathetic to the critical program. As one critic has noted, in these works “little is done to convince us that these approaches will fare any better than the orthodox one in the crucial test: in their ability to generate genuine, substantive theorizing when used in actual scientific practice.”<sup>5</sup> On this score, the scientific realist critiques of orthodoxy must be judged inadequate.

The problem does not seem attributable merely to inattention or oversight. Many of those working at the philosophical level seem wary of the descent to the plane of empirical science. Anthony Giddens, for example, whose “structuration theory” has been widely discussed across the social sciences, shies away from linking that theory to specific research practices. Commenting on one attempt (by a sociologist) to apply structuration theory to an empirical research problem, Giddens remarks, “I would not seek to insert the idea of structuration as directly into a research context as [this researcher] tries to do. . . . The theory of structuration . . . is not a magical key that unlocks the mysteries of empirical research, nor a research pro-

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ward Alker, especially “The Presumption of Anarchy in World Politics,” in Hayward R. Alker, Jr., and Richard K. Ashley, eds., *Anarchy, Power, and Community: Understanding International Collaboration* (forthcoming), pp. 1–62.

4. See Keohane, “Theory of World Politics.” “Political realism” is not the same as “scientific realism.” I will refer to each throughout this article by the full term.

5. Finn Collin, *Theory and Understanding: A Critique of Interpretive Social Science* (Oxford: Blackwell, 1985), pp. xii–xiii. See also Keohane’s remarks on Ashley’s dialectical competence model in Keohane, “Theory of World Politics,” p. 168.

gramme.”<sup>6</sup> Alexander Wendt’s recent discussion of the relevance of structuration theory to the study of international relations comes to a similarly qualified conclusion: “Structuration theory by itself . . . does not make a direct contribution to our substantive understanding of international relations per se.”<sup>7</sup> Wendt believes that the “social scientists’ adoption of a scientific realist perspective on ontology and epistemology could have potentially revolutionary consequences for their theoretical and empirical work.”<sup>8</sup> Yet he offers little substantive guidance to the scientist who wishes to adopt just such a perspective, since he sets forth only very broad epistemological and theoretical implications of scientific realism.<sup>9</sup> Given the reluctance of these “new philosophers of science”<sup>10</sup> to address problems of substantive research, it seems legitimate to ask why anyone other than philosophers should be interested in their work. Quite bluntly, why should social scientists pursuing programs of empirical research bother to consult with philosophers of science if the latter are unable to offer constructive suggestions for research?

In this article, I seek to determine how philosophical insight might yield an empirical payoff and, specifically, to show how the metaphysical victories claimed by scientific realism over its philosophical rivals might be exploited to generate a progressive research program in the structural analysis of international politics. I take as a baseline for this analysis what in current parlance is known as the “agent-structure problem” in social theory.<sup>11</sup> This problem is, strictly speaking, a philosophical one. It emerges from two uncontroversial truths about social life: first, that human agency is the only moving force behind the actions, events, and outcomes of the social world; and second, that human agency can be realized only in concrete historical circumstances that condition the possibilities for action and influence its course. “People make history,” observed Marx in an often-quoted aphorism, “but not in conditions of their own choosing.” These truths impose two demands on our scientific explanations: first, that they acknowledge and account for the powers of agents; and second, that they recognize the causal relevance of “structural factors,” that is, the conditions of action. The “agent-structure problem” refers to the difficulties of developing theory that successfully meets both demands.<sup>12</sup>

6. Anthony Giddens, “Comments on the Theory of Structuration,” *Journal for the Theory of Social Behaviour* 13 (March 1983), pp. 75 and 77. See also Charles Smith, “A Case Study of Structuration: The Pure-Bred Beef Business,” *Journal for the Theory of Social Behaviour* 13 (March 1983), pp. 3–18.

7. Alexander Wendt, “The Agent-Structure Problem in International Relations Theory,” *International Organization* 41 (Summer 1987), p. 369.

8. *Ibid.*, pp. 369–70.

9. *Ibid.*, pp. 361–69.

10. See Peter Manicas and Paul Secord, “Implications for Psychology of the New Philosophy of Science,” *American Psychologist* 38 (April 1983), pp. 399–413.

11. See Anthony Giddens, *Profiles and Critiques in Social Theory* (Berkeley: University of California Press, 1983), chap. 3; and Wendt, “The Agent-Structure Problem.”

12. Not every specific explanation, of course, need give a complete analysis of both agential powers and the conditions in which those powers are deployed. But the explanations must

It is important to stress at the outset a key feature of and limitation to structural theory, as conceived within discussions of the agent-structure problem. The job of structural theory is to explain the connections between the conditions of action and action itself. Structural theory “brackets,” or sets aside, considerations of the agential powers underpinning action.<sup>13</sup> It attempts to explain the various modes of enablement and constraint operative in given interactive settings, leaving aside considerations of the capacities and liabilities of the agents who respond to those conditions of action. Of course, any social action is the product of both structural and agential forces, and therefore a strictly structural explanation of action (like its agential counterpart) will necessarily be incomplete. Structural theory alone does not provide and is not capable of providing a complete explanation of action.

The remainder of this article is divided into five sections. The first section argues that a theory’s *ontology* (the substantive entities and configurations the theory postulates) is both the basis of its explanatory power and the ultimate grounding of claims it may have to superiority over rival theories. Imre Lakatos’s methodology of theory-choice is consistent with this conception of the link between ontology and theory. The second section assesses Waltz’s approach to structural theory, termed here the *positional model*. Unlike other critiques of Waltz, the one developed here firmly differentiates between the ontology of Waltz’s structural approach and the theory based on it. The positional ontology is shown to recognize only the unintended features of systemic organization. The third section of the article outlines an alternative ontology of international structure, called the *transformational model*, premised on the philosophy of scientific realism. The transformational model views structure as a means to action rather than as an environment in which action takes place. It gives central ontological position to social rules, both constitutive and regulative, intended and unintended. The fourth section offers a direct comparison of the positional and transformational models and discusses the empirical promise of a transformational research program. It also demonstrates that the positional model recognizes the structural status of unintended rules only, suppressing or ignoring the role of intended rules, and hence is incapable of generating full structural explanations of state action. Here the main thesis of the article is fully articulated: *Because the transformational model of structure provides a more comprehensive ontology than the positional model and is capable of grounding discussion of a wider range of phenomena than any positional theory, it provides a more promising basis for progressive theoretical research.* The

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make room for such completion; or, more accurately, the conceptual scheme or framework underpinning specific explanations must recognize and make appropriate allowance for the workings of both agency and structure, even if each specific explanation does not exploit this allowance.

13. Anthony Giddens, *Central Problems in Social Theory* (London: Macmillan, 1979), p. 81.

fifth section of the article concludes that the stakes in the agent-structure debate are indeed high and that they deserve the attention of all those interested in developing explanatory theories of international politics and, in particular, theories of peaceful change.

### The relation between theory, ontology, and explanatory power

In this section, I consider the distinction between theory and ontology and advance the scientific realist contention that ontology is the basis of a theory's explanatory power. I take "theory" to refer generally to testable explanations of observed behavior. Theory does not merely locate or describe associations between observable phenomena; it explains them. What is tested in testing a theory is not an association but the explanation of it. As Waltz notes, "Theories are qualitatively different from laws. Laws identify invariant or probable associations. Theories show why those associations obtain."<sup>14</sup>

"Ontology" refers to the concrete referents of an explanatory discourse.<sup>15</sup> A theory's ontology consists of the real-world structures (things, entities) and processes posited by the theory and invoked in the theory's explanations. The ontology of a discourse constrains but does not determine correct explanations in that discourse.<sup>16</sup> In classical physics, the ontology consists of space, time, and matter, meaning that all the entities or processes to which a classical explanation refers are embodiments of our relations between space, time, and matter. Newton's laws, for example, refer to mass, force, and acceleration. It should be stressed that an ontology is a *structured* set of entities; it consists not only of certain designated kinds of things but also of connections or relations between them. In the physics example, as Stephen Gaukroger points out, "Matter is 'in' space and time, but space and time are not 'in' matter."<sup>17</sup> In international relations theory, the statement "A system consists of a structure and interacting units" represents an ontological claim.

According to scientific realism, theories explain by showing how phenomena are products or aspects of an underlying ontology.<sup>18</sup> For example, a

14. Waltz, *Theory*, p. 5.

15. See Stephen Gaukroger, *Explanatory Structures: Concepts of Explanation in Early Physics and Philosophy* (Atlantic Highlands, N.J.: Humanities Press, 1978), p. 39; and Roy Bhaskar, *Scientific Realism and Human Emancipation* (London: Verso, 1986), p. 36. In this article, I use "model" interchangeably with "ontology."

16. Gaukroger, *Explanatory Structures*, p. 64.

17. *Ibid.*, p. 56.

