

STRUCTURAL REALISM AND GEOPOLITICAL
THOUGHT: INTERTHEORETICAL EXPLANATION
FROM A FRENCH PERSPECTIVE

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The revitalization of the realist perspective as a descriptive and explanatory framework for theorizing about international political relations represents a major, and arguably the most important, feature of current developments in the field. In part, this phenomenon reflects the renewed emphasis in recent scholarly reporting on systemic regularities in international politics that tend to support the core propositions of realism: state-centrism; power-arbitration; and, self-interested motivation.¹ With sufficient frequency to be noteworthy, these analyses have been couched in the idiom of geopolitics. To take only two of the many observations made on this point, Henry Teune has commented that the "prominence of interdependence in the study of international politics receded after the Soviet Union's intervention in Afghanistan in 1979 and old geopolitical terms gained some favor"² and Robert Harkavy has noted a "recent vogue of geopolitics in the United States".³ This trendline is continuing to consolidate both in terms of the 'British-American intellectual condominium' identified by Kal Holsti⁴ and beyond, particularly in the more self-referring Spanish, Portuguese and French-language IR literatures. It therefore deserves mention as a contributing element in the renewed legitimacy of theoretical constructs founded on realist and geopolitical postulates, for it constitutes a highly favourable disciplinary context within which to carry on any theory-building enterprise predicated on the informing assumptions of these two complementary modes of thought.⁵

Nowhere in the Western industrialized world has geopolitical thinking been reasserted more vigorously than in France.⁶ While a significant number of restatements, updates, and refinements of classic themes have been put forward from conventional circles,⁷ some of the most forceful arguments for a geopolitical reading of international events and trends have originated from less expected sources, including figures associated with postwar anticolonialism.⁸

Gérard Chaliand, a former editor-in-chief of Révolution africaine and a leading human rights activist, explained his own interest in geopolitical reasoning in offering the following aside: "The experience of political and above all armed struggle has led me to emphasize strategic thought which is the understanding of power relations, these being central in international relations".⁹ It is the heterogeneity of the world views of its exponents which has rendered contemporary French-language geopolitical thought so compelling. Scholarly competition on a normative base, in turn, has militated in favour of generalized technical competence. Some of the most finely reasoned analyses in the genre have been produced by the pluridisciplinary team associated with Hérodote, revue de géographie et de géopolitique. Lionizing the 19th century libertarian, Elisée Reclus, as the rightful founder of French political geography and drawing theoretical insights from Althusserian structuralism, Hérodote's editors have consistently sought to place on the public record the kind of geopolitical analyses that usually remain restricted to General Staffs and field commands.¹⁰ The socio-professional dynamics of the revival of French-language geopolitical thought, which anticipated the current recovery of English-language writing in this vein, have been touched on elsewhere¹¹ and cannot be developed within the confines of this paper. It need only be noted that this new writing, like its realist counterpart, reveals that professional and normative impetuses have had a discernible influence on the choice of the analytical techniques to be adopted and the abstractions to be employed in the search for more scientifically-viable formulations of international political theory.

The choice of political geography as a promising source discipline for generating insights that could extend and enrich realism's core theory of state action is quite natural given their common reference points.¹² Accordingly,

their logical affinity has been readily acknowledged when the two have been juxtaposed in the abstract.¹³ Both political realists and geographers working in the domain of international relations have assigned priority to the generic description and explanation of the phenomenon of latent or actualized armed conflict, with subsidiary questions addressing issues relating to the means and value hierarchies of effective group actors; they have recognized that the principal actors in terms of these issues are states or would-be states; and, they have acknowledged that state status is predicated on sovereignty within some given area on the earth's surface. In addition to the fact that it operates from many of the informing premises of realism, geopolitical reasoning offers a conceptual framework for analyzing both "the relation of international political power to the geographical setting"¹⁴ and "the ways political spaces are organized and reorganized and how individuals behave, interact in, and perceive their own and other spaces".¹⁵ Further, by drawing attention to the mental imaging or cognitive mapping of spatial interaction patterns and relative distributions of power resources by representative groups and individuals within states,¹⁶ geopolitical analysis provides a model of constrained or bounded rationality¹⁷ closer to political reality than the presumed omniscient cost-benefit rationality of economist thinking and thereby provides one of the most promising avenues for extending realist theory.

When geopoliticians focus on the most permanent bases of interstate patterns of behaviour - geographical position, depth and surface area, the external and internal locational patterns, nature and quantity of natural resources exploitable in the pursuit of foreign policy objectives, and the spatial configurations of topographical features - they offer a more parsimonious and scientifically powerful version of realism. When they turn their attention to

comparative aggregate and qualitative demographic profiles, communications and transportation infrastructures and flows within and between states, and culture-influenced mental-imaging of the collective self and its competitors, geopoliticians provide elements for an enriched rendering of empirically derived realist theory that promises a net gain in predictive power over realism's endemic inability to account for peaceful change. In contradistinction to such abstract constructs as world systems and dependency theories or World Order Model Project (WOMP) thinking, which would transcend or obviate Morgenthauian 'perennial forces' of political life, geopolitics situates them at the heart of its paradigmatic assumptions. Neither do geopoliticians attempt, as Hedley Bull once put it, "to dislodge the concept of power from its central place in the theory of international relations"¹⁸ by fudging the boundaries of the political and the purely sociological as systemo-cyberneticists have tended to do. Nor do they mitigate their explanatory claims by styling their work 'heuristic' after the fashion of the IR systems theorists. Nor, either, are they obliged to retreat to the subsystemic where Mitrany functionalists were driven to find hospitable terrain for their propositions, in regions conditioned by overarching system-wide power structures. At the macrotheoretical level, their schemas enable the formulation of a greater range of 'if...then' hypotheses unlike so much of the tentative 'if...but then' circumspection of traditional realist theory.¹⁹ By all of these yardsticks of comparison, geopoliticians can be said to share the scientific ambitions of the new wave grand theorists of realist scholarship, such that the kind of intertheoretical synthesis proposed in this paper becomes not only an idea whose potential value has been appreciated but one that is eminently feasible as well.

Having noted the generalized trend to scholarly reassertions of the realist

credo, alluded to a number of the intradisciplinary influences which have breathed new life into geopolitical and realist writing, and suggested why the shared properties of geopolitics and realism could and should be reduced to or combined within a common theoretical mold, I will turn now to an examination of the sources and nature of the new realist theory since the two are closely interrelated and the abstractions dealt with are usually misapprehended when approached in isolation from their contextual referents.²⁰ Theoretical synthesis can be conducted unencumbered by terminological confusion if the generic distinctions between variants of realist thought are clearly delineated beforehand.

As to the question of sources, one initial observation should be stressed at the outset. While real-world events continue to provide ongoing empirical support for realist theoreticians, the vigour with which research findings have been presented and commented upon²¹ demonstrates as well that the recovery of realism as a paradigmatic prism for bringing conceptual order to the data mass has been fueled by shared professional and normative concerns within the community of academic practitioners who have traditionally espoused the main tenets of that perspective.²² There can be no doubt that the leading members of this community, or what Kuhn would call the 'disciplinary matrix'²³ of realist scholarship, have sought to reestablish the unequivocal preeminence of their paradigm or perspective in response to what they perceive as the increasing fragmentation and even trivialization of the field in order to reassert the primacy and relative autonomy of the political domain, and the concomitant centrality of power relations, in international studies. The more macrotheoretically inclined among them have paid particular attention to the restraining and conditioning effects of the interstate system's structure²⁴ on

the international activities of the world's sovereign entities. It is the work of these new 'structural realists' that, together with QIR inductivism, has infused realism with scientific respectability.

