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RESOURCES TRADE: THE INTERNATIONAL
POLITICAL DIMENSION

David G. Haglund

Centre for International Relations
Queen's University
Kingston, Ontario

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Resources Trade: The International Political Dimension

by David G. Haglund

Introduction: International Politics and Resources

It is no easy task to prepare a paper that presumes to examine the international political dimension of resources trade. To begin with, the "international political" aspects, or dimensions, of anything can be so vast as to be limited only by the imagination of those who ponder them. Perhaps more important, however, is the utter ambiguity that attaches to those things we call "international political" processes. Having neither the competence, the heart, nor the space to cover fully the gamut of concerns adumbrated in the title of my paper, I will restrict greatly its focus, and speculate upon what I consider to be the most germane question related to international politics--the security dilemma of states--with the view to determining whether, and to what extent, security considerations can be held to be important forces contributing to the distorting of international trade patterns in resources, particularly mineral resources. I will loosely divide this paper into two clusters of sections, a lengthy one that looks at some of the underlying structural aspects of the international system that have endowed certain resources with great significance from the point of view of security; and a shorter one that explores in a bit of detail the case of one commodity, uranium, which has recently been the object of attention by protectionist forces in the United States, who at least in part premise their arguments for import relief (mainly from Canadian uranium) upon national-security grounds.

There are other, perhaps more fruitful, ways through which one could approach the stated topic of this paper than by concentrating upon security. After all, if politics is, as a famous formulation has it, "the study of who gets

what, when, and how,"¹ then it is apparent that much of international economics--and a fortiori international trade--is suffused with political considerations. Anyone who has been following just this year's batch of trade disputes between Canada and the United States will appreciate the degree to which resources trade, from softwood lumber to potash, is becoming the subject of an increasingly political series of events--events that, in one form or another, lead back to distinctly political institutions in Washington, which have grown more prominent and instrumental in the intermediation of trade matters during recent years.² Over the past decade and a half, there has grown up within the discipline of international relations an influential subdiscipline of experts gathered together under the rubric of International Political Economy (or IPE), and one could find ample justification for couching a paper such as this entirely in non-security terms; for as one widely used IPE text rightly informs its readers, international economics today is international politics.³ According to this perspective, political scientists can eschew nettlesome concepts like security and still find themselves sharing a conference podium with such less ersatz trade specialists as lawyers and economists.

But if it is true that politics can be an instrument of economics (and especially trade), it is no less true that trade, particularly in resources, can be an instrument of politics; and it is toward this feature of the nexus between trade and politics that my remarks will be largely addressed. Much of the recent thrust of IPE notwithstanding, there is a good argument to be made that what sets political scientists apart from, say, economists or trade lawyers, is the attention that the former accord to the manner in which economic considerations affect international distribution patterns of power and influence. Political scientists specializing in international relations may and do have a

varied menu of research topics, but they surely must all be drawn at least to some extent toward the contemplation of their discipline's traditional "problematique," the study of the causes of war and the conditions of peace.⁴

There are several ways in which economics can be instrumental to international politics, but probably the two most important ones, at least insofar as resources are concerned, inhere in what Albert O. Hirschman labeled the "influence effect" and the "supply effect" of trade.⁵ An example of the former is when a state, or group of states, seeks to use economic leverage to achieve influence over its trading partners, the presumption being that the objective of the influence attempt is to secure political objectives, and not merely economic aggrandizement. Hirschman's own study was stimulated by the experience of Nazi Germany in the 1930s, which sought and achieved an enhancement of its political influence through the conscious manipulation of bilateral trading arrangements with lesser states, located principally in the Balkans and Latin America. More recently, the OAPEC embargo of the United States and the Netherlands in late 1973 stands out as a dramatic (if unsuccessful) attempt by a group of states to accomplish political ends through the manipulation of resource trade.⁶ For a time from the mid-1970s to the early 1980s, it appeared as if the influence effect of resources trade would attain greater importance in international politics, as states (many of them in the Third World) actively contemplated the formation of a series of cartels whose purpose was nothing less than the alteration of the international political and economic status quo.⁷ Today, the spectre of raw-material cartelization has ceased to exercise nervous imaginations; indeed, the use of resources as "levers" for the attainment of political (and economic) objectives resembles nothing so much as a mug's game,

as the forces of "structural change" in the world mineral industry continue to gnaw away at the market power and influence of producers.⁸

It is with the second instrumental aspect of trade, the supply effect, that the bulk of the remaining pages of this paper will be concerned. I shall argue the following: first, that states do have reason to concern themselves with ensuring that they have, for reasons of national security, an adequate and reasonably reliable source of essential raw materials; second, that the United States is particularly sensitive to possible disruptions in mineral supply (at least in comparison with most of its fellow NATO and OECD member-countries); and third, that while in general American security planners tend to regard Canadian-sourced minerals as being nearly as reliable as domestically sourced ones, there is one exception to the generalization, uranium.

Enduring Mercantilism: Why Can't Politicians Leave Resource Trade Alone?

It is a common complaint among economists and trade lawyers that states have been becoming exceedingly clever in developing stratagems to justify and facilitate their interference with "normal" trading patterns--and raw materials are no exceptions to the trend. One of the oft-cited motivations for introducing market distortions has been the national-security argument, pilloried by the Economist (not without some reason) as "the last refuge of a protectionist scoundrel."⁹ National security constitutes one, but by no means the most omnipresent, of the political factors that have been implicated in the recent wave of "neo-mercantilist" protectionism that seems to be now rolling over the Western developed countries. Though the analogy, as with most such comparisons, may be inexact, there is nevertheless some merit in introducing the concept of modified "mercantilism" into the discussion; for mercantilism was a

perspective on international political economy that put great stress on the distributive characteristics of both power and wealth--both of which were held to represent the summum bonum of statecraft.¹⁰ In short, the world of the mercantilists was a zero-sum world, in which an adversary's loss, whether in a political or economic context, was held to be identical to one's own gain. The reason I suggest a partial analogy between the political-economic ethos of the world of two or three hundred years ago and that of today is that we can discern a continued stress on the distributive aspects of these two ends of statecraft: power and wealth. Indeed, we are constantly being told that the international political economy is showing dangerous signs of reverting to a mercantilist pattern; and some IPE text writers have chosen to label the contemporary era one of neo-mercantilism.¹¹