18. See Jerrold Aronson, *A Realist Philosophy of Science* (New York: St. Martin's Press, 1984); Rom Harre, *The Principles of Scientific Thinking* (Chicago: University of Chicago Press, 1970); Rom Harre, *Varieties of Realism*, part 4 (Oxford: Blackwell, 1986); and S. Korner,

fever is explained as a by-product of the biochemical processes induced by a virus in the body; the behavior of a gas is explained as the motion of a collection of atoms possessing kinetic energy. A theory's explanatory power comes from its ability to *reduce* independent phenomena—that is, to show how apparently unconnected phenomena are actually products of a common ontology.<sup>19</sup> Biochemical explanations of disease are powerful because they show how apparently independent symptoms and signs are co-products of a single underlying process. For example, a cough and fever (among other clinical signs) are shown to be common aspects of, say, influenza. In this case, reduction is achieved by showing how independent phenomena—symptoms and signs that could and do appear independently in other circumstances, such as cough, fever, muscular aches, and so on—are features of a given ontological process (the workings of a virus). Reduction is achieved in other cases by ontologically linking the conditional existence of one type of entity (say, steam) with the conditional existence of another (for example, ice). Kinetic theory reduces these independent manifestations of water by detailing an atomic ontology which reveals that what exists as steam under one set of conditions (high temperature) will exist as ice under another set of conditions (low temperature).<sup>20</sup>

In general, the greater the number of independent phenomena a theory reduces, the better that theory is. That is, the richer and more comprehensive the underlying ontology, the better the theory. Newton's physics showed there was a connection between the variables in the law of free fall and Kepler's laws, thus reducing (ontologically uniting) terrestrial and planetary phenomena. The fall of an apple and the orbit of the moon, previously considered entirely unrelated phenomena, became just two examples of how collections of atoms behave when subject to gravity.<sup>21</sup> Einstein's general theory of relativity unified temporal, spatial, gravitational, and dynamical phenomena within a single ontological framework.<sup>22</sup> Indeed, one reason relativity theory earned widespread acceptance even before much experimental support had been collected was its ability to reduce many more independent phenomena than classical mechanics could. This feature of relativity theory was not one simply of correspondence with the facts; what made the theory convincing was not only that it explained well but also that it explained so many different phenomena within one ontological framework.

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*Categorical Frameworks* (Oxford: Blackwell, 1974). The terminology of "common ontology" is Aronson's. Harre speaks of "source analogues," Korner of "common categorical frameworks."

19. In *A Realist Philosophy of Science*, p. 174, Aronson states that "two phenomena are independent in that it is (physically) possible for one to occur without the other and vice versa."

20. The examples are Aronson's. See *A Realist Philosophy of Science*, pp. 174–75.

21. *Ibid.*, p. 271.

22. *Ibid.*, pp. 182–83.

The lesson is that theories which reduce more independent phenomena are, *ceteris paribus*, preferable to those which reduce fewer.<sup>23</sup>

This conclusion converges with important arguments advanced by Lakatos in his studies of the methodology of theory-choice in science. Lakatos is critical of the methodology of “naive falsificationism,” which involves simple tests of a given theory against the empirical record at a given point in time. Lakatos argues, first, that a theory is not to be evaluated alone against the evidence, holding it up against arbitrary standards of parsimony, elegance, power, and so on. Instead, it is properly evaluated only in comparison to other theories, in terms of standards not exogenously imposed but generated through the process of comparison itself.<sup>24</sup> Second, Lakatos argues that theories should be assessed not at a single point in time but in dynamic profile as part of an ongoing research program. Research programs are to be evaluated in terms of their ability to generate, in ongoing studies, increasingly powerful explanations from a stable core of standards and assumptions. In sum, according to Lakatos, theory-choice is both *comparative* and *dynamic*. The “sophisticated falsificationism” endorsed by Lakatos “is not simply a relation between a theory and the empirical basis, but a multiple relation between competing theories, the original ‘empirical basis,’ and the empirical growth resulting from competition.”<sup>25</sup>

Lakatos argues that in comparing two theories T and P, T is preferable to P (“P is falsified”) if T explains what P does and some other facts as well.<sup>26</sup> Since, as the scientific realists point out, theories explain by showing independent phenomena to be aspects of a common ontology, Lakatos’s criteria imply that T will be preferable to P if T is grounded in a more comprehensive ontology than that of P. By Lakatos’s test, Einstein’s physics is superior to Newton’s because the relativistic framework contains the unrefuted portion of the classical one and then goes beyond it, explaining

23. Einstein used this lesson to protect one of his theoretical predictions from countervailing empirical evidence. In late 1905, the experimental physicist Walter Kaufmann reported measurements of the mass of the electron at variance with claims Einstein had set forth in earlier research. Einstein rejected Kaufmann’s measurements, claiming that the “systematic deviation” reported between those measurements and Einstein’s predictions likely indicated an “unnoticed source of error” in Kaufmann’s work. Kaufmann’s data were to be dismissed because, in Einstein’s professed “opinion,” they supported theories that were not convincing alternatives to Einstein’s own. And what made Einstein’s theory more convincing was its ontological breadth. Einstein thus cited, as an independent criterion of theory-choice, the ontological power of his theory, in order to reject as implausible the data that contradicted his theory. Significantly, Einstein proved to be correct (though this was not shown for three decades). See the account in Arthur I. Miller, *Imagery in Scientific Thought* (Cambridge, Mass.: MIT Press, 1986), chap. 3; quotes are from pp. 118–19.

24. According to Lakatos, “There is no falsification before the emergence of a better theory.” See Imre Lakatos, *The Methodology of Scientific Research Programmes: Philosophical Papers*, vol. 1 (Cambridge: Cambridge University Press, 1978), p. 35.

25. *Ibid.*

26. *Ibid.*, p. 32.

additional facts not amenable to Newtonian explanation. The reason Einstein's theory wins the Lakatosian test, scientific realism stresses, is that it offers a more comprehensive underlying ontology, which reduces not only those phenomena reduced by the classical ontology but additional explananda as well.

### **The positional model of international structure**

Waltz's ontological model of the international system is based on an explicit analogy with economics: "Microeconomic theory describes how an order is spontaneously formed from the self-interested acts and interactions of individual units—in this case, persons and firms. The theory then turns upon the two central concepts of the economic units and of the market."<sup>27</sup> Analogously, the international system is to be conceptualized as the unintended creation of interacting units. "International-political systems, like economic markets, are individualist in origin, spontaneously generated, and unintended."<sup>28</sup> This statement suggests a fundamental ontological distinction between structure at one level of the international system and interacting units at another.<sup>29</sup> Waltz develops a number of terms to describe these levels and their differences. Structure refers to the "arrangement," "positioning," "organization," or "situation" of the units in the system. The units, which can be characterized and differentiated by their "attributes" or "properties," exhibit "interactions," "interconnections," and "relations" in their actions or behavior. Corresponding to the ontological distinction between the arrangement of units and their interaction is an epistemological distinction between systemic and reductionist theories.<sup>30</sup> A systems-level theory shows how "the organization of units affects their behavior and their interactions," while reductionist theories "explain international outcomes through elements and combinations of elements located at the national or subnational level."<sup>31</sup>

The ontology of the positional model, based on Waltz's two-tiered model of the international system, is summarized in Figure 1. Note that the arrow between levels points *upward* from interaction to arrangement. This reflects the ontological primacy of the individual unit in Waltz's account of the genesis of structure: "*From the coaction of like units emerges a structure that affects and constrains all of them. Once formed, a market [that is, a system] becomes a force in itself, and a force that the constitutive units*

27. Waltz, *Theory*, p. 89.

28. *Ibid.*, p. 91.

29. *Ibid.*, p. 40.

30. *Ibid.*, p. 18.

31. *Ibid.*, pp. 39 and 60.

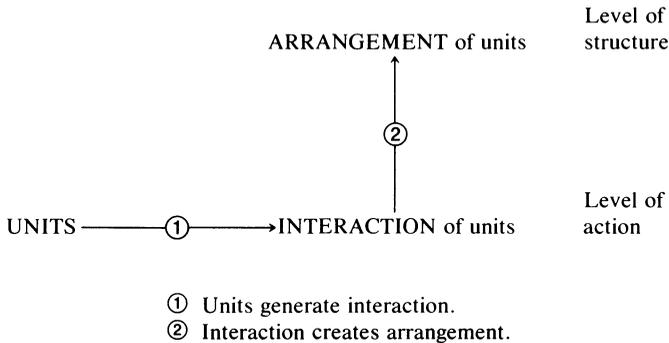


FIGURE 1. *Ontology of the positional model*

acting singly or in small numbers cannot control.”<sup>32</sup> In the ontology of Waltz’s approach, the unit precedes the system and through action generates structure. Of course, in Waltz’s causal explanatory scheme, structure is seen as constraining and disposing state action, and in this sense it can be said that the arrangement “leads to” (molds, limits, shapes, and shoves) the interaction. But ontologically speaking, it is the interaction of units that creates the structure, as depicted in Figure 1.<sup>33</sup>

Ontologically, then, structure is viewed as the unintended positioning, standing, or organization of units that emerges spontaneously from their interaction. To describe and understand structure—the initial step in constructing a theory of international politics—we must be careful to distinguish it, Waltz insists, from the underlying behavior of the units. We must separate the *interaction* of units from their *arrangement*. Both features, Waltz notes, might be described by the term “relation,” but only the latter is permitted in a definition of structure: “‘Relation’ is used to mean both the interaction of units and the positions they occupy vis-à-vis one another. To define a structure requires ignoring how units relate with one another (how they interact) and concentrating on how they stand in relation to one another (how they are arranged or positioned).”<sup>34</sup> The arrangement of units, unlike their attributes and interaction, “is a property of the system,” not of the units.<sup>35</sup> Therefore, while the attributes and interactions of states must be confined to the unit-level, Waltz argues, the arrangement of those states is properly considered a systemic feature.

32. *Ibid.*, p. 90; emphasis added.

33. Compare this figure with the diagram in Waltz, *Theory*, p. 40. Waltz shows arrows in both directions between interaction and arrangement, without clarifying the distinct relations they indicate. In the terms of the present discussion, the first (upward) arrow refers to the creation of system structure by unit interaction (postulated ontologically); the second (downward) arrow reflects the constraint imposed by structure on interaction (explained theoretically).

34. Waltz, *Theory*, p. 80.

35. *Ibid.*

It is important to stress that according to this ontology, structure refers only to the spontaneously formed, unintended conditions of action generated by the coactivity of separable units. Structure is, so to speak, a by-product rather than a product of interaction. Not only is it unintended, but it is essentially impervious to attempts to modify it or control its effects. Once structure is formed, “the creators become the creatures of the market [that is, the system] that their activity gave rise to.”<sup>36</sup> Even when structure is recognized for what it is, it continues to defeat strategies designed to evade its influence.<sup>37</sup> Structure rewards behavior that perpetuates its existence, and it punishes deviant action<sup>38</sup>; it thus endures regardless of the aims or wishes of the constitutive units. In sum, the positional model views structure as those conditions of action that are (1) spontaneous and unintended in origin, (2) irreducible to the attributes or actions of individual units, and (3) impervious to attempts to change them or escape their effects.