When the four components of Kuhn's concept are applied to the field, the energizing forces that have led to the recovery of realism and, indeed, decisively informed its current theoretical format can be more clearly understood. In the interests of brevity, I will not elaborate on the first two constituent elements, those symbolic generalizations which are deployed without question or dissent by group members and shared commitments to beliefs, but pass directly to a consideration of the third element in the disciplinary matrix, the shared values among the group of practitioners. Of particular relevance to IR scholarship, given the steadily increasing theoretical profusion and fragmentation that have marked the field since the mid-fifties, is Kuhn's observation that although values work their effects at every juncture, "their particular importance emerges when the members of a particular community must identify crisis or, later, choose between incompatible ways of practicing their disciplines".²⁵ It is precisely this perception of disciplinary crisis that has most fueled the fires of the realist resurgence. Two examples must suffice to illustrate this point. In his recent survey of the profession, Kal Holsti first states the nature of the problem - "Contemporary writers in international theory do not agree on the means of classifying the contending approaches: each uses somewhat different criteria so that we do not have even a roster of schools, persuasions, or paradigms"²⁶ - then proposes the antidote - "...the essential behavior to be described and explained in international theory is that which relates to peace and war. Subquestions explore problems of security, order, and power. To Aron...and most others writing in the field, this is

diplomatic-strategic behavior, which has a domain of its own and is distinguishable from domestic politics - and we might add, international economics - because it operates under the constant backdrop of organized violence."²⁷ In Holsti's appeal we can observe Kuhn's attributed criterion of social usefulness as a rallying call to the community of specialists as a response to disciplinary crisis. Robert Gilpin issues the identical admonition to the profession, more implicitly but no less clearly, when he identifies the 'basic dilemma of social science' as "whether to explain trivial matters with exactitude or to treat significant matters with imprecision". He then informs his readers that he has opted for the latter "in the belief that possible errors and certain oversimplification are the price one must pay if one is to deal with the important issues of our age. This sacrifice of precision is justifiable only if this study clarifies the issues of war and change in world politics more than it obfuscates".²⁸ This claim of superior social utility abounds throughout the realist literature of the last ten years. Values may also center on what Kuhn calls the 'internal and external consistency' of whole theories; existing theories within the paradigm will be scrutinized in periods of disciplinary crisis to ascertain their capacities for problem-formulation and solution. They will be judged by practitioners in terms of their simplicity, self-consistency, plausibility, and paradigmatic compatibility. Kenneth Waltz was acting in perfect synchrony with Kuhn's diagnostics in producing the theory that has established him as the 'paradigmatic successor'²⁹ to Carr and Morgenthau. In developing what has become the foremost exemplar text of structural realist theory, Waltz had initially reviewed representative realist and more eclectic theoretical treatments of the field. Subsequent to his identification of existing deficiencies, he proceeded to formulate a reworked and more coherent

approach.

Exemplars are properly seen as 'concrete problem-solutions' to any discipline's standard issue-set. As shared reference points for future research, they become the fourth element of a disciplinary matrix. Scientific development proceeds as practitioners align their work on the pattern of the reformulated symbolic generalizations. Different exemplars, all sharing at least core similarities, usually evolve such that the community's problem-solving repertoire becomes progressively more finely textured and adaptable to different ranges or sets of issues. As I will indicate, this characterization has obtained in the case of structural realism.

Since the raw material of the field provides substantial grounds for not seeking after 'the mirage of grand theory' as Stanley Hoffmann has counseled,³⁰ I want to very briefly identify the limits within which geopolitical overviews and structural realism are being developed. As every social scientist knows and as James March once remarked, 'God gave all the easy problems to the physicists'. Thus, the search for general principles and recurring patterns in international politics cannot result in the formulation of predictive theories possessing the same degree of precision as their counterparts in the physical or even the natural sciences given the indeterminant nature of political behaviour. Indeed, the multicausal matrix within which international political activity reverberates is such that macrotheorists tend to eschew prediction entirely, notwithstanding the fact that empirical substantiation remains the ultimate test of any scientific theory. Instead, they adopt a stance identified with 'scientific realism' whereby they distinguish between prediction and explanation and emphasize the latter as a prior objective of the scientific enterprise.³¹ Lest skeptics find this technique off-putting, it should be pointed out that recourse

to explanatory models is one of the standing operating procedures of all scientific endeavour, including that of the mature sciences. Mario Bunge reminds us, for example, that: "To assert that prediction is the most important task of science - as positivists and pragmatists have held - shows a strange lack of acquaintance with the life of science."³²

Usually then, political theorists explain human activity within their domain of inquiry by identifying those structural constraints within which willed choice on the part of hypothetically purposeful and self-interested individuals can be reasonably expected to operate. When they extrapolate from the historical and contemporary record conditioning variables which should, all other things being equal, set limits on the range of choice in any given set of circumstances and organize them in abstract yet systematic form as a set of probable interrelationships, they explain real-world referents principally by ensuring the internal cohesion of their own particular set of postulates, or explanans-propositions. In this regard it is useful to bear in mind how theoretical physicists think about explanatory sets of propositions or models: "by definition, a model is not a complete and faithful rendering of reality. It is no more than an analogy or metaphor. It implies a structure of logical and mathematical relations that has many similarities with what it purports to explain, but cannot be fully identified with it."³³ Two summary observations therefore need to be stressed. First, unless intervening variables are held constant through *ceteris paribus* clauses, no theory of international relations can be operationalized as an explanatory framework recognizable by the criteria of the mature sciences. Second, when the study of international relations is approached as a legitimate discipline for social scientific inquiry, its political theory can be meaningfully developed only in abstract explanatory terms that

allow for necessarily broad-gauged predictive hypotheses. It was to these givens of the theoretical enterprise that Arthur Lee Burns referred when he commented: "What happens in power politics follows partly from the free decisions of statesmen, and partly from conditions and consequences that no one can modify. Theory is concerned with the latter, which, because of the former's significance, can be discerned only in their large-scale effects."³⁴ Within this parameter, however, extensive scope still remains for identifying more accurately and defining more precisely those elements which constrain and inform political choice. The methodology of the social sciences would seem more productive in this task than interpretative exegeses of the historical record and current events, notwithstanding the occasional brilliance of the latter, since it at least offers the potential for more systematic cumulation as well as coordinated collective effort in the problem-solving enterprise.

The realist recovery in terms of macropolitical IR theory began roughly in the mid-seventies and has gathered strength since that time primarily because the neorealists have succeeded in isolating for purposes of analysis the system-level structural constraints on international behaviour from the welter of unit- and individual-level pressures with which they combine and interact in the world arena. I think it is fair to say that structural determinants are seen by the neorealists to exercise prior conditioning influences on state action disproportionate to those produced by domestic, transnational or supranational forces, at least in terms of the defining issue-areas of the field. It is both by its more exclusive and explicit reference to system structure and by the scientific cast of its argumentation that the new realist theorizing can be distinguished from the still influential strands in the literature which have drawn attention to the atomistic roots of international anarchy and struggle and

which were exemplified in the writings of Reinhold Niebuhr and Hans Morgenthau. This more philosophic and predominantly prescriptivist Niebuhrian school flourishes today as a recognizable body of realist thought whose unifying theme remains that of the contending claims of ethics and power in world politics and among whose leading figures one would have to class George Kennan, Kenneth Thompson and Michael Howard. Contemporary structural realism, then, can be seen quite accurately as "a progressive scientific redemption of classical realist scholarship".³⁵ Further, it is the scientific status of structural realism which has catapulted it to, in Robert Keohane's words, "the center of contemporary international relations theory in the United States".³⁶

This is not to deny that the more overtly normative realists were and are structuralists in their own fashion. Despite Kenneth Waltz's classification of Morgenthau as a first-image theorist, the latter's emphasis on individual power drives was superfluous to his theory of international struggle. To Morgenthau, and indeed to all of the prescriptivist realists, the condition of international anarchy validated Hobbesian imagery in the essentially unorganized realm of international politics. Where governmental institutions existed to legitimize the recourse to monopolized coercive force, as obtained in domestic political spheres, Morgenthau acknowledged the fundamental incommensurability of international and national politics,³⁷ as have all realists.³⁸ The new realism, however, only presumes that men and women acting on behalf of states will behave primarily in function of the interests of their fellow nationals because the prevailing self-help ethic of the international system obliges them to do so. Structural imperatives, not their inherent natures as Children of Darkness, inform their actions and responses as statespersons.