One of the important questions with which specialists in IPE wrestle today is the degree to which states--given their tendency to put the national interest above any international one--can cooperate in such a way so as to preserve the mutual benefits that can flow from their interdependence.¹² Few political scientists (although sometimes our economist colleagues will dispute this) really do need convincing that liberalized trade can enhance global productivity and thus raise global levels of welfare. The problem with political scientists is that they tend to stress the structural and subsystemic features of both international and domestic politics that constrain the prospects of collaboration and harmony; especially is this true of that group of international relations specialists who find conceptual succor in a body of theory broadly referred to as "realism."¹³

At the subsystemic level, that of the nation-state, it has been apparent for some time that states (and their leaders) are painfully resistant to abrogating the prerogatives of "sovereignty" in favour of collaboration in pursuit of great

objectives--save in those rare moments when such resistance might threaten the continued survival of the state. And even when "survival interests" might be held to be at stake, it is far from clear that the path of collaboration (usually meaning, in this context, the formation of military alliances) will be chosen.¹⁴ When the interests at stake are less than of a survival nature, and are more concerned with welfare, then the prospects of collaboration can become even more tenuous. Although he was writing about international monetary relations and not trade, Benjamin Cohen aptly observes that too many of his fellow economists fall victim to the fallacy of composition in assuming that states will (or should) see that what is best for the world as a whole will also be best for each state individually. Sovereignty, perhaps because it is a variable impossible of quantification, all too often gets neglected in analyses characterized at one and the same time by both economic brilliance and political naiveté. "Governmental policy is not," chides Cohen, "in the hands of economists with a disinterested concern in the maximization of global welfare. It is in the hands of politicians with a very interested concern ... in the maximization of national welfare, as well as of national autonomy and prestige. The point bears repeating: distributional considerations matter."¹⁵

Those who follow trade, and not monetary, affairs will need no convincing that politics can indeed be an instrument of economics. Recent months have been witnessing continued bickering on the part of many of the important members of the Western alliance, as if in confirmation of the views of the pessimistic theorists of interdependence that one's military allies tend--because of the incidence of interdependent ties between alliance members--to be one's primary economic rivals, a situation that appears to reverse Lenin's assumption regarding the fundamental connection between economic and security

imperatives: namely, that the former tend to be antecedent to, and necessarily corrosive of, the latter.¹⁶ Still, we may be living in a world that at least partially resembles that of Lenin's imaginings; and if so, there are indeed reasons for pondering whether the current menace of "trade wars" might not yet contribute to, at minimum, a deterioration of the post-World War II international security structure constructed more or less under the aegis of the United States.¹⁷

This at least seems to be the worry of many in the Reagan administration, as exemplified by a remarkable speech that the American Ambassador to West Germany, Richard Burt, made early in 1987. Burt illustrated the manner in which economic friction could spill over into the security arena, and directed his remarks particularly at recent trade rivalry between the EC and the United States (though the same points could apply, mutatis mutandis, in respect of Japan as well). "It is essential," said the Ambassador, "to recognize there is an important connection between U.S.-European economic relations and the security of the alliance." Not only did protectionism erode economic vitality, and hence reduce military potential, but "equally important, serious frictions in our economic relations could spill over into the political realm and would undermine the cohesion of the alliance at a potentially important moment in East-West relations."¹⁸

Trade friction may be growing among the OECD countries, but worry about the politico-security consequences of such friction has been evident for at least the past fifteen years. Such worry eventually has a way of focussing on the future of NATO; and with regard to the alliance it is surely a truism to remark that relations between the member states are fraught with tension, on a range of issues extending from nuclear arms to Central America.¹⁹ But then the

Western alliance has been marked by stress and strain ever since its inception; and it is likely that it will continue to demonstrate that, in the manner of Mark Twain, reports of its death have been exaggerated.²⁰ The height of nervousness over the political effect of economic discord was probably reached during the oil "crises" of the previous decade, when it was widely feared that divergent approaches to both the Arab-Israeli and producer-consumer problems would distance America further from its European allies.²¹ This is not to belittle the current prospects of economic bitterness spilling over into the arena of security; such prospects do seem real, and it may well be that the future of the postwar liberal economic order is not going to be a pleasant one, with all that this entails for international trade in resources and other goods.²²

But even if the NATO or OECD countries were not at daggers drawn over trade, there is still a reason to take seriously the proposition that security worries might have the effect of distorting the pattern of resource trade, at least in some commodities. Theorists of international politics have tended to isolate "anarchy" as the single feature of the international political system that most sets that system apart from domestic polities.²³ Because no one is in charge of the zoo, it is argued, the animals must constantly be on guard for their very lives. And even if, as many theorists are prepared to concede, international anarchy need not take on the dimensions of a Hobbesian fight of all against all, there is still a clear enjoinder that the system sets upon its members: look to your security, a task that must require--at least for the more capable members of the international system--a great degree of "self-help."²⁴

It is the security imperative of self-help that poses the trade-distorting problems I have indicated can be and are associated with the supply effect of resources trade. Briefly, the supply effect refers to the enhancing of a state's

military capability through trade links that confer upon it more plentiful, or less expensive, goods. Trade, in other words, can not only make an economy richer, but (in doing so) make it more capable of developing and sustaining greater military power. But there is a paradox associated with the growth of trade; for the spread of commercial interdependence can also trigger worries about the security effects of interdependence.²⁵ Kenneth Waltz explains why it is that states, in a self-help system, often subordinate considerations of the economic gain to be had from interdependence to concern for security: "The high interdependence of states means that the states in question experience, or are subject to, the common vulnerability that high interdependence entails. Like other organizations, states seek to control what they depend on or to lessen the extent of their dependency. This simple thought explains quite a bit of the behavior of states: their imperial thrusts to widen the scope of their control and their autarchic strivings toward greater self-sufficiency."²⁶

So far, I have been arguing that international politics affects trade for two principal reasons: first, because politics becomes an instrument of economics, as states seek to achieve the most favourable distribution of gain that they can, in a bid to increase their own national welfare; and secondly, because economics can be an instrument of politics, either through the influence effect of trade or through its supply effect. Although each of these "effects" can have security implications, it is the latter upon which I have chosen to concentrate. Let us now turn to the manner in which resources--and mineral resources, above all--have been regarded as indispensable building blocks of international power.

Minerals and Military Potential: Interdependence or Autarchy?