Having outlined the ontology of his approach, Waltz begins the move from model to theory, from a description of the ontology of structure to a theoretical definition of it. We know what structure *is*—the unintended arrangement, organization, or positioning of units in a system—but we have not yet determined how best to describe it and deploy it in causal explanation. We are in a position similar to that of natural scientists who agree that much of what goes on around us cannot be understood without an examination of the Earth and who also agree that “the Earth” refers to the globe on which we live but who nevertheless represent, characterize, or define “the Earth” in different manners, according to their explanatory goals. A scientist wishing to explain the planet’s motion about the sun may represent the Earth as a point mass; another studying the surrounding magnetosphere may characterize the planet as a magnet; and another explaining earthquakes may define the Earth as a curved surface of interlocking plates. All are correct; these scientists do not disagree, despite their different characterizations. In the study of the international system, the positional model identifies “structure” as the unintended arrangement of system actors. This ontology constrains but does not determine the theory it grounds. That is, in principle we can think up many different (and not incompatible) ways to conceptualize “arrangement” or “positioning,” just as scientists can conceptualize the Earth in many different but compatible ways.

Waltz directs us to three questions about the configuration of units in the system, the answers to which he offers as a tripartite theoretical definition of structure.<sup>39</sup> (1) What is the principle by which the parts of a system are arranged? In the international system, it is anarchy. (2) What functions are specified for the units? The functions of states are not formally differentiated.

36. *Ibid.*, p. 90.

37. *Ibid.*, pp. 107–11.

38. *Ibid.*, p. 74.

39. *Ibid.*, pp. 81–99.

(3) What is the distribution of capabilities across the units of the system? In the international system, bipolar and multipolar distributions exhaust recent historical experience. Waltz then argues that because states are functionally similar, “the second part of the definition drops out” in characterizing systems change<sup>40</sup>; hence, international structures are to be defined and compared according to two basic dimensions of state placement: anarchy and the distribution of power.

Waltz’s structural theory is meant to explain recurring patterns of actions and outcomes in the interstate system.<sup>41</sup> The persistence of interstate war is attributed to anarchy, and the enduring stability of the postwar international order is attributed to the bipolar distribution of power.<sup>42</sup> Waltz also links structure to specific actions and outcomes. For example, the American-Soviet arms race after World War II, peace within postwar Europe, China’s intervention in the Korean War, and Soviet negotiations with Germany in the 1920s and 1930s are all claimed by Waltz to be specific consequences of the workings of structure in international politics.<sup>43</sup> How are we to assess these claims? What are the strengths and weaknesses of the positional approach to structural theory, not only as a static explanation but also as a basis for progressive research? Lakatos insists that these questions must be answered not through simple appeal to the evidence but, rather, in terms of comparisons with a rival approach. This rival approach, rooted in scientific realism, must first be explicated.

## The transformational model of international structure

### *The ontology of society according to scientific realism*

The scientific realists’ agent-structure solution, as described by Roy Bhaskar, starts from a simple premise—namely, that “all [social] activity presupposes the prior existence of social forms.”

Thus consider *saying*, *making*, and *doing* as characteristic modalities of human agency. People cannot communicate except by utilizing existing media, produce except by applying themselves to materials which are already formed, or act save in some or other context. Speech requires language; making materials; actions conditions; agency resources; activity rules. . . . [S]ociety is a necessary condition for any intentional human act at all.<sup>44</sup>

40. *Ibid.*, p. 101.

41. *Ibid.*, p. 69.

42. See the following works of Waltz: *Theory*, p. 66; “The Stability of a Bipolar World,” *Daedalus* 93 (Summer 1964), pp. 882–87; and *Man, the State and War* (New York: Columbia University Press, 1959).

43. Waltz, *Theory*, pp. 125 and 127–28; and Waltz, “Reflections on *Theory of International Politics: A Response to My Critics*,” in Keohane, *Neorealism and Its Critics*, p. 332.

44. Roy Bhaskar, *The Possibility of Naturalism* (Atlantic Highlands, N.J.: Humanities Press, 1979), p. 43.

“Structure” refers, in this ontology, to the social forms that preexist action, these forms being conceived as analogous to language. Social structure stands in relation to social action as language stands in relation to discourse (speech and writing). This model suggests, Bhaskar notes, an Aristotelian conception of social activity, which likens the social agent to “a sculptor at work, fashioning a product out of the material and with the tools available to him.”<sup>45</sup> Structure is a set of materials that is “appropriated” and “instantiated” in action.

According to the transformational model, action is to be viewed by the social scientist as speech is viewed by the linguist: as the skilled accomplishment of actors utilizing the available media through which action becomes possible. The primitive entities comprising this ontology are actors, actions, and the materials for action (in contrast to the positional ontology, which consists of actors, actions, and the arrangement of actors). The transformational model suggests two important connections between action and the materials (structure) presumed by it. First, structure both enables action and constrains its possibilities. Second, structure is the outcome as well as the medium of action. Consider the language model. As a set of semantic and syntactic rules, language is the medium making communication possible; at the same time, it constrains the ways in which that communication can be effected. The rules of language make it possible to speak sensibly, and they put limits on what counts as sensible speech. Furthermore, language is not only the medium of discourse—being drawn upon and instantiated in speaking and writing—but it is also the outcome of that discourse, being “carried” through space and time by its usages. Thus, all social action presupposes social structure, and vice versa. An actor can act socially only because there exists a social structure to draw on, and it is only through the actions of agents that structure is reproduced (and, potentially, transformed). The ontology of the transformational model is summarized in Figure 2.<sup>46</sup>

45. Ibid. On this crucial conceptual point, Wendt misinterprets the scientific realist understanding of structure. In his view, “Structuration theory is a relational solution to the agent-structure problem that conceptualizes agents and structures as mutually constituted or co-determined entities” (“The Agent-Structure Problem,” p. 350). Wendt tilts toward a structural determinism in his analysis of the relation between state and system, conceptualizing the state as an *effect* of the internally related elements comprising structure (see Wendt’s discussion of “generative structures” on p. 346 and his claim that “structures generate agents” on p. 357). In viewing agents as products of structure, Wendt adopts a framework more similar to the dialectical model articulated by Peter Berger and Thomas Luckmann than to the transformational model of the scientific realists. See Berger and Luckmann, *The Social Construction of Reality* (Garden City, N.Y.: Doubleday, 1966), especially part 3, “Society as Subjective Reality,” pp. 119–68. For a scientific realist critique of this model, see Bhaskar, *The Possibility of Naturalism*, pp. 40–42. According to scientific realism, agents and structures are not “two moments of the same process” but “radically different kinds of thing” (Bhaskar, *The Possibility of Naturalism*, p. 42). By viewing structure in Aristotelian terms as *materials* that enable and constrain action, the distinction between agents and structures can be clearly maintained without lapsing into either voluntarism or determinism.

46. See also the diagrams in Giddens, *Central Problems in Social Theory*, p. 56, and in Bhaskar, *Scientific Realism and Human Emancipation*, p. 126.

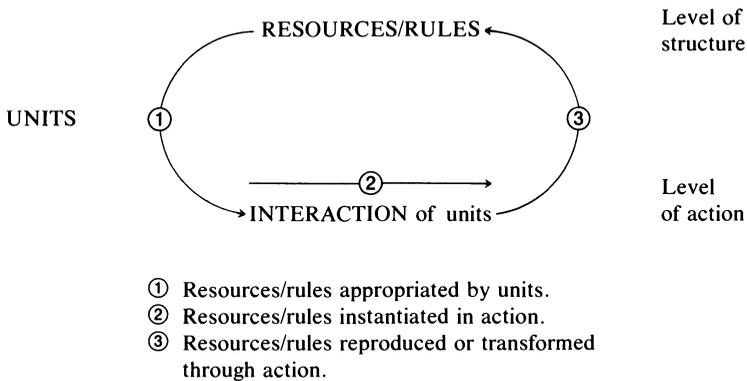


FIGURE 2. *Ontology of the transformational model*

The structural relation between part and whole, which in the positional model reflects the distinction between units and their arrangement, becomes in the transformational view akin to the relation between message and code or between speech and language. Note the particular conception of structural causality the latter approach implies. Again, the language analogy is useful. The English language does not cause or bring about discourse in the way that a spark, stimulus, or vector force causes resultant behavior. Rather, it affects action by enabling certain possibilities of discourse and disabling or excluding others. In Aristotelian terms, structure is a *material cause* rather than an *efficient cause* of behavior. Structure alone explains only the possibilities (and impossibilities) of action.<sup>47</sup> As with the positional approach or any other structural model, a transformational explanation cannot alone explain outcomes. Structure cannot provide a complete explanation of action any more than the English language completely explains a given use of it or any more than the material from which a statue is crafted completely explains the statue itself. A complete explanation must appeal not only to the material but also the efficient causes of action, which can be located only within a theory of the agents.

The starting point of the scientific realist approach to international structural theory is therefore the recognition that state action is possible and conceivable only if there exist the instruments through which that action can in fact be carried out. Two sorts of instruments or media of action are necessary.<sup>48</sup> First, nations must have *resources*, the physical attributes that comprise “capability.” A military strategy requires military forces; monetary policy, financial instruments; trade policy, the goods and physical infrastructure of trade; and so on. Second, nations must have available *rules*, the media through which they communicate with one another and coordinate

47. Wendt, “The Agent-Structure Problem,” p. 362.

48. Giddens, *Profiles and Critiques in Social Theory*, chap. 3.

their actions. For policy not only relies upon physical capability, but it also requires a framework of meaning through which use of that capability becomes recognizable as policy (as intended, meaningful behavior) and through which these intended meanings can form the basis for patterned state interaction. The importance of resources is acknowledged in the positional model, which defines "arrangement" in terms of the distribution of capability. But the role of rules in state action remains untheorized in that approach, and therefore some initial remarks toward a theory of rules would be appropriate at this point.