At this writing, the new realism continues to represent a specifically American variant of modern realist thought. It builds on yet advances beyond both the implicit structuralist assumptions of the great 'Westphalian' realists from Carr to Aron through Wight, Butterfield, Bull, Schwarzenberger, Wolfers, Herz and Hoffmann, whose theories consist largely in the codification of diplomatic practice through the prism of their readings of the history of the modern European states system,³⁹ and the self-conscious scientism of macropolitical systems theorizing, epitomized in the work of Morton Kaplan.⁴⁰ Whereas systems thinking is tributary to organicist models derived from the natural sciences and therefore tends to focus on unit-processed interaction patterns,⁴¹ structural realism emphasizes system-level properties as restraining influences on unit-level functions and thus aligns the theory-building task and the direction of research with the most successful of the mature sciences, physics and chemistry, including their applications within the natural sciences. As one of the nine original members of the General Advisory Committee to the U.S. Atomic Energy Commission has remarked, "For five centuries the advancing frontiers of science have been associated mainly with an increase in resolving power and the discovery of new levels of structure."⁴² Cyril Smith adds:

"The units are essential, but it is not the units that signify, it is the pattern formed by the repetition of their relationship... Any existing structure possesses structural inertia. Because of the reinforcing interactions of its parts, a structure resists change even after it has become thermodynamically, philosophically, or socially metastable. It came into existence because at some time in the past the parts had found stable patterns or overall interlock, and the interaction of any one pair of neighbours cannot now be altered without altering many adjacent ones. Anything but an isolated structureless particle or the nonresonant chaos of a gas has some history locked into it, and the more complex a thing is the more its present features depend upon the retention of unique configurations that resulted from the resolution of some historic conflicts during growth."(43)

The emancipating powers of a structural focus as a scientific technique for moving beyond an all too transparent ideological discourse⁴⁴ to a less culture-bound objectivist vantage-point has been recognized by a number of leading practitioners across the spectrum of the social sciences from linguistics to anthropology. In fact, structuralism has become the principal macrotheoretical approach for first-approximation explanatory cuts of complex social systems. Jean Piaget has summarized the essential features of structuralism's descriptive core: "It consists in stressing the characteristics of 'wholeness' peculiar to these systems, while considering that wholeness to be directly 'emergent' from the assembly of elements and as imposing itself upon them, as a result of this constraint of the 'whole'; above all, it consists in considering the whole to be self-explanatory by the mere fact of its description."⁴⁵ The most parsimonious form of such descriptive structuralism in IR theory, although it has not been recognized as such in the literature, is to be found in Robert Tucker's The Inequality of Nations. Tucker needed only to acknowledge the inherent logic of the interstate system to explain the persistence of inequality at the level of the system's units. Structure for him denotes simply:

"the manner in which power is organized and applied. The distribution, or pattern of distribution, of power, though of obvious significance, is not critical for the determination of structure. Thus the structure of the international system is essentially determined by the fact that the organization and application of power inheres primarily in the state and not in institutions independent of the state. Should that condition change, or even substantially alter, the structure would change and the system would undergo transformation. The same cannot be said, however, of shifts in the distribution of power among states, though such shifts are the epochal events of international relations."⁽⁴⁶⁾

All other structural theories in the field adopt varying degrees of what Piaget calls relational structuralism; that is, they posit "systems of interactions

or transformations as the primary reality and hence subordinat(e) elements from the outset to the relations surrounding them and, reciprocally, conceiv(e) the whole as the product of the composition of these formative interactions".⁴⁷ Within the corpus of neorealist theory, the work of George Liska and Kenneth Waltz provide examples of relational structuralism predicated on distributions of power resources among the system's units. Both accord preeminent explanatory status to structural imperatives. Liska, for his part, states, "Since the structure of the international system is the prime conditioning factor of the diplomatic system, its careful delineation is indispensable for evaluating that latter system's efficiency and fit."⁴⁸ Waltz writes, "Realpolitik indicates the methods by which foreign policy is conducted and provides a rationale for them. Structural constraints explain why the methods are repeatedly used despite differences in the persons and states who use them."⁴⁹ However, it is not the internal logic of the states system alone, as in the case of Tucker's framework, but relative shares of global power located within different units which set the parameters for political relations between and among those units. Waltz's theory seeks in part to "show how behavior and outcomes vary in systems whose ordering principles endure but whose structures vary through changes in the distribution of capabilities across states"⁵⁰ and Liska pictures a model in which "(t)he structure of the international system is dealt with as tripolar" with "two levels (of smaller and greater states)...viewed as bounded by two basic structures of power (multipower equilibrium and one-power hegemony)".⁵¹ In the language of structuralism, both theorists distinguish from among the internal or necessary relations of the international system those which are asymmetric.⁵² Internal asymmetric relations are seen by them to condition patterns of interaction between and among polarizing and dependent units within the

international structure such that pattern-maintaining interlock develops.

This use of relational microstructural theoretical constructs can easily be mistaken for reformulations of traditional equilibrium analysis. Even a normally astute student like Michael Banks, for example, has written of Waltz's "misappropriation of the term 'structural' to give scientific weight to the ancient power-politics ideas of hierarchy and the balance of power".⁵³ Yet the basic reasoning and conceptual apparatus associated with the two are so fundamentally different as to foreclose qualitative assimilation. Further, structuralist modes of thought allow for the formulation of logically consistent sets of propositions from which hypotheses with properties of empirical verifiability in principle can be developed and perfected, which is the very hallmark of scientific theories.⁵⁴ In contrast, equilibrium theories developed on unit-level foundations have been marked by terminological disarray⁵⁵ and tautological assertions⁵⁶.

The kind of structuralism proposed by theorists such as Tucker and Waltz describes or explains a completed international structure that has been produced by the 'inventive deduction' or 'axiomatic decision'⁵⁷ of its constituent units at some point in the historical past. It is its logically finalized quality which makes it analogous to logico-mathematical group structures in the physico-chemical sciences. Structural realism in its unalloyed state conceives of the structure of the international system as being in stable equilibrium and not undergoing reconstitution. If it were seen by these theorists to be in a formative or reconstituting phase, then another kind of structuralism, one akin to biological models, would be called for.⁵⁸ This distinguishing characteristic of structural realism sets it apart from structural-functional constructs in the social sciences. But it can be - and usually is - erroneously understood as a putative variant of

them. John Ruggie, for instance, criticizes Waltz for not incorporating a functionalist component even though he recognizes that Waltz's chief theoretical aim was to explain systemic continuity in international politics.⁵⁹ In general terms, structuralism as it has been applied in the social sciences has not proven so far to be an effective tool for monitoring the likely sources of systemic transformation since it has tended to emphasize the synchronic over the diachronic,⁶⁰ advanced no convincing claims for explaining the initial phases of change⁶¹ or origins,⁶² and has been employed primarily as a theoretical framework for understanding the propensity of structures to remain in homeostatic equilibrium. In contrast, the new realist theory has aligned itself with the formal structuralism of the physico-chemical sciences which stresses one fundamental finding of structural analysis in those mature sciences, which Smith has summarized in the following terms, "Once a structure has found itself, the integrity of the whole stabilizes the parts and resists their rearrangement."⁶³

As I have pointed out, Tucker's theory starts and ends with this postulate. Other statements of structural realism either reduce to microstructural configurations of relative power capabilities among units - which renders them choice objects for theoretical syntheses with geopolitical thought - or hybridize structural analysis with complementary theoretical assumptions, concepts and models in order to come to terms with the phenomenon of peaceful change, whether or not that change is viewed as homeostatic or transformational in relation to the international system's macro- or microstructure. Thus, when Robert Gilpin sought to theorize about systemic change, he found it necessary to combine structural thinking with rational-choice theory,⁶⁴ and when Robert Keohane sought to explain the evolution of state behaviour in the postwar

international political economy, he was obliged to introduce unit-level analysis by drawing attention to the effects of domestic institutions and leadership.⁶⁵ In assessing their subject-matter then, Gilpin and Keohane recognized what structural theorists in the mature sciences accept as an integral component of their conceptual instrumentalities, namely that sources of structural change usually lie within units and diffuse subsequently across unit boundaries until their cumulative effects impact on the restraining influences of the existing macrostructural interlock. As Smith puts it: "A system that is in equilibrium under given conditions has reached balance between the requirements of different levels, and a subsequent change in any level will eventually influence others, though at different rates. Because parts adjust faster than wholes, change moves structurally upward."⁶⁶

If political realism can be described as essentially structuralist and current realist theory as a more scientifically rigorous variant of traditional international realism, then geopolitical thought might best be seen as proposing a space-time-structural framework as O'Loughlin⁶⁷ and Raffestin⁶⁸ have suggested. Intertheoretical reduction of the two bodies of writing along the lines called for by Zoppo and Zorgbibe⁶⁹ involves the explanation of one theory, or group of laws, in terms of a more fundamental one. The former is said to be the reduced theory while the latter is referred to as the reducing theory. In the present instance, structural realism is reduced by geopolitical theory by a process in which the common entities and properties of both are identified in order to achieve unification and increased coherence. In this case, common properties would be emphasis on: the state as primary actor or object of political contention on the part of conflict groups; the preeminent role of state control over territory, natural resources and human resources as stakes in the

international competition for relative yet finite power bases; the ultimate primacy of the political domain, that is, of the relative but constrained autonomy of self-regarding choice in the face of countervailing economic, technological, or externally located ideological, cultural, religious or ethnic influences; the structurally-restrained and therefore essentially instrumentalist rationality evidenced by state representatives whose sole non-negotiable value remains their unit's survival, inclusive of its prevailing core beliefs, within the international system; and, what might be referred to as a microstructural bias or, a prior interest in the international system's most politically important states, its major powers defined in terms of a power-as-resources or basic-force model, that is, a predisposition to interpret power as a means and not as a function of immediately proximate relational outcomes.