Minerals are far from the only traded goods to have stimulated security fears, as a result of states' heightened dependence upon foreign sources of supply; but there is a sense in which minerals do constitute "basal" elements of industrial development, and thus it can be argued that shortages in this group of industrial goods can have a perturbing effect on a country's processing, or "downstream," sectors.²⁷ But vulnerability concerns associated with interdependence extend beyond the raw-material sphere, and lately there has been an increase, especially in the United States, in the attention accorded to the ways in which trade deficits can serve as symptoms for what some see as a far graver problem--the loss of productive capacity in a broad range of sectors of what has been termed the "defence industrial base."²⁸ According to some American national-security analysts who are disturbed by recent trends regarding U.S. trade balances, the primary danger is not so much an economic but a security one; and thus the debate between the neo-mercantilists and free-traders is held to be missing the point. Writes one such analyst, Paul Seabury: "the necessity for a U.S. industrial policy arises not from domestic economic considerations--however large these may currently loom--but rather from strategic-military concerns. As the only genuine guarantor of security for both itself and the Free World as a whole, the United States simply cannot afford to allow its industrial base to wither away."²⁹

Allusion has been made above to the potential for a brewing trade war between the United States and its European trading partners, or Japan, or both, to spill over from the realm of economics to that of security, with potential significant consequences for the politico-military relations between the U.S. and those countries.³⁰ To a large degree, these trade disputes point up the way in

which politics can interfere with economic processes when states seek, in neo-mercantilist fashion, to increase their own welfare by imposing costs upon their trading partners through external adjustment measures. But at least some of the latest American disquiet with Japan stems from a fear that interdependence, if left unchecked by state policy, will strip the U.S. of an indispensable cog in its defence industrial base, its semiconductor industry. It is simply incorrect to interpret, as many are wont to do, recent American tariffs on Japanese electronic goods as solely attributable to the pressure of influential American companies no longer able to compete internationally.³¹ Similar concern for national security was at play last spring, when the Reagan administration, availing itself of a provision of U.S. trade law that might come into effect against Canadian uranium exports to the United States, imposed trade restrictions on machine-tool imports entering the U.S. from four countries.³²

If minerals, then, are not the only products that have occasioned resort to "autarchic strivings," it can still be said of them that they were the first industrial goods in this century to trigger widespread security concerns, because in an earlier era that saw all of the major powers virtually self-sufficient in the major downstream industries (e.g. steel), minerals remained a problematical sector for all but a very few countries, which happened to be favoured by nature with abundance in raw materials. For most industrialized countries, however, interdependence in resources was a fact of life long before interdependence in other industrial commodities began to become apparent; thus the security worries that interdependence in finished products has been stimulating today have been long apparent in minerals and other resources.

The First World War has been seen as a watershed by those who have studied the "geopolitics" of minerals.³³ To the extent that conflict conveyed a clear lesson, it seemed to be this: that modern wars of attrition would be won by those states (or coalitions) that had the greatest "military potential," and lost by those that, whatever the quality of their leadership or the degree of their national cohesiveness, lacked the capability to sustain themselves in lengthy combat. In earlier usage, military potential was often referred to as "war potential"; but whichever label is used, what is being connoted is the concept of a reserve of "national resources available for producing and maintaining armed forces. Whenever a nation creates or expands military forces in peace and war, it mobilizes military potential."³⁴

Though not the sole constituent of military potential, the capacity for industrialization was held by most analysts of security during the interwar period to be far and away the most relevant consideration in determining international distribution patterns of power; and during this same period assured access to minerals was held to be a sine qua non of industrialization. As one minerals analyst put it, in the immediate aftermath of World War I: "[T]he presence of minerals within the boundaries of a state is a fundamental, unalterable advantage to that country, and their absence a fundamental, unalterable drawback. A country that has little or no mineral resources is in a position of insuperable disadvantage as compared with a country that has a sufficiency of the essential minerals. There is no certain way to overcome this disadvantage, although it may be to some extent alleviated by trade at the sufferance of the dominant states."³⁵

Assuring access to raw materials became a major foreign-policy consideration of states during the interwar period; for the self-declared

"have-not" countries (Germany, Italy, and Japan) it became a veritable obsession.³⁶ Minerals-access questions have been cited as, at the very least, contributing factors in the dissolution of international order during the 1930s; and there have been some analysts who argue that minerals-acquisition strategies of certain countries led directly to the outbreak of World War II.³⁷ Whether one adopts the stronger or weaker version of the thesis that minerals maldistribution bore a causal relation to the origins of the Second World War, it is apparent that ever since the interwar years, raw-material competition has not been seen to be as crucial a consideration in international politics. This is so even though there have been, starting in the late 1970s, numerous attempts on the part of jittery analysts to depict the two superpowers as engaged in a Soviet-inspired "resource war," the stakes of which were held by some to be nothing less than domination of the planet.³⁸

U.S. Mineral Policy: The Question of Security

It is ironical that one of the lessons to emerge from World War II--a war at least partly caused by minerals-related "imperial thrusts" and "autarchic strivings"--should have reversed the above-discussed lesson of World War I. It now seemed as if the earlier, deterministic, equation of industrial capacity with raw-material possession needed to be modified; or so argued Edward S. Mason, who drew an analogy between what Nazi Germany had accomplished in terms of military potential during the war and what the new, post-war "have-nots" might also accomplish--in particular the United States, which many were beginning to fear had so depleted its resources fighting the war that it must lose its vaunted relative independence in minerals. In a celebrated article that appeared in the inaugural volume of World Politics, Mason noted that although Germany's

consumption of essential minerals had remained unchanging from 1938 to 1944, its military production had actually increased by 300 to 400 percent. "[I]t is quite clear," he concluded, "that Germany managed to fight a first-class war on very small quantities of 'essential' raw materials ... The moral, for our purposes, seems to be that the potentialities of raw material substitution and replacement in a modern economy are enormous."³⁹

The industrial economies of the post-World War II decades, it seemed, would be freed of the geographical constraints that analysts of the previous generation had imagined must limit the ranks of the great powers to those lucky enough to approximate minerals self-sufficiency. In the process, military potential was liberated from its bonds of geographical determinism. Mancur Olson was one of the new breed of analysts who remarked the diminished relevance of mineral possession to military potential. Earlier deterministic statements of the relationship were examples, said Olson, of the "physiocratic fallacy," in that they proceeded from the erroneous assumption that all wealth flowed from the production of primary goods. To Olson, "the experience of the two world wars and a glance at the opportunities for substitution reveal that shortages of primary products need not always be fatal to a nation at war."⁴⁰