*Constitutive and regulative rules*

The notion of "rule" occupies a central spot in the ontology of the transformational model. As discussed above, the language analogy provides a template for conceptualizing this feature of social structure. But language philosophers are notoriously divided over the meaning and usefulness of the idea of "following a rule" in the study of language. Just what sense can we give to the notions of rule and rule-following in the international system? Rather than attempt here a critical analysis of the extensive literature in philosophy and social science dealing with the definition of "rule," I would like to draw selectively on that literature to outline one approach to the study of rules that I think is broadly consistent with the tenets of scientific realism.<sup>49</sup>

A rule is, in its most basic sense, an understanding about how to proceed or "go on" in given social circumstances. Giddens defines rules as "techniques or generalizable procedures applied in the enactment [and] reproduction of social practices."<sup>50</sup> They are "procedures of actions, aspects of praxis" that "appl[y] over a range of contexts and occasions" and "allow for the methodical continuation of an established sequence."<sup>51</sup> Now this is necessarily a broad definition, not least because it must encompass at least two types of rules, constitutive and regulative.<sup>52</sup> *Regulative rules* prescribe and proscribe behavior in defined circumstances. As John Searle notes, they

49. I will not undertake here a systematic review of the literature in international relations theory bearing on the proper definition of rules, which includes Morton Kaplan, *System and Process in International Politics* (New York: Wiley, 1957); Hedley Bull, *The Anarchical Society* (New York: Columbia University Press, 1977); Raymond Cohen, *International Politics: The Rules of the Game* (London: Longman, 1981); and Stephen Krasner, ed., *International Regimes* (Ithaca, N.Y.: Cornell University Press, 1983). For an important review of regime theory, see Stephan Haggard and Beth A. Simmons, "Theories of International Regimes," *International Organization* 41 (Summer 1987), pp. 491–517.

50. Giddens, *The Constitution of Society* (Berkeley: University of California Press, 1984), p. 21.

51. *Ibid.*, pp. 20–21.

52. The seminal article on this subject is that of John Rawls, "Two Concepts of Rules," *Philosophical Review* 64 (January 1955), pp. 3–32. See also W. V. O. Quine, "Methodological Reflections on Current Linguistic Theory," in Donald Davidson and Gilbert Harmon, eds.,

“regulate antecedently or independently existing forms of behavior; for example, many rules of etiquette regulate interpersonal relationships which exist independently of the rules.”<sup>53</sup> Traffic laws, building fire codes, and the requirements set down in an arms control treaty all exemplify the regulative dimension of rules. The penalty for not following such rules typically involves some sort of sanctioning behavior on the part of another. *Constitutive rules*, on the other hand, “create or define new forms of behavior.”<sup>54</sup> The rules of chess, for example, define an activity by setting down explanations of what counts as a move of the knight, what constitutes a checkmate, and so on.<sup>55</sup> Not to follow constitutive rules is to make oneself misunderstood or incomprehensible—to perform a social action incorrectly or to fall outside the boundaries of a meaningful “form of life.”<sup>56</sup> Constitutive rules take the form, “X counts as Y in context C,” while regulative rules fit the form, “Do X in context C.”

Although I will continue here with the well-established practice of considering constitution and regulation as products of two different types of rule, it is worth noting that constitutive rules have regulative implications, and vice versa.<sup>57</sup> For example, the rules of etiquette enter into the constitution of proper behavior, and the rules of chess regulate the game as much as they define it. Thus, to recognize two different types of rule should not be allowed to obscure their interdependence. Nonetheless, the distinction is an important one, for it underpins the two types of answer we might give to the question, “What does it mean to say behavior is rule-following?” In some cases, rule-following behavior is *meaningful* behavior. What distinguishes “voting” from “marking a piece of paper” is that the former is socially meaningful and hence rule-following; the latter is not. Peter Winch, stressing the constitutive side of rules in human affairs, argues that “the analysis of meaningful behavior must allot a central place to the notion of rule, [since] all behavior which is meaningful (therefore all specifically human behavior) is ipso facto rule-governed.”<sup>58</sup> To be following constitutive rules

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*Semantics of Natural Language* (Boston: Riedel, 1972), pp. 442–54; and the broader discussion in Friedrich Kratochwil and John Gerard Ruggie, “International Organization: A State of the Art on an Art of the State,” *International Organization* 40 (Autumn 1986), pp. 753–75. The present essay draws primarily on the influential work by John R. Searle, *Speech Acts: An Essay in the Philosophy of Language* (Cambridge: Cambridge University Press, 1969).

53. Searle, *Speech Acts*, p. 33.

54. *Ibid.*

55. One of the most significant implications of the transformational ontology is the *malleability* of constitutive rules in social life. Here the analogy with games such as chess ends. In chess, to attempt to change the constitutive rules is to fall outside the boundaries of the game. But in social life, the three-stage process of appropriation, instantiation, and reproduction/transformation implies that all rules are, in principle, subject to alteration.

56. Peter Winch, *The Idea of Social Science and Its Relation to Philosophy* (London: Routledge & Kegan Paul, 1958).

57. Giddens, *Central Problems in Social Theory*, p. 66.

58. Winch, *The Idea of Social Science*, pp. 51–52.

is to participate in a form of life, to make oneself understood according to the structure of meanings that defines action in that realm.

But in other cases, to say that behavior is rule-following is to suggest it is *legitimate*, that is, proper in a normative sense. What distinguishes voting legally from doing so illegally (in the United States, for example) is determined by rules of voter registration, poll operation, and the like. To violate these regulative rules represents a failure not to carry off the meaningful action known as “voting” but a failure to do so legally. The difference between constitutive and regulative rule-following is the difference between carrying off an action with a certain meaning and carrying off a meaningful action legitimately. Note that constitutive rules are more fundamental than regulative ones, in the sense that behavior cannot be regulated if it is not defined.<sup>59</sup> Thus, constitutive rules define an activity such as voting (requiring, for example, that one pull a lever next to the preferred candidate’s name in a booth rather than shout out the name upon entering the polling place), while regulative rules delimit the range of this activity’s legitimacy (forbidding one to vote twice in the same election or under a false name).

The constitutive/regulative typology can be applied usefully in the analysis of international structure. Constitutive rules, which I will also term here “conventions,” are standardized, relatively unchanging practices that constitute a “vocabulary” (a stock of meaningful actions, or signs) for international communication. Conventions enable signals of support, opposition, hostility, friendship, condemnation, indifference, commitment, resignation, and so on.<sup>60</sup> For example, military exercises can be timed and located either to signal a nation’s commitment to supporting a specific policy or outcome or to signal its hostility or opposition to the policies of another nation.<sup>61</sup> Conventions include verbal as well as “physical” practices; Raymond Cohen identifies a number of common linguistic conventions that nations rely upon in their communications.<sup>62</sup> The “loaded omission,” for example, is a linguistic device “permitting unpleasant and embarrassing points to be made without their being articulated in so many words.”<sup>63</sup> In diplomatic communications, the practice calls for leaving out mention of an issue known

59. Constitutive rules unite the *what* and the *how* of social action by giving social meaning to specified procedures and movements. In *Speech Acts*, p. 34, Searle gives a useful example: “A checkmate is made when the king is attacked in such a way that no move will leave it unattacked.” This, he says, explains why constitutive rules often appear as nothing more than analytic truths.

60. In *International Politics*, p. 36, Cohen calls these “affect displays.” See also David S. Clarke, Jr., *Principles of Semiotic* (London: Routledge & Kegan Paul, 1987), especially chap. 4, “Communication,” pp. 73–103.

61. See Barry M. Blechman and Stephen S. Kaplan, *Force Without War: U.S. Armed Forces as a Political Instrument* (Washington, D.C.: Brookings Institution, 1973); and Stephen S. Kaplan, *Diplomacy of Power: Soviet Armed Forces as a Political Instrument* (Washington, D.C.: Brookings Institution, 1981).

62. Cohen, *International Politics*, pp. 31–48.

63. *Ibid.*, p. 33.

to be of central concern to interested parties and doing so in a way that makes one's stance on that issue apparent. Cohen gives the example of Britain's request that the United States affirm its nuclear guarantee following Soviet threats against British military operations during the Suez crisis of 1956. The U.S. administration responded by affirming only its North Atlantic Treaty Organization (NATO) commitments, which are commitments that require American action in the case of an attack in Europe but not in the case of assaults on British forces carrying out operations overseas.<sup>64</sup> By leaving out mention of obligations to the British forces overseas—precisely the concern the British wanted to have addressed—the Americans made clear to the British, without directly stating it, their lack of support for the Suez operation.

Regulative rules are defined here as public claims, backed by sanctions, that prescribe, proscribe, or permit specified behavior for designated actors in defined circumstances. Such rules take the form, "Actor A should do X in context C." They are backed by sanctions and thus are to be distinguished from mere regularities or routines. The internality of sanctions to rules implies a division between followers (or violators) and enforcers of rules—the "targets" and "sources" of sanctioning behavior. The dynamics of rule-making bind followers and enforcers together in a relationship which, though usually asymmetrical, constrains in both directions.