So that the specific nature of the intertheoretical reduction procedure will be properly understood, I quote the following definitional précis:

"even though there are at least two lists of predicates, say, N number of properties of the reduced science and M number of properties of the reducing science, since any property of the reduced science is the same as a property (or combination of properties) of the reducing science, the total number of properties will not be equal to N+M but M..... The relation between the reducing and the reduced theory, then, is not deductive but mathematical: the representations of the reduced theories are embedded or mapped into the reducing theory representations in such a way as to preserve the relations in the reduced theories and to induce new relations among the parameters.".(70)

The spatiotemporal component by which geopolitical reasoning enriches structural realism is integral to the intertheoretical reduction procedure and not an adjunct or extension since "a complex structure is a result of, and to a large extent a record of its past"⁷¹ and since "the structure of matter, on both an atomic and macroscopic scale, is the result of the interplay between the requirements of the physical forces operating between the individual parts and

the mathematical requirements of space filling".⁷² The function of this component is also crucial to the theory-building enterprise, for as Sayer points out, "abstract social science cannot ignore the fact that the possibilities and problems of reproducing social forms depends on the integration of their elements in space-time".⁷³

Normally, the delineation and categorization of spatial configurations marks the first phase of any science.⁷⁴ Awareness of this fact leads to a more accurate appreciation of Mackinder's role as the first modern macropolitical theorist of international relations. As a field evolves, the attention of researchers turns to questions relating to the underlying forces at play and shapes become part of the informing, yet primarily implicit, assumptions of theorists, rather than specific subjects for inquiry in themselves.⁷⁵ Nevertheless, periodic investigation of spatial referents suggested by advances in theory and analytical technique does allow for the deduction of relationships of progressively greater complexity and utility.⁷⁶

The French-language geopolitical materials reveal a number of insightful - and theoretically useful - ways in which such spatial modeling can be approached. Three techniques, in particular, mesh nicely with structural realism's scientific format while adhering to its normative focus. Reflecting the emphasis in French geopolitical thinking on retro-temporal extensions of spatial patterns as a technique for projecting likely future structure sets,⁷⁷ Bouthoul, Carrère and Annequin⁷⁸ identified ten 'fronts of world aggressivity' by locationally plotting all wars and 'microconflicts' in the 1945-74 period (Figure 1). Given the spatial effects of bipolarity as set out in structural realism's exemplar text, namely that 'bipolarity extends the geographic scope of both powers' concern!.... 'in a bipolar world there are no peripheries' 'in a bipolar

world, competition becomes more comprehensive as well as more widely extended',⁷⁹ and bearing in mind the primary importance of geographical position⁸⁰ as a geopolitical explanans-proposition, note how the four most intense world aggressivity fronts - F1, F2, F6 and F7 - identified by Bouthoul and his associates⁸¹ mirror scientific structuralism's 'linear boundaries of connected disorder' (Figure 2).⁸² This technique of locational referencing provides an empirically derived construct for theorizing about world politics in structural terms. The French researchers' work offers an example of a spatiotemporal phenomenon that has been accorded nomothetic status in the mature sciences; that is, "The conflict of large regions of order produces local conditions of disorder that can neither extend or vanish for their dysymmetry is in local equilibrium with the overarching stability of the larger environment: They shrink but cannot disappear."⁸³

Such geopolitical or microstructural fault-lines, or any other latent conflict zone, can be more finely textured by applying Lacoste's step-scaled and multivariable spatial analysis technique whereby the topographical delineations of interaction patterns are drawn in respect of demographic, economic, military, ethno-cultural or other cuts of socio-political complexity and then superimposed in various combinations to reveal the intersections or loci of past or potential conflict (Figure 3).⁸⁴ It is within the rectangular or square area identified by this technique that geopolitical matrices become either 'overdetermined' as an Althusserian structuralist would say or, more (less?) prosaically, a probable site of systemic dysfunction.⁸⁵ By integrating capability analyses with patterned cartographic scaling, Lacoste has shown not only how strategic reasoning should proceed but also demonstrated how the reification of collective entities can be avoided.⁸⁶ Lacoste's accompanying pleas for analytical rigour are rooted in his

desire as a professional of geopolitics to insulate his discipline from facile generalizations prompted by superficial readings of human and physical complexity. Although his work and that of many of his fellow geographers have been largely reactive to the French School's apolitical image, it could be argued that his technique integrates the Vidalian concern for areal differentiated subsets of collective mental-mapping of the physical and human landscape and the implications of that process for behaviour patterns. However, whereas the early French School's central concept, 'genre de vie', offered a legitimate geopolitical reading of the Waltzian first and second images,⁸⁷ it is clearly not directly germane to third-image theoretical constructs such as structural realism. Lacoste though has succeeded in shifting the emphasis of conceptualization to structures of relative power.⁸⁸ While he does accord special attention to armed conflict, which he notes has been "so perniciously 'forgotten' by the classic economist discourse of the Marxist type,"⁸⁹ Lacoste has also developed an ecologist argument for geopolitical analysis by sponsoring studies that examine the human and political implications that flow from the fact that fully one-third of humankind lives and works in zones susceptible to high risk environmental disruptions, exclusive of dry zones.⁹⁰ His work, as well as that of many like-minded French geopoliticians, therefore offers examples of a constant of geopolitical writing: the theoretical constructs and analytical modes of thought are value-neutral - they can be applied for the purposes of a range of policy options from military geostrategy to ecologist geoeristics; but spatially differentiated patterns of relational power are always central to the exposition.

If I have highlighted two of the more novel features of French-language geopolitical thought by referring to Bouthoul and Lacoste, it is not to suggest

that Mackinderesque microstructural theory has been left to lie fallow. This time-honoured and, for the purposes of this paper, third technique continues to thrive in various guises, particularly in the security studies materials. Although it is inherently provocative, given its quite explicit implications for policy choice and its sometimes over-zealous propensity to go to the essence of major power competition with only a modicum of qualifying preambles, it nonetheless offers the most parsimonious and compelling abstractions for understanding the policy initiatives and responses of world and regional hegemons.

In making his case that bipolar systems are less likely to experience central theatre war than higher-numbered ones, Waltz notes as a proviso the problems occasioned when one or other of the superpowers defines its national interests too broadly and becomes involved in peripheral contests that are not unambiguously linked to its own security.⁹¹ To ensure against the possibility of central theatre war, he essentially proposes the old sphere of influence idea as an ordering device for great power competition. As Paul Keal has shown, the United States and the Soviet Union have adhered in the main to just this kind of tacit understanding,⁹² despite some significant breaches which at least in their initial phases could arguably be attributed to misreadings of the other's intent. Microstructural geopolitical theory proposes a number of explanans-propositions to account for why a superpower might be inclined to misread an adversary's intent. If one considers the following set of explanans-propositions and hypotheses from French-language geopolitical theorists, a number of explanatory claims or more particularistic predictive hypotheses concerning major power contention and indeed, world politics in general, could be advanced that would be as logically consistent and plausible, even as open to confirmatory empirical testing, as any contending theories in the discipline. I will leave this exercise to

the reader and, so that the conceptual tools for the task will be readily at hand, simply restate some propositions from the French geopoliticians that complement structural realism's explanatory postulates.