Far less qualified than Olson's was the view articulated a decade later by Charles L. Schultze, who, a few months before the first oil "crisis" of the 1970s, advanced the contentious proposition that "the national security of the United States depends in no important way on securing access to raw materials, markets, or sea lanes abroad, and securing or protecting such access cannot reasonably be used as the rationale for a foreign policy."⁴¹ The ensuing years, fraught as they were with oil crises and nonfuel mineral scares (such as that in cobalt during the latter part of 1978),⁴² would not prove easy for the Schultze

perspective. Rather than becoming less relevant to American foreign policy, and to international politics, minerals seemed to attain renewed importance during the late 1970s and early 1980s, as if in confirmation of both the Leninist and the conservative resource-war versions of the link between economic competition and warfare.⁴³ Further stimulating the debate over the role of minerals in American national security has been the current situation in South Africa, which apart from its ethical implications presents some very real potential risks to U.S. (and Western) mineral supply in a range of strategic minerals, and especially in chromium, the platinum group metals, vanadium, and manganese. At least some Americans are convinced that, as David K. Shipler notes, "to maintain its technological prowess, its advanced military machine and its high standard of living, the United States requires dependable sources of raw materials throughout the world, and that economic interest seems to create a steadier foundation for policy than issues of morality or diplomacy."⁴⁴

The United States is the one Western country that has developed the most ambitious policy responses to cope with potential disruptions of mineral supply, even though it is far from being the most import-dependent member of either NATO or the OECD. Indeed, it was in the War Department during the 1920s that the concept of "strategic minerals" was born, and it has been in Washington ever since that the most prominent mineral-policy levers of the post-World War II years have been deployed.⁴⁵ It would be incorrect to imagine that the United States has clearly chosen to follow a policy of autarchy over interdependence, for the Post-World War II record supplies ample evidence that, as the Paley Commission report of the early 1950s held, American raw-materials interests and the U.S. national interest would both be served by a sourcing strategy that looked to the acquisition of supply on the basis of the least-cost producer,

preferably one in a friendly stable country if not in the United States itself. Tempering this reliance on international trade to provide American mineral supply, however, has been a pair of other policies, each developed in the post-war period, that constituted an implicit recognition that trade alone could not be expected to safeguard the resource-security interests of the nation: the Stockpiling Act of 1946, and the Defense Production Act of 1950.

Both these policy measures were utilized during the Korean War, when concern for mineral supply loomed as an important consideration in U.S. resource trade. The Stockpiling Act was vigorously employed, both during and after the war; indeed, President Eisenhower was particularly concerned that raw-material constraints might seriously hamper American military efforts, something he never tired of reminding his auditors. One historian has noted that "press conference questions of the point regularly elicited presidential lectures on the critical importance of foreign manganese, cobalt, tin, and tungsten, in terms both worthy of and gratifying to future New Left critics of American capitalism."⁴⁶

Both the DPA and the Stockpiling Act (which was supplanted in 1979 by the Strategic and Critical Materials Stockpiling Revision Act) have had as their major objective the creation of sufficient supplies of essential materials during a war or national emergency. The U.S. strategic stockpile, which has lately come under the curious--and so far feckless--fire of the so-called "modernizers" in the National Security Council, who would modernize the holdings nearly out of existence, has an inventory of some \$10 billion worth of materials (mostly minerals) in more than 80 categories; a further \$6 billion worth of purchases has been deemed necessary if the targets for all the holdings are to be met, a situation that, given the current fiscal mood in Washington, has little prospect

of being realized.⁴⁷ For all the controversy surrounding it, the strategic stockpile is by far the most ambitious and expensive such project in the world--and this statement does not take into account the other major strategic reserve created in the U.S., the Strategic Petroleum Reserve, which has more than a half-billion barrels of oil stored in underground caverns in Texas and Louisiana.⁴⁸

Although not as well-publicized, or quite so heavily funded, as the National Defense Stockpile, the Defense Production Act did entail the expenditure of hundreds of millions of dollars during the Korean War years and after, chiefly for the purpose of expanding North American productive capacity of certain resources, particularly tungsten and nickel. Important beneficiaries of this U.S. governmental assistance during the 1950s were two Canadian nickel companies, Falconbridge and Sherritt Gordon.⁴⁹ The DPA continues to exist and is periodically extended by Congress, but it has been used very sparingly in the past two decades, and is not very likely to be invoked in any substantial way in the future, in light of the massive budget deficit in the U.S.

As noted above, the United States is no longer as self-sufficient as it once was in natural resources, but by the same token it is still reasonably well-situated in minerals in comparison with most of the other members of the OECD and NATO. What, then, accounts for the unquestionable degree of anxiety with which, during most of the post-World War II years, American security planners approached the question of mineral supply? The already mentioned structural considerations that occasion within states a propensity to contenance self-help measures can, of course, explain some of the American response to resources trade. But they cannot in themselves account for the degree of difference between the responses of the United States and most of the other developed

Western countries, for whom the issue of mineral supply has seemingly been less compelling than it has for the U.S. After all, if the structural aspects of the international system are primarily the source of the quest for empire or autarchy (or both), why have so many states recently expressed an interest in neither?

I shall suggest that, in addition to, and in some measure flowing from, systemic injunctions have been three other related considerations, which can help us understand American attentiveness to mineral-security issues. First, the United States has only relatively recently been faced with the loss of a real, albeit never total, physical insulation from the kinds of travails that had been the lot of nearly all the other states in the international system--travails that at times could take the stark form of invasion, but that in any event had predisposed states towards a certain level of discomfort in contemplating their own predicament in the anarchical society. The United States, for much of its history relatively immune from the normal condition of uncertainty and insecurity attached to the international "state of war," has only lately been forced to the serious contemplation of its own security, and at least part of American foreign policy must be understood in terms of an attempt to regain the degree of protection from the vicissitudes of international politics that the former insulation once provided. The Strategic Defense Initiative is, no doubt, the most dramatic instance of the yearning to regain security paradise; but to a certain extent so too is mineral policy also affected by the desire to enhance U.S. security in a manner that most other states--and certainly those in Europe--would simply find to be beyond their wildest imaginings. In this respect, as in so many others, geography does have an impact on perceptions of threat and on foreign-policy formulations.⁵¹

A second reason for the exalted level of apprehension that many in the U.S. minerals community have displayed relates to the recent spread and tightening of the bonds that connect the American economy with the international trade and monetary system. For much of its history the U.S. experienced a certain isolation from international economic forces that complemented and was facilitated by the country's relative insulation from global security patterns. Since the end of the Second World War, however, "interdependence" (whatever that contested term might mean) has become more of a factor in U.S. economic existence. With it has come an increased dependence on minerals and other items, and this in turn, as I noted earlier, has triggered some concern about the erosion of the country's capacity to produce goods that might, in a war or national emergency, be unavailable and whose absence might present severe problems from the security perspective. For many other countries, long since accustomed to heightened dependence on foreign sources of supply, interdependence is really nothing new, nor is it particularly worrisome; for the United States, it is both.