Rules need not be stated explicitly. Cohen introduces an important distinction between *tacit* and *formal* regulative rules, which he conceives on a continuum: "At one end of the spectrum are found rules arrived at by tacit agreement and which are not directly negotiated either in writing or by word of mouth. At the other end of the spectrum are rules deriving from formal negotiations and expressed in formal, binding agreement. In between are rules of the game contained in the 'spirit' of formal agreements, verbal 'gentlemen's' agreements, and 'nonbinding,' though written, understandings."<sup>65</sup> What Cohen identifies here are most accurately seen as the *criteria of recognition* for rules.<sup>66</sup> Some rules are known to exist only through tacit communication; others are confirmed in written, binding treaties; and still others rest on criteria that are partially tacit and partially explicit. Many rules regulating the treatment and exchange of captured enemy spies, for example, are not explicitly formulated or communicated between nations. Similarly, troop movements in conflict, such as those conducted by Israel and Syria in the Lebanese civil war of 1975–76, may conform to mutually understood rules without written or verbal communication. In both of these cases, the rules are recognized through recurring patterns of behavior and

64. *Ibid.*, pp. 33–34.

65. *Ibid.*, p. 50. See also Paul Keal, *Unspoken Rules and Superpower Dominance* (New York: St. Martin's Press, 1983), chap. 3.

66. Compare H. L. A. Hart, *The Concept of Law* (Oxford: Clarendon Press, 1961), p. 92. Hart speaks of the "rules of recognition."

through the sanctioning that takes place when the rules are (in the eyes of one of the parties) violated.<sup>67</sup> At the other end of the spectrum, we find rules known to exist by virtue of their inscription in binding treaties such as the General Agreement on Tariffs and Trade (GATT) and the Strategic Arms Limitation Talks (SALT). In between are rules whose recognition is rooted in such practices as off-the-record comments to the press, on-the-record press releases, memos of understanding, and verbal agreements between heads of state. One of the most famous examples of the partially tacit and partially explicit grounding of rules is the European “spheres of influence” agreement reached by Churchill and Stalin in October 1944 and jotted down in percentages by Churchill (who suggested afterward that the paper be burned).<sup>68</sup>

### Comparing the positional and transformational models

#### *The positional model's implicit reliance on social rules*

The transformational model's focus on rules may suggest that it is best suited to the study of a certain type of conduct—namely, institutional conduct—while the positional model is more appropriate for the study of interaction within anarchy. For is the interstate system not uniquely the political realm in which rules have little, if any, role to play in determining behavior? Rule-based analyses might be appropriate for the study of certain realms of state interaction, such as those that can be conceptualized as “regimes,” but at its roots international politics might not seem amenable to explanation through rules. However, to the scientific realist, this conclusion is misplaced. Scientific realism insists that *all* social action depends on the preexistence of rules, implying that even under anarchy, rules are an essential prerequisite for action.<sup>69</sup> It asserts the impossibility and inconceivability of social behavior without rules; the issue of whether a central-

67. Cohen, *International Politics*, pp. 55 and 61–63.

68. See Deborah Welch Larson, *Origins of Containment* (Princeton, N.J.: Princeton University Press, 1985), pp. 107–9.

69. The claim that “system” presupposes “rules” is distinct from the argument that the international political system represents a “society” reflecting shared norms. In Bull's version of this latter argument, an international society “exists when a group of states, conscious of certain common interests and common values, form a society in the sense that they conceive themselves to be bound by a common set of rules in their relations with one another, and share in the workings of common institutions.” Bull conceptualizes “rules” in the regulative sense only—“general imperative principles which require or authorize prescribed classes of persons or groups to behave in prescribed ways”—and links rules to the achievement and maintenance of “order,” implying “a pattern of activity that sustains the elementary or primary goals of . . . international society.” Thus, when Bull declares the existence of “a common set of rules” in international politics, he means a common dedication to the achievement of shared values, interests, or norms. By contrast, when the scientific realist speaks of a common set of rules, all that is necessarily implied is the shared conventions of meaning that the very idea of social action in international relations presupposes. Above quotes are from Bull, *The Anarchical*

izing authority exists or not is beside the point. Rules are, in the transformational model, both logically and praxiologically necessary for social action.

If the scientific realist is right, it is not possible to create explanations of social action that do not rely at least implicitly on the concept of "rule." The positional theory is a case in point. Structure is defined there only as anarchy and a distribution of power. But, clearly, anarchy and power distribution cannot alone and in themselves lead to any behavior. Some link between this environment and the realm of action is needed. Here the concept of rationality is introduced. As Keohane points out, "The link between system structure and actor behavior is forged by the rationality assumption, which enables the theorist to predict that leaders will respond to the incentives and constraints imposed by their environments."<sup>70</sup> The rationality assumption implies that states are units "carefully calculating the costs of alternative courses of action and seeking to maximize their expected utility"<sup>71</sup> or, more loosely, that states are "sensitive to costs."<sup>72</sup> Rationality makes survival possible. In particular, rational responses to structural constraints enhance the prospects for survival.<sup>73</sup>

The scientific realist would stress that the rationality assumption brings rules into the explanatory framework without acknowledging them as such. According to the transformational model, if it is true that the international imperative is survival, it is also true that knowing how to survive means knowing the rules of the game. For example, a nation in a position of declining power may act rationally by allying itself with other powers. This rational action presumes the existence of the rules of interstate communication and coordination utilized in any treaty-making process. Rationality is thus not merely an assumption about the *manner* in which nations calculate and act; it is also an assumption about the *means* through which those actions are carried out. The rationality assumption in the positional model thus presupposes the existence of rules in international relations. Structure must consist of something more than anarchy and the distribution of power. It must also encompass the media through which rational action is effected.

A brief example from Waltz's work illustrates this important point. Waltz puts great emphasis on the notions of competition and socialization, two "pervasive processes" that "encourage similarities of attributes and of behavior."<sup>74</sup> To show how structure molds behavior through socialization,

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*Society*, pp. 13, 54, and 8. For broader discussions of the relation between structure and social context, see Oran Young, "Regime Dynamics: The Rise and Fall of International Regimes," in Krasner, *International Regimes*, pp. 93-114; and John Gerard Ruggie, "International Regimes, Transactions, and Change: Embedded Liberalism in the Postwar Economic Order," in Krasner, *International Regimes*, pp. 195-232.

70. Keohane, "Theory of World Politics," p. 167.

71. *Ibid.*, p. 165.

72. Waltz, "Reflections on *Theory*," p. 331.

73. Waltz, *Theory*, pp. 92-93.

74. *Ibid.*, pp. 74 and 76.

Waltz gives the example of Soviet behavior just after the Russian Revolution: “The Bolsheviks in the early years of their power preached international revolution and flouted the conventions of diplomacy. They were saying, in effect, ‘we will not be socialized to this system.’”<sup>75</sup> But they found that “in a competitive arena, one party may need the assistance of others. Refusal to play the political game may risk one’s own destruction.”<sup>76</sup> So the Soviets did the rational thing and capitulated to the prevailing system of practices. This episode illustrates that owing to the system’s anarchic structure, “states will display characteristics common to competitors: namely, that they will imitate each other and become socialized to their system.”<sup>77</sup>

None of this story would make sense—and Waltz’s central explanatory claims would not stand—were it not for the existence of rules that are constitutive of “the political game” nations find so compelling and through which rational behavior becomes possible. After all, what are the units socialized *to*, if not (at a minimum) understandings of conventions? If Waltz’s theory did not presume the existence of a set of rules constitutive of “the system” to which nations are socialized, it could not explain how state behavior is constrained by structure. What compelled the Soviets to take action so similar to that of other states, even though it was at odds with their own ideology, was, in Waltz’s terms, the rationally directed motive to survive in an anarchic realm. But this is just a shorthand for saying that the Soviets, having recognized the precariousness of their security position, resorted to use of the existing system of conventions through which great powers communicate and negotiate with one another, and they were thus able to bolster their security position by making deals with foreign powers. Waltz sees as evidence of the Soviets’ socialization the deals undertaken with “that other pariah power and ideological enemy, Germany.”<sup>78</sup> The scientific realist would stress that such deals can be made only between nations who can communicate, who draw on a shared set of constitutive rules with which alliances can be forged and through which they gain meaning. Without at least an implicit presumption of such rules, no sense can be made of rationality in international relations, and no bridge can be forged theoretically between positional structure and action.

Thus, the difference between the transformational and positional ontologies is not that one recognizes the existence of rules and the other does not. Both models recognize the efficacy of rules in international politics, and theories based on either model must appeal to the existence of rules, even if only implicitly. The difference between these ontologies lies in their conception of the *relation* between rules and action. In the positional ontology, rules (conventions and norms) are fixed parameters of action, unintentionally

75. *Ibid.*, p. 127.

76. *Ibid.*, p. 128.

77. *Ibid.*

78. *Ibid.*

reproduced, which constrain and dispose behavior so as to preserve the rule structure. In the transformational ontology, they are the material conditions of action which agents appropriate and through action reproduce or transform, possibly intentionally. It is worth exploring this difference in some detail.

Recall that in the positional ontology, structure is an unintended by-product of rational, self-interested efforts to survive. Rules, which give shape and meaning to rationality and thereby make survival possible, are a necessary (if theoretically suppressed) component of structure. Consider Waltz's description of socialization as a process of bringing behavior into line with fixed normative rules: "Socialization brings members of a group into conformity with its norms. Some members of the group will find this repressive and incline toward deviant behavior. Ridicule may bring deviants into line or cause them to leave the group. Either way the group's homogeneity is preserved."<sup>79</sup> In this scenario, regulative rules (like other structural conditions) channel behavior into patterns that preserve structure. Positional structure persists as a set of relatively fixed causal conditions, reproduced unintentionally; and while behavior is shaped, shoved, constrained, and disposed, structure endures without measurable change. Structural change is rare, and when it occurs, revolutionary.<sup>80</sup>

In the transformational view, by contrast, structure is a medium of activity that in principle can be altered through that activity. Any given action will reproduce or transform some part of the social structure; the structural product itself may be intended or unintended. In general, social action is both a product (an intended action) and a by-product (the reproduction of rules and resources implicated in the intended action). The linguistic analogy is again useful. When people speak a language, they are typically carrying out an intentional action (such as ordering a meal or supporting a philosophical argument) and at the same time are unintentionally reproducing the conditions which make that intentional action possible (reproducing language itself). Bhaskar refers to this two-sidedness of social action as the *duality of praxis*.<sup>81</sup> In principle—that is, as a direct implication of the ontology of the transformational approach—rules that are normally unconsciously reproduced through intended action can themselves become the objects of intentional action. For example, if a community finds its native language threatened by demographic change, its leaders may intentionally create institutions (for example, educational programs) that are consciously designed to reproduce and preserve the language.