Selected Geopolitical Propositions:

- 1) American power has been constructed on a vertical axis since the Monroe Doctrine while Soviet power is horizontally arrayed;⁹³
- 2) areal scope, territorial depth, and equilibrated form are key elements of national power;⁹⁴
- 3) the Soviet Union has created an Anti-Rimland in the Caribbean and Central America (Figure 4);⁹⁵
- 4) the Soviet Union is seeking vertical depth by occupying Afghanistan (Figure 4);⁹⁶
- 5) straits, isthmuses, and islands are more important than spheres of influence;⁹⁷
- 6) the more equal the distribution of power the more difficult it becomes to hold a littoral position;⁹⁸
- 7) if spatial interrelationships increase among states, then national interests will become more inflexible and less amenable to compromise;⁹⁹
- 8) scope and position are the two most salient geopolitical variables;¹⁰⁰
- 9) position is the most salient geopolitical variable;¹⁰¹
- 10) the outcome of political struggles is played out on continents not on islands;¹⁰²
- 11) freedom of movement is a fundamental geopolitical value;¹⁰³
- 12) the Mahan-Mackinder dichotomy of sea power and continental power has become, with the growth in Soviet naval power, an historical curiosity - two sea powers oppose one another;¹⁰⁴

- 13) the sea in depth has become the place of strategic refuge on a planetary scale;¹⁰⁵ and,
- 14) the Atlantic maritime shipping routes remain the primary stake of superpower contention.¹⁰⁶

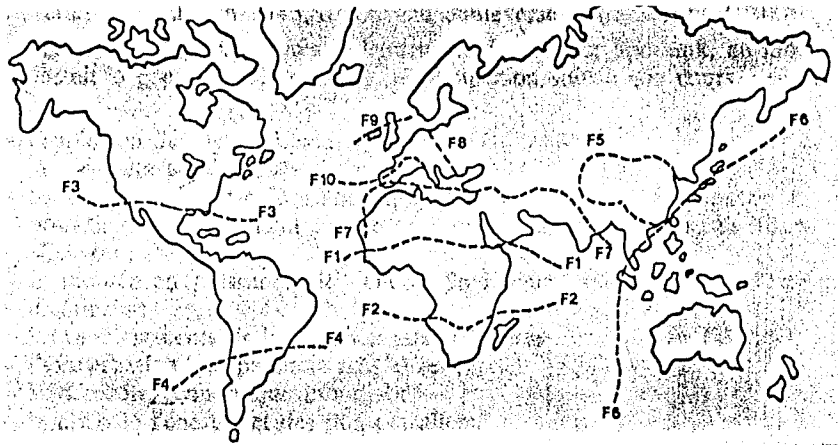
Selected explanans-propositions and hypotheses from Waltz (page references from Theory in brackets):

- 1) States tend to emulate the successful policies of others (124);
- 2) States seek to control what they depend on or to lessen the extent of their dependency (106);
- 3) Units will be more concerned with relative strength than with absolute advantage (106);
- 4) The force of a state is employed for the sake of its own protection and advantage (112);
- 5) The more centralized the order, the nearer to the top the locus of decision ascends (113);
- 6) In international politics force serves, not only as the ultima ratio, but indeed as the first and constant one (113);
- 7) All economies work within orders that are politically contrived and maintained (141);
- 8) Close interdependence raises the prospect of occasional conflict (138);
- 9) If domestic substitutions for foreign imports cannot be made, or can be made only at high cost, trade becomes of higher value to a country and of first importance to those who conduct its foreign policy (142); and,
- 10) In shaping the behavior of nations, the perennial forces of politics are more important than the new military technology (173).

In a recent overview, Geoffrey Parker identified geopolitics as "the study

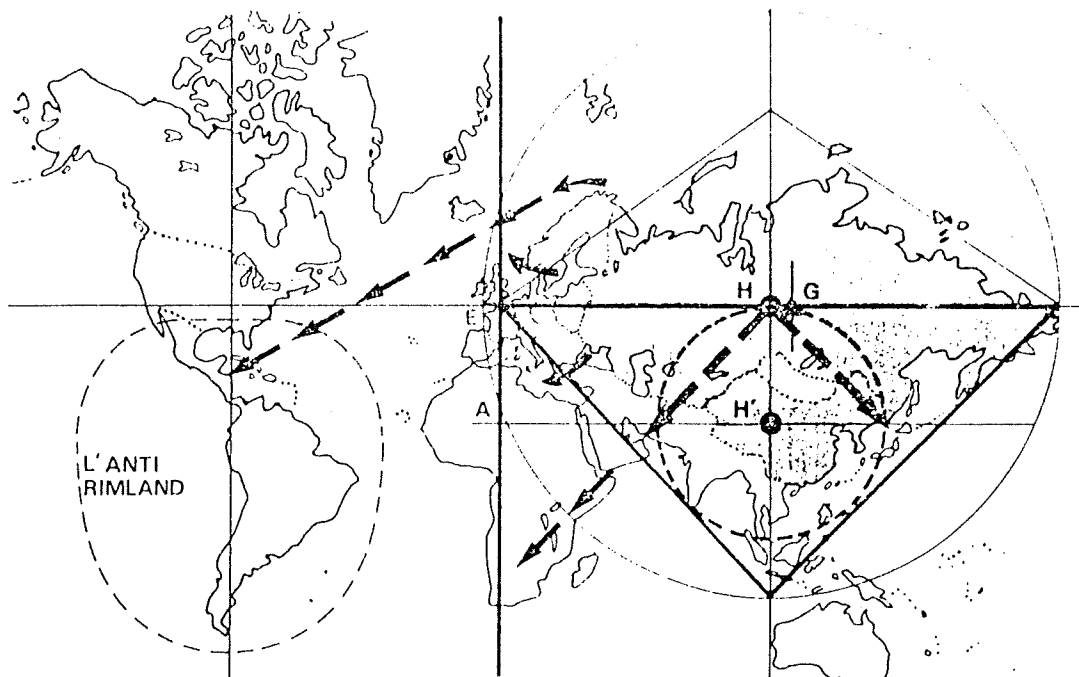
of the international scene from a spatial or geocentric viewpoint, the understanding of the whole".¹⁰⁷ At about the time that the new realist macrotheory was taking form, East and Prescott had referred to geopolitics' subject matter as a "delicately interlocking mechanism",¹⁰⁸ which prompted Parker to add that geopolitics was also "the study of how and to what end this 'mechanism' operates".¹⁰⁹ For IR specialists working from the perspective of political science, the essential symmetry of geopolitical thought and structural realism are striking, and have been appropriately noted previously. What I have attempted to demonstrate in this paper, given the staying power of the fact-resistant myths surrounding both, is why these two great scholarly achievements lend themselves exceptionally well to a theoretical framework that is at the cutting-edge of contemporary scientific endeavour.

Figure 1: Fronts of World Aggressivity, 1945-74



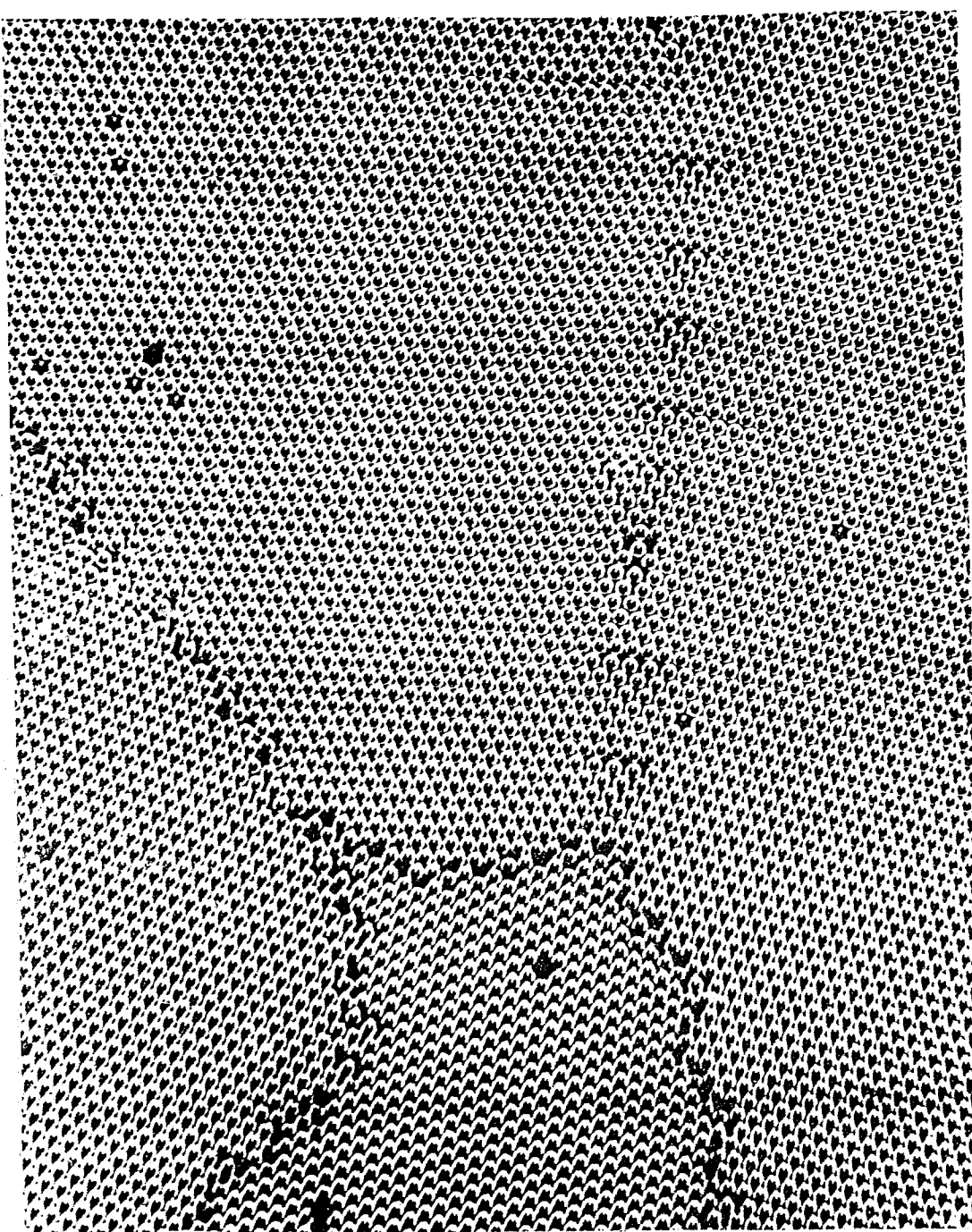
Source: Gaston Bouthoul, René Carrère and Jean-Louis Annequin, Guerres et civilisations, de la préhistoire à l'ère nucléo-spatiale (Paris: Fondation pour les études de défense nationale, 1979), Cahier n° 14, Collection 'Les Sept Epées', 151.