A third and final consideration in accounting for U.S. mineral concerns has to be the attention that successive administrations in the postwar decades have given to security problems: in many ways, ever since it abandoned isolation and committed itself to the construction of a new international political, economic, and security order after 1945, the United States has developed an expansionary (some say globalist) foreign policy, one whose primary if not total focus has been on creating a congenial international environment for American interests. Specialists in American foreign policy may and do differ in assessing the fundamental "roots" of this expansionary drive--some see it to be predicated primarily upon ideological considerations, others hold it to be necessitated by

socio-economic considerations unique to capitalism, and still others find it mainly explicable in terms of America's power capability (i.e. its superpower status)--but nearly all would agree that expansion of commitments abroad has been a major, perhaps the major, characteristic of U.S. foreign policy since 1945.⁵² The reason that foreign-policy expansionism is related to minerals anxiety is largely to be found in the degree to which America identifies its security (and other) interests with those of its allies; thus, whether invited to by the allies or not, the U.S. has at times taken upon itself (as with the Carter Doctrine and other policy statements regarding Persian Gulf oil) the task of safeguarding not only its own, but the entire West's supply of certain minerals. It is hardly surprising, given the association it makes between its own fate and that of the allies, that the United States should reveal itself to be so troubled by developments in the geopolitics of minerals, even if its more dependent allies do not seem to be so terribly concerned.⁵³

Canada and U.S. Mineral Supply: The Peculiar Case of Uranium

It would be wrong to infer from the above discussion that the United States is obsessed with the problem of securing its mineral supply. There have been some analysts who have stressed minerals as a driving force in U.S. foreign policy, but such arguments tend to verge on the incredible.⁵⁴ There is no merit in reducing foreign policy to the single dimension of mineral supply, any more than there is merit in attempting to understand resource trade without taking into consideration security questions. As with any effort to grapple with complex reality, one must be careful with the sweeping generalization, or the powerful reduction. The point of the discussion so far has been not to advance the notion that security explains all or most of U.S. resource trade, but rather

to sound the more modest note that we not be altogether dismissive of the security argument, which many persist in regarding as fallacious at best, insincere and pernicious at worst. It is obviously true that in a range of resources, trade distortions can be and are introduced for reasons so divorced from security that not even their supporters feel the need to invoke the "national security" argument (potash being a case in point); but it is also true that there are exceptional instances when security considerations do deserve to be taken seriously. In this regard, uranium is one of the preeminent examples of a commodity in which trade-distorting practices, largely though not entirely justified on the basis of security, have been fairly commonly resorted to.

It is odd to be witnessing a rise in American opposition to mineral imports from Canada, but this is just what we are seeing in uranium (and some other commodities) of late. On the one hand, there are those "resource nationalists" in Canada who seem to be convinced that the U.S. is out to grab as many of our resources as it can; as one prominent nationalist, Mel Hurtig, sees it, Washington is interested in a bilateral free-trade arrangement with Canada primarily because it wants access to Canada's resources.⁵⁵ If the resource nationalists would find U.S. protectionism in respect of minerals to be odd, how much odder to American mineral analysts, who have long argued that Canadian-sourced minerals are as reliable as domestically produced ones, must be the spectacle of a Canadian mineral commodity being opposed on security grounds? For decades it used to be assumed that one of the reasons the mineral dependence of the United States was less troublesome than it might otherwise have been was because of the important role played by Canada as a supplier of essential minerals to the American market. Although he was referring only to one mineral, John Dunn's observation of a generation ago could serve as a fair

generalization for an entire category of commodities: "Nickel is obtained almost exclusively from Canada, which for most purposes may be treated as equivalent to a domestic source."⁵⁶

To understand why uranium should confute both the expectations of the resource nationalists and those American mineral experts who have grown used to counting upon the Canadian resource base, we must review some of the relevant features of American uranium production, as well as of Canadian-American trade in uranium. To start with, there can be no question that the domestic uranium industry in the U.S. is in a slump--and that is putting its predicament in the most euphemistic manner. Production levels of uranium concentrate (also known as "yellowcake," or U_3O_8) are dramatically down from 1980, when the U.S. mines, largely located in New Mexico, were the world's leading producers. Unemployment in the industry is way up, and so too are imports, which now have about a 30-percent share of the American market under current contracts--a share that some project to increase to 60 percent by the end of the 1980s.⁵⁷ Given that Canada's portion of the American import market is large and increasing--now standing at some 60 percent of import commitments for the 1985-2000 period--it is hardly surprising to find that attention in Washington has lately been focussed on the practices and policies of Canadian companies and governments.⁵⁸

There is a tendency on the part of many in the United States, on Capitol Hill and elsewhere, to believe that foreign producers of goods as diverse as computers and Christmas trees must be resorting to "unfair trade" to gain an advantage over American producers in the market of the latter. Uranium has been no exception to this tendency, and the usual changes have been rung by the domestic interests concerning Canada's alleged duplicitous trading practices,

namely that subsidization and dumping have been putting American workers out of their jobs. There really is little to these charges insofar as uranium is concerned, for what has been making the American industry noncompetitive is perhaps the unfairest cut of all: the U.S. mines have been dealt a bad hand by Mother Nature. It is geological, not political, considerations that have led to the increased share of Canadian imports into the American market, for the reality is that few U.S. producers can compete with the incredibly rich ore grades that Saskatchewan mines today enjoy.

One senior American nuclear-industry official has remarked that, in assessing viability of uranium deposits, "grade is the name of the game."⁵⁹ In the United States, ores were being mined in the 1970s that had an average uranium content of 0.2 percent; by the 1980s, this had declined to 0.1 percent. In Saskatchewan, by contrast, ore grades of 2 to 3 percent are currently being worked at Key Lake, the world's largest production centre. Awaiting development is an even richer deposit, at Cigar Lake, which contains an estimated 110,000 tonnes of uranium in ore averaging a nearly incredible 12 percent.⁶⁰ One need look no further than these figures to get an indication of the plight of the U.S. producers.