The possibility that rules may become the objects of intentional action and that they may be transformed through action returns us to the issue of

79. *Ibid.*, p. 76.

80. *Ibid.*, p. 70.

81. Bhaskar, *The Possibility of Naturalism*, pp. 43–44.

how such real-world entities as alliances, trade pacts, and arms control agreements are to be treated by structural theory. The positional ontology limits structure to what is both irreducible to action and unintentional in origin. Thus, entities that are intentionally produced, such as alliances, cannot be part of structure. Waltz is explicit on this point. Alliances are a feature not of the organization of systems, he argues, but of “the accommodations and conflicts that may occur within them or the groupings that may now and then form.”<sup>82</sup> They tell us how units *relate* to one another in interaction, not how they *stand* in relation to one another; they reveal the shape of interaction, not its structure. This theoretical conclusion is entirely consistent with the underlying positional ontology. Intentional action and the products of intentional action, such as alliances and treaties, must be relegated to the unit-level in this ontology.

However, according to scientific realism, this conclusion is mistaken. While it is true that such things as alliances emerge from state interaction, they are not simply *aspects* of that interaction; they are *products* of it. That is, they are not merely “groupings” or “accommodations” between states, reducible to unit-level interactions; they are real structures, sedimented deposits that become conditions of subsequent interaction. The rules that make up an alliance or trade agreement may be reproduced or transformed by subsequent activity, but they cannot be reduced to it. NATO, for example, rather than being just an aspect of the (unit-level) interaction among a select number of states is a real (system-level) structure of rules that regulates and gives meaning to a wide range of current and contemplated behavior by those states. NATO cannot be reduced to the activities carried out in its name, such as military exercises and meetings of foreign ministers. It consists also of relatively enduring rules and norms that these actions draw upon, reproduce, and transform. These rules, inscribed in a written treaty that exists independently of the activities it enables and regulates, are a legitimate component of structure, deserving to be treated as such by structural theory.

According to scientific realism, then, the positional model offers a *truncated* ontology of structure (see Figure 3). By conflating the unintended with the irreducible, the positional model is incapable of recognizing those features of the system’s organization that are both irreducible to interaction and intentionally produced (intended products). It thus bars from structural theory an entire class of structural elements in international politics. If we are to treat intentional rules properly—as features of structure, not interaction—we cannot rely upon the positional ontology. Here the comparative weakness of Waltz’s theory becomes apparent: the ontology underlying it is incapable of supporting an extension of the theory to include intentional rule structures. The transformational ontology, by contrast, shows why all

82. Waltz, *Theory*, p. 98.

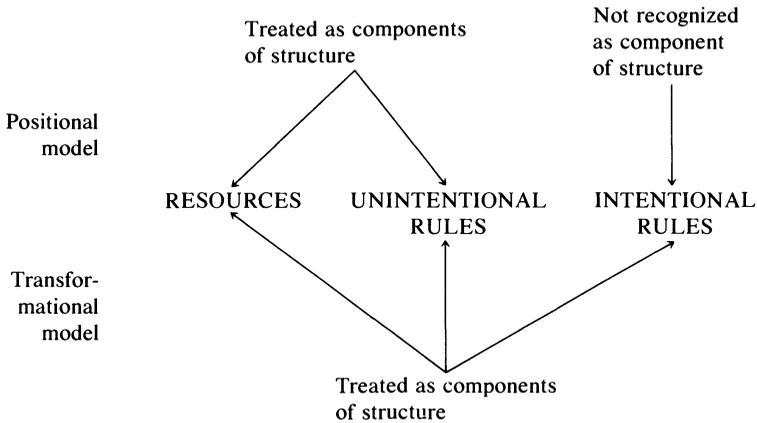


FIGURE 3. *Ontological reach of the positional and transformational models*

rules deserve structural status and provides a basis for integrating them in structural explanation. Because the ontology it postulates is richer and more comprehensive than its positional rival, the transformational model promises theory that is more powerful than its positional counterpart.

#### *The empirical promise of a transformational research program*

The problem with Waltz's theory is not the explanatory schema it sets forth but the ontology on which it is based. The causal schema itself—connecting the system-wide distribution of power to patterns of state behavior—is, as far as it goes, unobjectionable. What cannot be accepted, however, is the claim that a structural theory of international politics should be limited to this simple explanatory schema. The implication of scientific realism is that structural theory can be much richer and more powerful than that advocated by Waltz.

Waltz is reluctant to concede that other structural theories, even those based on a positional ontology, might be advisable. He does not deny that they are possible. Given the positional ontology, the tripartite definition of structure outlined by Waltz could be expanded to include a number of other features of the organization of the system. For example, any state attribute—call it "A"—can be used as the basis for the creation of a system-wide variable, "distribution of A." This is, in fact, what Waltz does with the variable "capability." The international system itself, of course, does not have a capability, but only a *distribution* of it; capability is a unit-level feature. And just as capability can be translated into distributional terms to qualify as a systemic influence, so can other unit-level features—a fact of

which Waltz is well aware. In a 1986 essay, Waltz writes: "One might ask why the distribution of capabilities across states should be included in the definition of structure and not other characteristics of states that could be cast in distributional terms. The simple answer is that an international-political system is one of self-help. . . . State behavior varies more with differences of power than with differences in ideology, in internal structure of property relations, or in governmental form."<sup>83</sup> Thus, Waltz does not claim other definitions of structure are logically or ontologically impossible; he claims only that they capture less important features of systemic arrangement than his definition.

Waltz finds further grounds for rejecting alternative definitions of structure in the "spareness" of his own model. Simple theories offer parsimonious explanations. "Elegant definitions of structure enable one to fashion an explanatory system having only a few variables. If we add more variables, the explanatory system becomes more complicated."<sup>84</sup> Waltz fears that broadening the definition of structure to include other systemic features will introduce a "reasoning [that] makes the criteria of inclusion infinitely expandable," rendering structural theory a mishmash of causal considerations best treated separately.<sup>85</sup>

Waltz is correct to stress the importance of parsimony. The more efficient the means to given explanatory ends, the better the explanation, other things being equal. But Waltz mistakenly defines parsimony only in terms of the number of independent variables in a theory, ignoring the ontology from which those variables are drawn. The number of independent variables one wishes to include in an explanation is generally a matter of subjective choice, dictated by what sort of explanation one wishes and how accurate it must be. To explain the path of a falling object, we may need only the law of gravitation if our requirements are not too severe. But if we wish to know the path of the object's fall in great detail, we will need to include consideration of the wind, rain, air resistance, Coriolis force, and the like. The choice between a single-variable theory that explains a little and a multi-variable theory that explains a lot will generally be determined by the requirements of engineering rather than by the standards of science. If, for whatever subjective purposes we bring to an international relations problem, a distribution-of-power explanation of state behavior is adequate, we need not seek a more complex theory. But if we need to know more than the distribution of power can tell us, a multivariable theory is both proper and necessary.

Parsimony, in any case, is not gauged simply by the number of variables in a theory. Ontology too can prove more or less efficient in grounding

83. Waltz, "Reflections on *Theory*," p. 329.

84. *Ibid.*, p. 330.

85. *Ibid.*, p. 329.

explanatory efforts. After all, if parsimony were simply a matter of minimizing the number of variables in an explanation, Newton's explanation of the planets' orbital paths would be better than Einstein's. The Newtonian calculations require only the universal law of gravitation, and they leave only a small portion of the orbits unexplained. Einstein's calculations introduce complex relativistic corrections to the Newtonian laws, and in so doing explain only slightly more than those laws. If we need to know only the rough paths of the planets, say for purposes of telescopic tracking, the simpler Newtonian theory may be preferable on practical grounds. But Einstein's remains a better theory, and not only because it explains some planetary motion that Newton's cannot. Einstein's theory is better because it is more parsimonious in a basic ontological sense: it grounds explanations not only of planetary orbits but also of a number of unrelated and otherwise unexplainable phenomena. For example, Einstein's physics explains why a distant star's rays curve around the sun on their way to the Earth (explained by the equivalence of accelerated frames of reference and gravitational fields) and why an accelerated radioactive particle takes longer to decay than an unaccelerated one (explained by the velocity-dependence of time). Orbital paths, light rays from a distant star, decay of atomic particles—aspects of these quite disparate phenomena turn out to be grounded in a common ontology. Einstein's theory, viewed as a model of space, matter, and time, proves to be more parsimonious than Newton's in its ability to explain a variety of independent phenomena on the basis of a single, integrated ontology.