Figure 4: Cartographic Representation of Soviet Union's Strengthening of its own Vertical Axis and its Weakening of the Euro-African and American Vertical Axes



Source: Jacques Belletini, "La géopolitique de Sir Halford Mackinder et l'ère nucléaire", Stratégique, 19(1983), 53-92, 67.

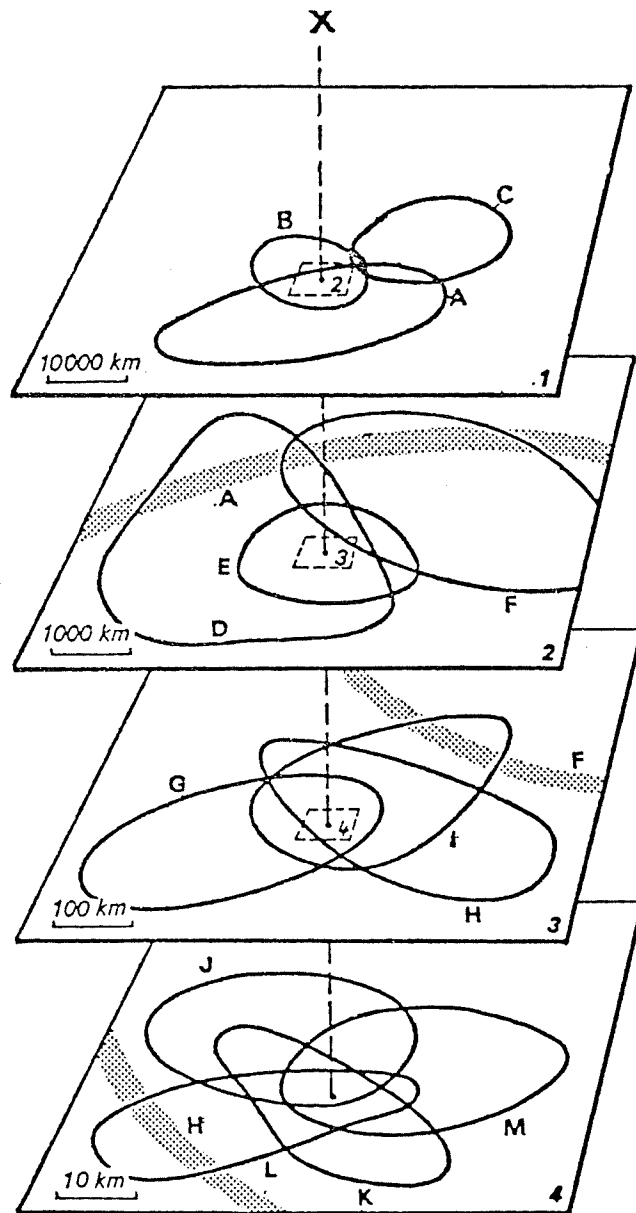
Figure 2: Regions of Structural Order and Linear Boundaries of Connected Disorder



"The structure of metals on an atomic scale and serving as a visual metaphor for the hierarchy of interactions of all kinds. Note the formation of regions of order that tolerate a few internal local anomalies but conflict on a larger scale to produce linear boundaries of connected disorder."

Source: Cyril Stanley Smith, A Search for Structure: Selected Essays on Science, Art, and History (Cambridge, Mass.: MIT Press, 1981), frontispiece.

Figure 3: Lacoste's Step-scaled Levels of Spatial Analysis Technique



Source: Yves Lacoste, La géographie, ça sert, d'abord, à faire la guerre (Paris: La Découverte, 1985), 73.

Reference Notes

1. In a recent overview of realist thought, Robert Gilpin identified three shared assumptions of all realist writers: "the essentially conflictual nature of international affairs Anarchy is the rule the final arbiter of things political is power;" "this essence of social reality is the group in a world of scarce resources and conflict over the distribution of those resources, human beings confront one another ultimately as members of groups, and not as isolated individuals;" and, "the primacy in all political life of power and security in human motivation." See: Robert G. Gilpin, "The richness of the tradition of political realism", International Organization, Vol. 38, No. 2 (1984), 287-304 at 290.
2. Henry Teune, "Integration", in Giovanni Sartori, ed., Social Science Concepts: A Systematic Analysis (London: Sage Publications, 1984), 235-64 at 235.
3. Robert E. Harkavy, Great Power Competition for Overseas Bases: The Geopolitics of Access Diplomacy (New York: Pergamon Press, 1982), 277.
4. K.J. Holsti, The Dividing Discipline: Hegemony and Diversity in International Theory (Boston: Allen & Unwin, 1985), 103.
5. The work of researchers in the quantitative international relations (QIR) tradition has probably been the most influential in this regard. Any of the collected reports from this school published in recent years would substantiate my point. A typical summary of one set of findings reads: "The tentative inference from this limited set of studies is that such basic geo-strategic factors as location and strength seem to be of importance, but that despite persuasive arguments ..., domestic factors of a less material sort would appear to be rather negligible in accounting for the war proneness of individual nations." J. David Singer, "Accounting for International War: The State of the Discipline", Journal of Peace Research, Vol. 18, No. 1 (1981), 1-18 at 12. The propensity of IR behavioralists to emphasize spatial and power resource coordinates prompted one French scholar to qualify the Journal of Conflict Resolution as the organ of the 'North American School of Geopolitics'. Thomas Varlin, "Hérodote a lu: Gaston Bouthoul et René Carrère: 'Le Défi de la guerre'", Hérodote, 3 (1976), 149-54 at 151.
6. It should be added that whenever a need has been perceived for an accurate reading of the distribution of power between contending political forces within the French-speaking world generally geopolitical reasoning has been applied instructively. Some examples referring to the Quebec case are: Kimon Valaskakis, Le Québec et son destin international, les enjeux géopolitiques (Montréal: Quinze, 1980); Ludger Beauregard, "La problématique géopolitique du Québec", Cahiers de géographie du Québec, Vol. 24, No. 61 (1980), 5-8; Jean-Claude Lasserre, "Les rôles géopolitiques du Saint-Laurent", Cahiers de géographie du Québec, Vol. 24, No. 61 (1980), 135-44.
7. For example, Raymond Aron, Les dernières années du siècle (Paris: Julliard,

1984), esp. chapter 6 'La carte géopolitique du monde', 149-64; Jean Klein, "Considérations sur la géopolitique", Stratégique, 20(1983), 7-41; Pascal Boniface, dir., L'Année stratégique, Forces armées dans le monde, Analyses géopolitiques, Les nouvelles données stratégiques (Paris: Lattes/Emom, 1984); Georges de Bouteiller, "La 'nation islamique,' une réalité géopolitique de demain? II. - Des structures panislamiques modernes", défense nationale, 37 (1981), 101-10; Jean-Paul Charnay, "Géopolitique et géosociologie du monde arabe", défense nationale, 37 (1981), 83-95; Claude Chayet, "Le Dragon et l'Ours venu du Nord", géopolitique, 2 (1983), 42-4 (Sino-Soviet relations on geopolitical model); and Hervé Coutau-Begarie, Géostratégie de l'Atlantique sud (Paris: P.U.F., 1985). These references are merely indicative. A full listing would require several pages of typeface.