This does not mean, however, that there are no policy questions capable of leading to the imposition of import restrictions on Canadian uranium, even if that uranium is not being traded unfairly. There are two major policy considerations that have the potential of complicating Canadian uranium exports to the United States. The first is more properly a trade-policy question, and it concerns the requirement that as a matter of course Canadian uranium be exported in the most advanced stage into which it can be reasonably fashioned in Canada. This "further-processing" issue dates to a September 1974 policy

statement by then Energy Minister Donald Macdonald; but it can be traced back in a broad sense to the early years of this century, when both the federal and Ontario governments were trying to persuade or force a major mining company, Inco, to refine its nickel ore in Canada prior to export.⁶¹ What U_3O_8 gets upgraded to is a product known as uranium hexafluoride (UF_6), which in turn is fed into enrichment facilities abroad, where the uranium is eventually made into fuel for reactors that require enriched uranium.⁶² For some time the federal policy on UF_6 has been an irritant in Canada-U.S. uranium trade; and though space does not permit me to go into a thorough discussion of this important issue here, it is worth noting that Washington has recently taken the matter to the GATT.

The other policy matter concerns, of course, the national-security question. There are really two kinds of security arguments that advocates of import restriction make. The first relates to the role of uranium as an important energy mineral. To be sure, uranium does not constitute a major item in the overall energy consumption of the developed industrialized countries. At the start of the 1980s, only about 4 percent of OECD energy requirements were being satisfied by nuclear fuels, as compared with the same countries' reliance upon oil for half their energy needs.⁶³ Nevertheless, there is a case to be made for the economic importance of nuclear fuel, given its role as a significant source of electricity generation in several countries--to say nothing of the province of Ontario, which now generates more than a third of its electricity in nuclear power plants, and by the end of the century will probably be relying on nuclear energy for 60 percent of its electricity. The overall Canadian reliance on nuclear power is much less than Ontario's, and resembles the overall

American pattern, where nuclear energy accounts for some 12 percent of total electricity generation.⁶⁴

Uranium's role in U.S. electricity generation should not be discounted, however. Today it is second only to coal as a domestic fuel for the generation of electricity, and by the end of the century is expected to account for perhaps 20 percent of America's supply of electricity.⁶⁵ It is in the context of domestic fuel requirements for power reactors, much more so than in that of weapons fabrication, that one most frequently hears domestic protectionist advocates expressing their misgivings about import dependence on the basis of a security rationale. It has been argued that should U.S. uranium producers be driven out of existence by foreign competition, or reduced to a shadow of their 1980 status, there would exist no barrier to any future "price gouging" on the part of supplier countries, and this it is held would be deleterious to American economic security. In this regard, one can hear copious references made to Canada's participation in the uranium cartel of the early 1970s, the clear implication being that Canada could not be counted upon to refrain from exercising its market power to exploit helpless American consumers.

The other, and more credible, security issue concerns the military consumption of uranium. It is not so much that the U.S. is nervous about its future supply of fissionable material for warhead production; there are thousands of warheads already in existence (some originally fabricated with Canadian uranium), and while these might have to be reconstructed from time to time, and have their tritium replenished, they do not need to have their plutonium content replaced. In any event, the U.S. government still has a massive stockpile of uranium, perhaps in the range of 150 million pounds of U_3O_8 , and this stockpile has enabled Washington to abstain from purchasing any

uranium, for any purpose, since 1970. Moreover, the enrichment facilities operated by the Department of Energy (DOE) have in their possession immense quantities of depleted uranium (which means that its U-235 content is less than that found in natural uranium); and it is possible that these depleted tailings could be recycled through the DOE's gaseous-diffusion plants in place of fresh natural-uranium feed.

What does constitute a potential problem for the future, however, is the possibility that should the domestic industry either disappear or be drastically shrunk there might develop, when the stockpile has been drawn down, fuel-supply problems for the nuclear Navy, by far the largest military consumer of uranium in the U.S. (or the world, for that matter). Given the secrecy that surrounds the consumption of nuclear fuel by the U.S. Navy's submarines and surface vessels, one cannot do other than guess at the annual volume of uranium consumed for naval purposes. Officials in the DOE I have spoken with estimate it to be in the order of 2 million pounds of U_3O_8 ; by contrast, sources in the domestic uranium industry put it much higher, at between 5 and 6 million pounds a year. The latter also expect the DOE stockpile to be substantially drawn down by the 1990s, which if it is going to happen will require not only rather large military consumption, but also a re-introduction of DOE's feeding of stockpiled materials into its enrichment plants, a practice that has been in abeyance over the past year.⁶⁶ But whatever the uncertainty surrounding the life expectancy of the DOE stockpile, one thing seems fairly apparent: that the U.S. producers will continue to sound the security theme in their bid for import restrictions. And stress will continue to be laid on the Navy's need for fuel. As the President of the Uranium Producers of America (UPA), Robert P. Luke, recently put it in testimony before the Senate Subcommittee on Energy Research and

Development, "[T]he single most important strategic defense system for the free world continues to be the U.S. fleet of 150 uranium-fueled submarines on continuous global patrol. These submarines must have sufficient uranium to assure an uninterrupted fuel supply, and so must the surface fleet... [T]he Department of Defense should be concerned about reductions in the government's uranium stockpile and the decline of the domestic uranium industry."⁶⁷

Given the previously noted tendency of American defence planners to lay emphasis on security of raw-material supply, it is to be expected that this kind of argument would have some appeal in Washington. Adding immeasurably to its potential strength, however, is the fact that uranium is not a commodity "comme les autres"; for while it might be risible indeed to suggest that the Pentagon should be overly concerned that so much of America's nickel, to take one example, is sourced in Canada, in respect of uranium there is a major complicating factor. Canada's nonproliferation policy prohibits the use of Canadian uranium for military purposes, and though the policy was directed at nuclear weapons, it appears that it also embraces fuel for military propulsion reactors.⁶⁸

Conclusion: International Politics, Security, and the Future of Canadian-American Uranium Trade

By now it will be apparent that resources trade can be greatly affected by international political considerations. Uranium is not the only commodity to be buffeted by political forces--it is in the majority in this respect--but it does rank as one of the likeliest Canadian mineral resources to have import restrictions placed on it, and certainly it is the mineral that has occasioned the

most security-related worry of late. At the best of times, speculating about the future can be hazardous, so much so that one is often tempted to tear a page from Fats Waller's book and close with the query, "One never knows, do one?" As appealing as such an exit might be, I will suggest that there are three interesting developments that could play a part in near-term prospects of Canadian uranium exports to the United States; each is worth pondering.