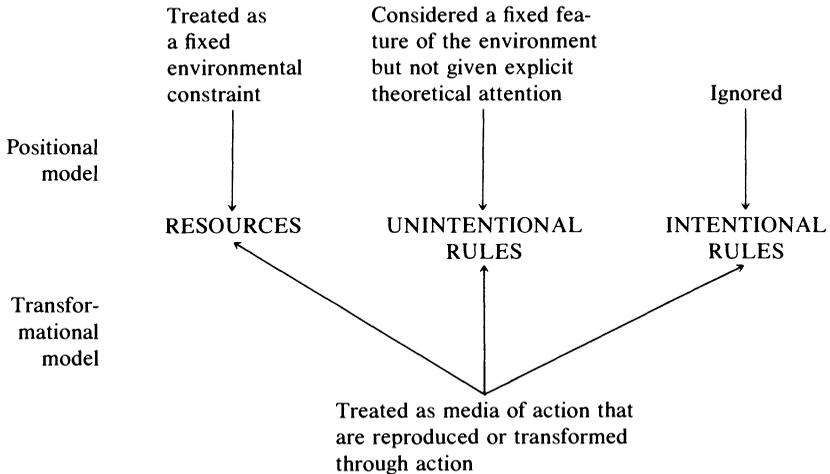
The point of contention is not, to repeat, the distribution-of-power schema, which is what Waltz defends as parsimonious. Its causal claims, in any case, could be produced by a highly restrictive application of the transformational model, one in which intentional rules are ignored and unintentional rules suppressed. Waltz's causal claims (anarchy accounts for war, bipolarity for stability, and so on) can thus be considered special, limiting cases of the transformational theory, much as Newton's laws are a special case of relativity theory. If we assume, starting with a transformational ontology, that states in an anarchic order wish to survive, that they are rational, that intentional rules do not exist (or, at least, play no causal role), and that unintentional rules are fixed, we are then free to draw broad connections between the distribution of power and patterns of action in the system. We would have, in effect, Waltz's causal theory (without the positional ontology). Thus, a transformational theory of structure can absorb the unrefuted content of Waltz's explanatory schema and can do so with an ontology that makes clear that schema's limitations.

If Waltz merely wishes to show that the distribution of power explains certain broad features of the historical record, no protest can be raised. But if he wishes to argue that such a positional explanation exhausts the possibilities of structural theory and closes the books, so to speak, on structural

research, strong objections must be noted. A good deal of the empirical record remains unexplained by Waltz's theory, and if the insights of scientific realism are correct, at least some of it demands structural explanation citing intentional rules. This task requires a nonpositional ontology, such as the one provided by the transformational model.

But why is a transformational model needed to examine the nature of rules and rule-following behavior in the interstate system? Why can we not simply take Waltz's theory as a starting point and then bring rules into the analysis when and where they are warranted? The basic problem was explained earlier in this section: the ontology underlying Waltz's theory makes no room for intentional rules as structural features of the system. If we start with Waltz's theory, we have no way of grounding a consideration of such rules without appealing to an outside ontology and thereby losing the parsimony of that theory. The transformational ontology grounds consideration of intentional rules not only by making their existence explicit but also by providing a useful model of how they exist in relation to action. An ontology, we must remember, consists not only of a set of entities deemed to be fundamental but also of their configurations, relations, and interconnections. Both the positional and transformational ontologies recognize the existence of (at least some) rules, but they configure these rules in relation to action differently. To appreciate the power of the transformational model, it is worth examining the differences in these configurations more closely.

In the positional model, structure is an *environment* in which action takes place. Structure means the "setting" or "context" in which action unfolds. In a positional approach, international structure stands in relation to state action much as an office building stands in relation to the workday activities that take place within its walls: it is a fixed, enduring set of conditions that constrains and disposes, shapes and shoves behavior. Knowledge of structure allows us to explain broad patterns of behavior. In an office building, we do not find people attempting to walk through walls, crawl through air-conditioning ducts, or leave via upper-story windows. Rationality dictates the use of hallways, staircases and elevators, and ground-floor exits; those who are not rational will be "selected out" of the system (they will lose either their jobs for traveling from one office to another through air-conditioning ducts or their lives for exiting from top-floor windows). Structure constrains and disposes behavior but does not determine it. The actual paths taken by workers will be determined by the nature of the job, the requirements of interoffice communication, and so on—considerations properly the focus of "unit-level" theory. Structure, a physical, environmental constraint on action, explains only broad patterns and persistent regularities of conduct. In such a theoretical approach, rules are, like the walls, floors, and ceilings of a building, fixed features of the environment, molding action to its dictates. Recall Waltz's view of the socialization process: actors are socialized to a fixed system of norms, or they are ejected from the system. Behavior, while



**FIGURE 4.** *Conceptualization of resources and rules in the positional and transformational models*

not determined by these norms, must conform to their demands; the norms endure while action is shaped and molded.

In the transformational approach, by contrast, structure consists of *materials for action*. Rather than being an environment or “container” in which behavior takes place, it is a medium, a means to social action. An office building, in this view, is not so much a setting for the activities of workers as it is an enabling structure that workers make use of to get their jobs done.<sup>86</sup> Certainly, structure is a constraint on action; the insights of the positional model are not sacrificed in the scientific realist approach. Travel through air-conditioning ducts and out of upper-story windows will be sanctioned, either by the rules of the workplace or by the law of gravitation. But by configuring structure as a means to action, rather than as an environment in which action takes place, a more powerful and comprehensive treatment of the conditions of action becomes possible. Rules are not concrete girders constraining action but, instead, are media through which action becomes possible and which action itself reproduces and transforms.<sup>87</sup> Action is constrained and enabled by rules; the rules are the outcome as well as the medium of that action. The positional and transformational conceptualizations of resources and rules are summarized in Figure 4.

86. In addition to walls and floors, structure in the transformational model could include typewriters, computers, paper, pencils, telephones, and intercoms—the materials with and through which work is accomplished. In the positional model, such materials are incorrectly relegated to the unit-level. See my discussion of technology in the text and in footnote 89.

87. Even walls, floors, and staircases can be seen as an outcome of social action, in the sense that they are altered through action (say, through wear and tear). Buildings need repainting and refurbishing after a time. This illustrates a central principle of the transformational model,

Because the positional approach offers no structural grounding for the idea of “materials for action,” requiring instead that structure be conceptualized as a surrounding environment, it leads to odd and counterintuitive judgments on some important features of the state system. Take, for example, military technology. In Waltz’s view, it is difficult to see such technology as a *context*, an environment like the walls and floors of a building, a feature describing the setting in which action unfolds. Waltz therefore relegates military technology to the unit-level.<sup>88</sup> But here, too, it fits oddly, for technology is not an “attribute” of states in the same way that governmental form or ideology is (just as a thief’s gun is not an attribute of that person in the same way that his personality characteristics are).<sup>89</sup> Military technology is a *possession* of states, not a feature or attribute of them; a medium of action, not a characteristic of actors. Here the weakness in the positional ontology is apparent: in configuring structure as an environment, it is unable to conceptualize accurately those features of the system that are the *means* to action rather than the setting in which action takes place. Scientific realism argues that military technology is a material cause of action and hence a structural feature of the system; developments in technology are not changes in the units but changes in structure.

What might be the shape of a research program predicated on the ontology of scientific realism? One established research area in which the advantages of the transformational model can be immediately exploited is that dealing with the creation and maintenance of international institutions. The ontology of the transformational model provides the conceptual tools to describe and explain institutions and to investigate their enabling and constraining qualities. Keohane defines institutions as “persistent and connected sets of rules (formal or informal) that prescribe behavioral roles, constrain activity, and shape expectations.”<sup>90</sup> In transformational terms, institutions consist of *formal, regulative* rules. In contrast to the positional approach, the transformational model supplies an ontology that not only is suitable for the study of such rules but also is capable of showing the continuities (as well as the discontinuities) between institutionalized and noninstitutionalized behavior.

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inadequately theorized in the positional approach: all structure is malleable (though not all to the same degree, of course).

88. Waltz, *Theory*, p. 67; and “Reflections on *Theory*,” p. 343.

89. As Joseph Nye points out, “It is particularly odd to see nuclear technology as a unit characteristic that has had ‘system-wide’ pacific effects.” Nye then notes that in Waltz’s theory the unit-level “becomes a dumping ground hindering theory building at anything but the structural level.” See Nye, “Neorealism and Neoliberalism,” *World Politics* 60 (January 1988), p. 243. My analysis here suggests that part of the reason Waltz makes a “dumping ground” of the unit-level is that the inadequate ontology underlying positional theory offers no grounding for the material causes of action. Waltz is therefore forced, given a truncated ontology, to transfer consideration of such causes to the unit-level.

90. Robert Keohane, “International Institutions: Two Approaches,” *International Studies Quarterly* 32 (December 1988), p. 383.

Keohane notes that institutions are embedded in enduring “practices” of international politics, the most important of which is sovereignty.<sup>91</sup> The idea of embeddedness suggests a *stratification* of the international rule structure, which can be understood as a hierarchical dependence of both constitutive and regulative rules in which higher-order rules presume the existence of more sedimented (lower-order) ones. That is, some rules underpin not only action but also other rules or rule-structures. For example, when two nations sign an arms control treaty, they not only adopt a set of operative arms control regulations, but they also reproduce the rules associated with the underlying practice of sovereignty (rules that give the nations the very identity required to make treaties possible). Thus, the rules associated with the practice of sovereignty, which regulate a good number of “surface” activities (for example, the activities of diplomatic personnel around the world), also underpin and support a great number of other regulative rules in international politics. This suggests why the violation of any of the deeply sedimented rules that define sovereignty, such as in the seizing of hostages at the American Embassy in Teheran in 1979, will be met with profound resistance within the system. Such action not only threatens specific rule-governed activities (for example, diplomatic immunity) but also tears at the very fabric of international order. Therefore, the seizing of diplomats will in general be considered a more serious rule violation than, say, the imposition of an illegal tariff barrier, simply because the former is a more deeply sedimented rule than the latter.

The immediate challenge to the transformational research program is to provide an initial framework for identifying and classifying rules of various sorts. The integrative power of a transformational program will depend on developing an encompassing schema showing relations and connections between various types of rules. Such a framework cannot be constructed through a priori analysis nor through a purely inductive strategy. Instead, initial ideas must be ventured and then applied in research, and the results used to modify and extend the initial concepts. As this classificatory framework is developed, several empirical questions need to be addressed. How are rules recognized by actors? How are they made, reproduced, and transformed? Why do states sometimes adhere to rules and at other times break or ignore them? Why do states sometimes enforce rules by sanctioning violators and at other times ignore the rule-breaking of others? These basic questions, as well as others, are aimed not at generating a static list of rules associated with behavior in various circumstances but at bringing to light *how* it is that rules, which are both the medium and the outcome of action, affect action the way they do.