8. For example: Claude Bataillon, Etat, pouvoir, espace dans le tiers monde (Paris: P.U.F., 1977); Gérard Chaliand, L'enjeu africain, géostratégies des puissances (Paris: Seuil, 1980 and Bruxelles: Complexe, 1984); and, Yves Lacoste, La géographie, ça sert, d'abord, à faire la guerre (Paris: La Découverte, 1985).
9. Gérard Chaliand, Les faubourgs de l'histoire, Tiers-mondismes et tiers-mondes (Paris: Calmann-Lévy, 1984), 64.
10. See, for example, André Bourgey, "Beyrouth, ville éclatée", Hérodote 17 (1980), 5-31; Jean Cabot, "Le Tchad écartelé", Hérodote 18(1980), 133-53; Michel and Daniel Pouyllau, "Géopolitique et géostratégies du Venezuela", Hérodote, 27 (1982), 125-53; Michel Foucher, "Enquête au Nicaragua - I, septembre 1979", Hérodote, 16(1979), 5-35.
11. See Roger Brunet, "La géographie," in Maurice Godelier, dir., Les sciences de l'homme et de la société en France, Analyse et propositions pour une politique nouvelle (Paris: La Documentation française, 1982), Collection des rapports officiels, 383-420, esp. 397-8; André-Louis Sanguin, "Whither the geography of power among French geographers?", Political Geography Quarterly, Vol. 2, No. 4 (1983), 319-27; Robert Sevrin, "Research Themes in Political Geography: A French Perspective", Political Geography Quarterly, Vol. 4, No. 1 (1985), 67-78; and Béatrice Giblin, Hérodote, une géographie géopolitique, Cahiers de géographie du Québec, Vol. 29, No. 77 (1985), 283-94. Even partial syntheses of the strategic studies materials have not yet been attempted.
12. This complementarity extends to the field as a whole. See: Jean Laponce, "Political science and political geography: neglected areas, areas for development", International Social Science Journal, Vol. 35, No. 97 (1983), 549-58.
13. William Fox, "Geopolitics and International Relations" in Ciro E. Zoppo and Charles Zorgbibe, eds., On Geopolitics: Classical and Nuclear (Dordrecht: Martinus Nijhoff, 1985), 15-44 at 22.
14. Saul Bernard Cohen, Geography and Politics in a World Divided, 2nd ed., (New York: Oxford University Press, 1973), 29.

15. Stanley D. Brunn, "Geopolitics in a shrinking world - a political geography of the twenty-first century", in A.D. Burnett and P.J. Taylor, eds., Political Studies from Spatial Perspectives: Anglo-American Essays on Political Geography (New York: John Wiley & Sons, 1980), 131-56 at 131.
16. The cognitive processes of the mental imaging of geographic referents are set out clearly in: Peter Gould and Rodney White, Mental Maps (New York: Penguin, 1974). Alan K. Henrikson in particular has demonstrated the effectiveness of this analytical technique for locational power theories. See his: "The map as an 'idea': the role of cartographic imagery during the second world war", The American Cartographer, Vol. 2, No. 1 (1975), 19-53; "America's Changing Place in the World: From 'Periphery' to 'Centre'?" in Jean Gottmann, ed., Centre and Periphery: Spatial Variation in Politics (Beverly Hills: Sage, 1980), 73-100; "The geographical 'mental maps' of American foreign policy makers", International Political Science Review, Vol. 1, No. 4 (1980), 495-530; and, "A Diplomatic Historian's View", in "Research agendas for the nineteen eighties: comments, additions and critiques", Political Geography Quarterly, Vol. 1, No. 2 (1982), 167-80 at 169-70.
17. Herbert A. Simon has been developing the concept of 'bounded rationality' as an alternative to cost-benefit thinking for over thirty years. His most recent treatment is: "Human Nature in Politics: The Dialogue of Psychology with Political Science", American Political Science Review, Vol. 79, No. 2 (1985), 293-304.
18. Hedley Bull, "The Theory of International Politics, 1919-1969," in Brian Porter, ed., The Aberystwyth Papers: International Politics, 1919-1969 (London: Oxford University Press, 1972), 30-55 at 42.
19. For a critique of Aron's Peace and War in this sense, see: Oran R. Young, "Aron and the Whale: A Jonah in Theory" in Klaus Knorr and James N. Rosenau, eds., Contending Approaches to International Politics (Princeton: Princeton University Press, 1969), 129-43.
20. There is no synthetic text that would permit one to readily grasp the distinguishing features of the new realist theory. Interpretative critiques include: Fouad Ajami, "The Global Logic of the Neoconservatives", World Politics, Vol. 30, No. 3 (1978), 450-68; Richard K. Ashley, "The poverty of neorealism", International Organization, Vol. 38, No. 2 (1984), 225-86; Ashley's "Political Realism and Human Interests", International Studies Quarterly, Vol. 25, No. 2 (1981), 204-36; John Gerard Ruggie, "Continuity and Transformation in the World Polity: Toward a Neorealist Synthesis", World Politics, Vol. 35, No. 2 (1983), 261-85; Richard Rosecrance, "International theory revisited", International Organization, Vol. 35, No. 4 (1981), 691-713; Richard Little, "Structuralism and Neo-Realism", in Margot Light and A.J.R. Groom, eds., International Relations: A Handbook of Current Theory (Boulder: Lynne Rienner, 1985), 74-89; Michael Banks, "The Inter-Paradigm Debate", in ibid., 7-26; Stanley Hoffmann, Primacy or World Order: American Foreign Policy since the Cold War (New York: McGraw-Hill, 1978), 146-7; and, Morton A. Kaplan, Towards Professionalism in International Theory: Macrosystem Analysis (New York: The Free Press,

- 1979), 1-92.
21. See, for example: Tom J. Farer, "The greening of the globe: a preliminary appraisal of the World Order Models Project: (WOMP)", International Organization, Vol. 31, No. 1 (1977), 129-47; Aristide R. Zolberg, "Origins of the Modern World System: A Missing Link", World Politics, Vol. 33, No. 2 (1981), 253-81; and, K.J. Holsti, "The Necrologists of International Relations", Canadian Journal of Political Science, Vol. 28, No. 4 (1985), 675-95.
 22. 'Perspective' is used here in the technical sense of a set of categories or underlying presuppositions of research as Paul Diesing has developed the concept. See his Science & Ideology in the Policy Sciences (New York: Aldine, 1982).
 23. Thomas S. Kuhn, "Second Thoughts on Paradigms", in Frederick Suppe, ed., The Structure of Scientific Theories, 2nd ed. (Urbana: University of Illinois Press, 1977), 459-99; and his The Structure of Scientific Revolutions, 2nd ed., (Chicago: University of Chicago Press, 1970), 174-210.
 24. "Structure means the form of the interrelationship of the states comprising the international system." Robert Gilpin, War and Change in World Politics (Cambridge, Mass.: Cambridge University Press, 1981), 85.
 25. Kuhn, Scientific Revolutions, op. cit., 184-5.
 26. Holsti, The Dividing Discipline, op. cit., 5.
 27. Ibid., 9.
 28. Gilpin, War and Change, op. cit., xiii.
 29. Banks, op. cit., 14.
 30. Stanley Hoffmann, "Review of Greenstein and Polsby, eds., Handbook of Political Science, Vol. 8: International Politics", American Political Science Review, Vol. 71, No. 4 (1977), 1634-6 at 1636.
 31. Russell Keat and John Urry, Social theory as science (London: Routledge & Kegan Paul, 1975), 5. As Leplin has noted, a characteristic claim of scientific realism is that "a scientific theory may be approximately true even if referentially unsuccessful." Jarrett Leplin, ed., Scientific Realism (Berkeley: University of California Press, 1984), 1.
 32. Mario Bunge, Causality and Modern Science, 3rd revised ed., (New York: Dover, 1979), 311.
 33. John Ziman, Reliable knowledge: An exploration of the grounds for belief in science (London: Cambridge University Press, 1978), 23.
 34. Arthur Lee Burns, "Scientific and Strategic-Political Theories of International Politics", in Porter, op. cit., 56-85 at 85.