The first concerns the progress of the bilateral talks aimed at achieving a free-trade agreement between Canada and the United States. In the event that a mutually satisfying package does finally make its way out of the negotiations by the late summer (which may or may not be likely), it would still have to be approved by the U.S. Congress prior to the expiry of the fast-track negotiating authority on 3 January 1988. Whether such approval would be easily obtained is anyone's guess. But if a free-trade deal is achieved, and if no import relief has in the meantime been granted the U.S. uranium industry, it is reasonable to expect that, for the time being at least, uranium will have managed to escape restrictions.

However, and this is the second development, it is also quite possible that, by the end of the summer, there will have been a ruling of the 10th Circuit Court of Appeals, which heard arguments in September 1986 on the DOE's appeal of a decision by the Federal Court of Colorado that ordered the imposition on 20 June 1986 of enrichment embargoes on foreign-sourced uranium for U.S. utilities. The case is too complex to go into here; suffice it to note that at issue is whether or not the language of sec. 161(v) of the Atomic Energy Act of 1954 (as amended) requires the DOE to re-institute the kind of enrichment embargo that was in place for more than a decade after 1966, given that the Secretary of Energy found the domestic uranium industry to be

non-viable in 1985 (as he would again do in 1986).⁶⁹ The Appeals Court has in the meantime granted a stay of the District Court order, but should the appeal be lost by the DOE, it will have a potentially major negative impact on Canadian, especially Saskatchewan, uranium interests. For those accustomed to following trade matters in the U.S., it now appears that not only can "quasi-judicial" bodies (such as the ITC) and overtly political bodies distort trade patterns, but so too can the courts!

Finally, and perhaps the most speculative development of all, is the potential impact on Canadian uranium-export policy of a decision by Ottawa to develop a fleet of nuclear submarines, for the purposes of safeguarding sovereignty and security interests in the Canadian Arctic. It is no secret that one of the ideas being circulated by Minister of National Defence Perrin Beatty is that Canada acquire the capability to monitor the under-ice activities (or suspected activities) of Soviet and American nuclear submarines, which are now thought by some to be making frequent use of waters Canada claims as its own. Getting this capability would most likely require that Ottawa build or purchase offshore some nuclear submarines.⁷⁰ Should the decision to acquire a nuclear-submarine fleet be made, consideration will obviously have to be given to the source of fuel for those vessels. As Canada does not enrich uranium (given that the country's utilities use natural-uranium fuel), it will likely be necessary to import enriched uranium, either from the DOE or from one of the European enrichers. The question arises as to whether Canada could or should insist upon its nonproliferation policy being maintained in the event that it was seeking from foreign countries, for military purposes, what it would not supply those same countries for similar purposes. Should our nonproliferation policy be modified so as to allow Canadian uranium to be used for propulsion reactors on

U.S. Navy vessels, it would be sure to have at least two impacts: it would anger members of the arms control and disarmament community, who would see it as a serious weakening of Canada's nonproliferation policy; and it would placate the country's uranium producers, for it would go a long way to rendering less relevant the current argument made in the U.S. about the security justification of import restrictions in uranium.

Notes

¹Harold D. Lasswell, World Politics and Personal Insecurity (New York: McGraw-Hill, 1935), p. 3.

²I refer not only to such obviously political institutions as the United States Congress, but to other agencies sometimes (mistakenly) seen as being "quasi-judicial" or apolitical--agencies such as the International Trade Commission and the Commerce Department's International Trade Administration. These latter are two of the principal actors in the politics of trade in Washington, and a good overview of the legislation upon which their activities are focused is found in "U.S. Trade Laws," Business America, 8 December 1986, pp. 2-15.

³Joan Edelman Spero, The Politics of International Economic Relations (New York: St. Martin's Press, 1977), p. 9.

⁴Whether the traditional concern with this problematique still holds for much of the international-relations community is skillfully probed in K. J. Holsti, The Dividing Discipline: Hegemony and Diversity in International Theory (Boston: Allen & Unwin, 1985).

⁵Albert O. Hirschman, National Power and the Structure of Foreign Trade (Berkeley: University of California Press, 1945).

⁶A thorough discussion of the utility of economic influence attempts is David A. Baldwin, Economic Statecraft (Princeton: Princeton University Press, 1985).

⁷C. Fred Bergsten, "The Threat from the Third World," Foreign Policy, no. 11 (Summer 1973), pp. 102-24; Idem, "The Threat is Real," Foreign Policy, no. 14 (Spring 1974), pp. 84-90; Robert W. Tucker, The Inequality of Nations (New York: Basic Books, 1977); Michael W. Klass, James C. Burrows, and Steven D. Beggs, International Minerals Cartels and Embargoes: Policy Implications for the United States (New York: Praeger, 1980); Bohdan O. Szuprowicz, How to Avoid Strategic Materials Shortages: Dealing with Cartels, Embargoes, and Supply Disruptions (New York: John Wiley & Sons, 1981).

⁸"Structural change" is a concept that has earned a wide currency in the past few years; it is taken to refer to those developments on both the supply and demand side of the international mineral market that have fundamentally recast the relationship between producers and consumers. See the discussion of this phenomenon in Energy, Mines and Resources Canada, Canada's Nonferrous Metals Industry: Nickel and Copper (Ottawa: Minister of Supply and Services, 1984). Also see M. J. Wojciechowski, ed., Structural Changes in the World Mineral Industry: Implications for Canada, Proceedings no. 18 (Kingston, Ont.: Queen's Centre for Resource Studies, 1986).

⁹"Japan's Protected Telecoms," Economist, 3-9 January 1987, pp. 12-13.

¹⁰It is commonly thought that during the heyday of mercantilism, states sought power above all else. To this view, Jacob Viner brought some useful

correction in his seminal article, "Power versus Plenty as Objectives of Foreign Policy in the Seventeenth and Eighteenth Centuries," World Politics 1 (October 1948): 1-29.

¹¹David H. Blake and Robert S. Walters, The Politics of Global Economic Relations, 2d ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1983), pp. 18-21.

¹²See especially the important work by Robert O. Keohane, After Hegemony: Cooperation and Discord in the World Political Economy (Princeton: Princeton University Press, 1984).

¹³Perhaps the best introduction to the classical "realist" perspective remains E. H. Carr, The Twenty Years' Crisis, 1919-1939: An Introduction to the Study of International Relations (London: Macmillan, 1939). Recently, a lively little debate has been raging over the conceptual basis--and normative standing--of contemporary realism (usually referred to in some modified version, such as "structural" realism or "neorealism"). A good starting point for this debate is Robert O. Keohane, ed., Neorealism and Its Critics (New York: Columbia University Press, 1986).