These research questions might profitably be pursued in the focused investigation of established empirical concerns. Consider, as a brief example,

91. *Ibid.*, p. 384.

the problem of reputation. Existing research defines reputation in both behavioral and moral terms.<sup>92</sup> Both of these aspects or dimensions of reputation can be productively investigated within a transformational framework, insofar as reputation is tied closely to the dynamics of rule-governed interaction. It might be hypothesized that within a system in which survival and order depend on rule-following behavior, having a reputation for following or enforcing rules is an important asset and that such reputation at a given point in time depends primarily on past rule-following and enforcing behavior. How do decision makers view this asset? How does concern for reputation affect behavior? How does a state's rule-following (or rule-breaking, -modifying, and so on) affect its reputation? Initial research might focus on records of the actual decision making of states as it pertains to rule-guided behavior. Such records would provide evidence of the existence and efficacy of rules as generative mechanisms in international politics.

### **Conclusion: stakes in the agent-structure debate**

The history of science shows that when a new theory confronts well-established scientific thought, it typically faces two difficulties. First, the scientific community's familiarity with established theory works to obscure the new theory's powers and possibilities.<sup>93</sup> Second, the new theory's initial state of underdevelopment leaves it vulnerable to skeptical attacks from those who correctly perceive the theory's ambiguities and uncertainties. But, as the corpus of Lakatos's work demonstrates, any attempt at single-point "naive falsificationism" would be a mistake. As Paul Feyerabend has argued, "When a theory enters the scene, it is usually somewhat inarticulate, it contains contradictions, the relation to the facts is unclear, ambiguities abound, the theory is full of faults. However it can be developed, and it may improve. The natural unit of methodological appraisals is therefore not a single theory, but a succession of theories, or a research program."<sup>94</sup>

To reject single-point falsificationism is not to deny that ultimately a theory is vindicated only by successfully explaining the empirical record. It is rather to say that in the initial stages of development, theories will have weaknesses

92. For a treatment of reputation as reliability of behavior, see James Alt, Randall Calvert, and Brian Humes, "Reputation and Hegemonic Stability: A Game-Theoretic Analysis," *American Political Science Review* 82 (June 1988), pp. 445–66. For a discussion of reputation as moral standing, see Erving Goffman, *Interaction Ritual* (New York: Pantheon, 1967), pp. 214–39.

93. See Norwood Russell Hanson, *Patterns of Discovery: An Inquiry into the Conceptual Foundations of Science* (Cambridge: Cambridge University Press, 1958), chaps. 1, 2, and 4.

94. Paul K. Feyerabend, "On the Critique of Scientific Reason," in R. S. Cohen, P. K. Feyerabend, and M. W. Wartofsky, eds., *Boston Studies in the Philosophy of Science*, vol. 39 (Boston: Reidel, Dordrecht, Holland, 1976), p. 120, quoted in John Krige, *Science, Revolution, and Discontinuity* (Atlantic Highlands, N.J.: Humanities Press, 1980), p. 79.

that can be overcome only by further theoretical work. We are justified in pursuing such work provided that we have *some* basis to believe the theory will prove fruitful.<sup>95</sup> In the present case, that basis is provided by scientific realism, which supplies the best account we have of the practices and successes of science.<sup>96</sup> The transformational model merits our confidence because it is derived from the basic principles of scientific realism. It will take time to develop the model and amass the empirical results necessary to judge its usefulness. In the meantime, we can look forward to at least three advantages of adopting the transformational approach.

First, because many of the research questions entailed by a transformational model can be answered only by looking at the policymaking processes within states, a transformational approach can draw explicit links between structural and unit-level theories. The elaboration and testing of some of the structural theory must take place at the level of foreign policy decision making. Recall that no structural theory can alone predict state behavior, and therefore no such theory can be tested by referring to the outcomes of state action alone. However, a transformational structural theory claims to explain the forces within the decision- and policy-making processes that generate state behavior, and thus the theory can be tested against the record of these processes. Data about unit-level structures and processes will be crucial to the development and testing of structural theories. Whereas the positional approach treats the unit-level as a grab bag of “attributes” and “factors” impinging on behavior, the transformational model conceptualizes it as the site of structures and processes at least partially regulated by and generative of system structure.<sup>97</sup>

Second, in addition to the “vertical” linkages between unit- and system-level theory, the transformational approach grounds the development of

95. Thus, to reject naive falsificationism is not to endorse the pursuit of just *any* purported theory. We need good reason to expend valuable research energy pursuing the development of a weak or ambiguous theory. If this good reason does not come from an immediate or imminent empirical payoff, it must come from somewhere else—in this case, from the philosophy of science.

96. See the essays in Jarett Leplin, ed., *Scientific Realism* (Berkeley: University of California Press, 1984). Of particular value is the essay by Hilary Putnam, “What Is Realism?” pp. 140–53.

97. For an excellent example of research taking advantage of this interpretation of the relation between state and system, see Stephan Haggard’s analysis of the Reciprocal Trade Agreements Act in “The Institutional Foundations of Hegemony: Explaining the Reciprocal Trade Agreements Act of 1934,” in G. John Ikenberry, David A. Lake, and Michael Mastanduno, eds., *The State and American Foreign Policy* (Ithaca, N.Y.: Cornell University Press, 1988), pp. 91–119. Haggard shows how changes in the international rules of trade led to changes in the machinery of American foreign economic policymaking, which themselves reconfigured the processes through which the United States made and followed the rules of trade (for summary statements, see pp. 100 and 118). Haggard notes that structure’s influence in this case, conceived in terms of the rules and processes of global trade, does not “fit neatly into a Waltzian conception of structure” (p. 118). The transformational model of structure, by contrast, provides ontological grounding for Haggard’s explanatory account, and it does so within a potentially progressive structural research program.

“horizontal” linkages between issue-areas in international politics. The concern for reputation, for example, cuts across processes of both conflict and cooperation. The importance of reputation to the “high” politics of national security is well appreciated.<sup>98</sup> For example, when discord arises, a reputation for being “tough”—for showing a willingness to bear costs in pursuit of goals—may help secure the cooperation or acquiescence of others.<sup>99</sup> But reputation is important in the “low” politics of trade and finance as well. As Keohane has argued, “Members of a regime that violate [its] norms and rules will find that their reputations suffer. . . . A reputation as an unreliable partner may prevent a government from being able to make beneficial arrangements in the future.”<sup>100</sup> Insofar as reputation derives from rule-enforcing and rule-following reliability, it requires structural exposition and analysis. The transformational model provides a comprehensive ontology for such analysis. While the positional ontology favors the study of “high” over “low” politics, the transformational model integrates the two realms. Disparate actions—on the one hand, a state deciding, despite countervailing internal pressures, to adhere to an international trade agreement and, on the other, a state intervening against an armed insurrection threatening the stability of an allied government—can be seen in the transformational approach as manifestations of rule-following behavior geared toward creating and maintaining reputation in interstate relations. They are aspects of a common underlying ontology based on the concept of social rule.

Third, and perhaps most significant, the transformational approach to structural theory provides a promising basis for constructing explanations of peaceful change, a task that has been identified as the most pressing contemporary challenge to theorists of international relations.<sup>101</sup> Keohane credits Waltz, quite appropriately, for showing that “we must understand the context of action before we can understand the action itself.”<sup>102</sup> But Waltz’s positional theory misses the fact that some of the context is man-made and intentional. It therefore fails to offer a conceptual or explanatory hold on the basic question of how states might consciously attempt to alter

98. See, for example, Thomas Schelling, *Arms and Influence* (New Haven, Conn.: Yale University Press, 1966), especially chap. 2, “The Art of Commitment,” pp. 35–92. For an illuminating discussion of how the reputation of a great power depends on its rule-enforcing behavior, applying the insights of Thucydides to an analysis of today’s bipolar world, see Robert W. Tucker, *The Purposes of American Power* (New York: Lehrman, 1980), pp. 145ff.

99. In “Reputation and Hegemonic Stability,” Alt, Calvert, and Humes investigate one form of this dynamic in their analysis of bargaining and confrontation within the Organization of Petroleum Exporting Countries (OPEC).

100. Robert Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton, N.J.: Princeton University Press, 1984), p. 258.

101. See Robert Gilpin, *War and Change in World Politics* (New York: Cambridge University Press, 1981); and Robert Keohane, “Theory of World Politics.” For an important theoretical and historical analysis of the determinants of peaceful systemic change, see Charles F. Doran, *The Politics of Assimilation: Hegemony and Its Aftermath* (Baltimore, Md.: Johns Hopkins University Press, 1971).

102. Keohane, “Theory of World Politics,” p. 193.

the conditions of action in a way that promotes peaceful change (for example, through the construction of institutions). Waltz sees the efforts of theorists concerned with understanding the possibilities for change in the state system ("critical theory") as different in kind from his attempts to explain recurring patterns of action ("problem-solving theory").<sup>103</sup> Critical theorists, he maintains, "would transcend the world as it is; meanwhile we have to live in it."<sup>104</sup> But must our efforts to explain the world as it is condemn us to giving up hope of changing it? Scientific realism insists not. The transformational model, because it explicitly acknowledges the material causes of action and shows their dependence on the social practices that instantiate them, provides the conceptual basis not only for explaining current practices but also for situating possibilities of action that might lead to freedom from unwanted sources of structural determination.<sup>105</sup> Therein lies perhaps the most crucial stake in the agent-structure debate.

103. Waltz, "Reflections on *Theory*," p. 338. The distinction is Robert Cox's, presented in "Social Forces, States, and World Orders."

104. Waltz, "Reflections on *Theory*," p. 338.

105. Bhaskar, *Scientific Realism and Human Emancipation*, p. 171.