35. Richard Ashley dismisses this fact as one of the 'creation myths' of the 'great scholarly movement' of realism. See: Ashley, "The poverty of neorealism", op. cit., 230.
36. Robert O. Keohane, "Theory of World Politics: Structural Realism and Beyond", in Ada W. Finifter, ed., Political Science: The State of the Discipline (Washington: American Political Science Association, 1983), 503-540 at 511. As Keohane notes, "the Structural Realist research program is an impressive intellectual achievement: an elegant, parsimonious, deductively rigorous instrument for scientific discovery". Ibid., 510.
37. David Singer recognized Morgenthau's implicit structuralism and categorized him as a 'third-image analyst.' See J. David Singer, "International Conflict: Three Levels of Analysis", World Politics, Vol. 12, No. 3 (1960), 453-61 at 454.
38. Note, on this point, Gilpin's observation: "The significance of the structure of the international system for the policies of states is, of course, the fundamental premise of political realism". Gilpin, War and Change, op. cit., 86.
39. Note Carr's remark: "The realist regards political theory as a sort of codification of political practice". E.H. Carr, The Twenty Years' Crisis, 1919-1939, 2nd ed., (London: Macmillan, 1981 (1946)), 12.
40. See Kaplan's analogies such as 'the doctor's description of such things as pulse, temperature, and respiration', 'the invasion of the organism by a virus', 'a fever as the output of the system', 'morphine addiction or nerve deterioration', 'light may no longer cause the pupil of the eye to contract', and so on. Morton A. Kaplan, System and Process in International Politics (New York: John Wiley & Sons, 1957), 4-5.
41. The reasoning underlying this emphasis is set out succinctly in: Anatol Rapoport, "Foreward", in Walter Buckley, ed., Modern Systems Research for the Behavioral Scientist: A Sourcebook (Chicago: Aldine, 1968), xiii-xxii.
42. Cyril Stanley Smith, A Search for Structure: Selected Essays on Science, Art, and History (Cambridge, Mass.: MIT Press, 1981), 367.
43. Ibid., 360, 377.
44. As Diesing demonstrates, political science, economics and sociology have grown thus far "by the establishment of new perspectives alongside the old. The new perspectives reflect changes in society; they are primarily a product of society, not of science". Diesing, op. cit., 409.
45. Jean Piaget, Main Trends in Inter-disciplinary Research (London: George Allen & Unwin, 1973), 21.
46. Robert W. Tucker, The Inequality of Nations (New York: Basic Books, 1977), 169.

47. Piaget, op. cit., 22. Piaget adds: "It is of great interest, from our interdisciplinary point of view, to note that this trend - which is increasingly evident in the human sciences - is still more general and manifests itself just as clearly in mathematics and biology".
48. George Liska, Beyond Kissinger: Ways of Conservative Statecraft (Baltimore: The Johns Hopkins University Press, 1975), 16.
49. Kenneth N. Waltz, Theory of International Politics (Reading, Mass.: Addison-Wesley, 1979), 117.
50. Ibid., 129.
51. Liska, op. cit., 9.
52. Andrew Sayer, Method in Social Science: A realist approach (London: Hutchinson, 1984), 80-7.
53. Banks, op. cit., 14.
54. Bunge, op. cit., 287.
55. See, for example, Martin Wight, "The Balance of Power" in Herbert Butterfield and Martin Wight, eds., Diplomatic Investigations: Essays in the Theory of International Politics (London: George Allen & Unwin, 1966), 149-175. Wight identified nine different meanings of power balancing.
56. Alan C. Isaak, Scope and methods of political science: An introduction to the methodology of political inquiry, rev. ed., (Homewood, Ill.: The Dorsey Press, 1975), 222-5.
57. Piaget, op. cit., 15.
58. Ibid.
59. Ruggie, op. cit., 273.
60. Keat and Urry, op. cit., 125.
61. Piaget, op. cit., 33-5, 49-52, 60-63.
62. Sayer, op. cit., 88. See, in particular, Sayer's comment: "while abstraction by means of structuralism is useful it does not explain origins. The assumption that such inferences can be drawn purely from this kind of analysis is the prime error of functionalism."
63. Smith, op. cit., 378. Formal structuralism does nevertheless encompass the issue of change but approaches it in terms of its dynamics once set in motion by unit level or system level forces. This is precisely the thrust of structural realist and geopolitical theory.

64. Gilpin, War and Change, op. cit., ix-xiii.
65. Robert O. Keohane, After Hegemony: Cooperation and Discord in the World Political Economy (Princeton: Princeton University Press, 1984).
66. Smith, op. cit., 376.
67. John O'Loughlin, "Geographic Models of International Conflicts" in Peter Taylor and John House, eds., Political Geography: Recent Advances and Future Directions (London: Croom Helm, 1984), 202-26 at 202.
68. Claude Raffestin, Pour une géographie du pouvoir (Paris: Litec, 1980), 146.
69. Ciro Zoppo and Charles Zorgbibe, "An Indicative Research Agenda" in their, eds., On Geopolitics, op. cit., 293-301 at 296.
70. W.F. Bynum, E.J. Browne and Roy Porter, eds., Dictionary of the History of Science (Princeton: Princeton University Press, 1981), 365.
71. Smith, op. cit., 69. See also Piaget, op. cit., 60-3. Note esp.: "synchronic reequilibration depends closely upon previous evolution, because diachronic constructions, even at that stage, were based on progressive equilibration, and because the present balance is the (provisional) termination of such a process," at 63.
72. Smith, op. cit., 3. See also Piaget, op. cit., 65. Note esp. his remarks: "But from the standpoint of theoretical construction, topology is the starting-point of the geometrical edifice, and from it proceed projective geometry on the one hand and general metrics on the other".
73. Sayer, op. cit., 134.
74. Smith, op. cit., 3.
75. Ibid.
76. Ibid.
77. Note Chaliand's comment: "I am quite in agreement with what you say regarding the French geopolitical approach which emphasizes, or in any case takes considerable account of, the historical perspective". Letter to the author, 19 December 1985.
78. Gaston Bouthoul, René Carrère and Jean-Louis Annequin, Guerres et civilisations, de la préhistoire à l'ère nucléo-spatiale (Paris: F.N.E.D.N., 1979), 151.
79. Waltz, op. cit., 171.
80. Pierre Célérier, Géopolitique et géostratégie, 3^e éd., (Paris: P.U.F., 1969), 21-8.

81. Bouthoul, Carrère and Annequin, op. cit., 151-2.
82. Smith, op. cit., frontispiece.
83. Ibid., 382.
84. Yves Lacoste, op. cit., 73.
85. Ibid., 51-73. See also: Yves Lacoste, "Les différents niveaux d'analyse du raisonnement géographique et stratégique", Hérodote, 18 (1980), 3-15.
86. Yves Lacoste, "Editorial", Hérodote, 23(1981), 3-7.
87. Kenneth N. Waltz, Man, the State and War: A Theoretical Analysis (New York: Columbia University Press, 1959), 16-158.
88. Yves Lacoste, "Editorial", Hérodote, 6(1977), 3-4.
89. Yves Lacoste, "Editorial", Hérodote, 17(1980), 3-4 at 3.
90. Yves Lacoste, "Les querelles des géographes et l'unité de la géographie", Hérodote, 24(1982), 3-11.
91. Waltz, Theory, op. cit., 205.
92. Paul Keal, Unspoken Rules and Superpower Dominance (London: Macmillan, 1983).
93. Jacques Bellettini, "La géopolitique de Sir Halford Mackinder et l'ère nucléaire", Stratégique, Nos. 18, 19, 20 (1983), 111-69, 129-48, 53-92.
94. Célérier, op. cit., 18-28.
95. Bellettini, op. cit.
96. Ibid.
97. Jean Gottmann, La politique des Etats et leur géographie (Paris: Armand Colin, 1952), 81, 89.
98. Ibid., 91.
99. Ibid., 120.
100. Ibid., 109.
101. Ibid., 119.
102. Ibid., 103.
103. Célérier, op. cit., 50-1.

104. Yves Lacoste, "La mer: quatre grands changements géopolitiques", Hérodote, 32(1984), 3-41.
105. Ibid.
106. Ibid.
107. Geoffrey Parker, Western Geopolitical Thought in the Twentieth Century (London: Croom Helm, 1985), 2.
108. W.G. East and J.R.V. Prescott, Our Fragmented World (London: Macmillan, 1975), quoted in ibid., 3.
109. Ibid.