¹⁴An analysis that seeks to establish categories for varying national interests, including survival ones, is Donald E. Nuechterlein, America Overcommitted: United States National Interests in the 1980s (Lexington: University Press of Kentucky, 1985).

¹⁵Benjamin J. Cohen, Organizing the World's Money: The Political Economy of International Monetary Relations (New York: Basic Books, 1977), p. 60.

¹⁶On the potential for interdependence to contribute to the exacerbation of international tension, see Edward L. Morse, Modernization and the Transformation of International Relations (New York: Free Press, 1976); and Andrew M. Scott, The Dynamics of Interdependence (Chapel Hill: University of North Carolina Press, 1982). Lenin's famous argument that economic rivalry among states (capitalist ones, it goes without saying) leads to war between them is found in his 1916 work, Imperialism: The Highest Stage of Capitalism (New York: International Publishers, 1939).

¹⁷Theorists of "hegemonic stability" argue that an essential precondition for the successful creation and maintenance of a liberal economic order is that a great power ("hegemon") take on the burden of running the system. See Robert Gilpin, War and Change in World Politics (Cambridge: Cambridge University Press, 1981). Some today worry that the U.S. is either no longer able or willing to continue to sustain the postwar economic order it was instrumental in fostering. See, for a lucid analysis of this prospect, C. Fred Bergsten, "Economic Imbalances and World Politics," Foreign Affairs 65 (Spring 1987):770-94.

¹⁸"Trade, Defense Linked," Journal of Commerce (New York), 12 February 1987, p. 5.

¹⁹For a discussion of contemporary problems confronting the alliance, see Melvyn Krauss, How NATO Weakens the West (New York: Simon and Schuster, 1986); Andrew J. Pierre, ed., Nuclear Weapons in Europe (New York: Council on

Foreign Relations, 1984); Idem, Third World Instability: Central America as a European-American Issue (New York: Council on Foreign Relations, 1985); Joseph Cirincione, ed., Central America and the Western Alliance (New York: Holmes & Meier, 1985); Eliot A. Cohen, "The Long-Term Crisis of the Alliance," Foreign Affairs 61 (Winter 1982/83): 325-43; and Earl C. Ravenal, "Europe without America: The Erosion of NATO," Foreign Affairs 63 (Summer 1985): 1020-35.

²⁰For an examination of some of the major problems affecting alliance harmony in previous decades, see Michael Smith, Western Europe and the United States: The Uncertain Alliance (London: George Allen & Unwin, 1984). On the perceived threat to security presented by economic rivalry at the start of the 1970s, see David P. Calleo and Benjamin M. Rowland, America and the World Political Economy: Atlantic Dreams and National Realities (Bloomington: Indiana University Press, 1973).

²¹Robert Pfaltzgraff, Energy Issues and Alliance Relationships: The United States, Western Europe and Japan (Cambridge, Mass.: Institute for Foreign Policy Analysis, 1980); Garret Fitzgerald, et al., The Middle East and the Trilateral Countries, Triangle Papers: 22 (New York: Trilateral Commission, 1981).

²²A rather bleak assessment of the future of the multilateral trading system is offered by Michael C. Webb and Mark W. Zacher, "Canadian Export Trade in a Changing International Environment," in Royal Commission on the Economic Union and Development Prospects for Canada; vol. 28: Canada and the International Political/Economic Environment; ed. Denis Stairs and Gilbert R. Winham (Toronto: University of Toronto Press, 1985), pp. 85-150.

²³Kenneth N. Waltz, Man, the State and War: A Theoretical Analysis (New York: Columbia University Press, 1959).

²⁴Hedley Bull, The Anarchical Society: A Study of Order in World Politics (London: Macmillan, 1977).

²⁵Clark A. Murdock, "Economic Factors as Objects of Security: Economics, Security and Vulnerability," in Economic Issues and National Security, ed. Klaus Knorr and Frank N. Trager (Lawrence: University Press of Kansas, 1977), pp. 67-98.

²⁶Kenneth N. Waltz, Theory of International Politics (Reading, Mass.: Addison-Wesley, 1979), pp. 105-6.

²⁷John E. Tilton, The Future of Nonfuel Minerals (Washington: Brookings Institution, 1977), p. 91. Also see John E. Tilton and Hans H. Landsberg, "Nonfuel Minerals--The Fear of Shortages and the Search for Policies," in U.S. Interests and Global Natural Resources: Energy, Minerals, Food, ed. Emery Castle and Kent A. Price (Washington: Resources for the Future, 1983), p. 50.

²⁸For an attempt to specify the economic sectors embraced by this concept, see U.S. Congress, House Committee on Armed Services, The Ailing Defense

Industrial Base: Unready for Crisis, 96th Cong., 2d sess. (Washington: U.S. Government Printing Office, 1980).

²⁹ Paul Seabury, "Industrial Policy and National Defense," Journal of Contemporary Studies 6 (Spring 1983): 6.

³⁰ One potential implication could be the rise of Japan as a military power in its own right. See Ian Buruma, "A New Japanese Nationalism," New York Times Magazine, 12 April 1987, pp. 23-29ff.

³¹ "Pentagon Task Force to Propose Chip-Aid Plan," Journal of Commerce, 9 January 1987, p. 5: "The U.S. semiconductor industry has been devastated by Japanese competition and may need government money to survive... The rapid erosion of the United States' chip-making ability threatens U.S. leadership in the entire field of electronics and threatens national security ..."

³² "Reagan to Seek Cutbacks on Machine-Tool Imports," Washington Post, 21 May 1986, p. G1. The provision is a section of the Trade Expansion Act of 1962, sec. 232.

³³ David G. Haglund, "The New Geopolitics of Minerals: An Inquiry into the Changing International Significance of Strategic Minerals," Political Geography Quarterly 5 (July 1986): 221-40.

³⁴ Klaus Knorr, Military Power and Potential (Lexington, Mass.: D. C. Heath, 1970), p. 15. Also see Idem, The War Potential of Nations (Princeton: Princeton University Press, 1956).

³⁵ George Otis Smith, ed., The Strategy of Minerals: A Study of the Mineral Factor in the World Position of America in War and in Peace (New York: D. Appleton, 1919), p. 26.

³⁶ C. K. Leith, "Mineral Resources and Peace," Foreign Affairs 16 (April 1938): 515-24; Idem, Minerals in the Peace Settlement (New York: Geological Society of America, 1940); Hjalmar Schacht, "Germany's Colonial Demands," Foreign Affairs 15 (January 1937): 223-34; Robert Strausz-Hupé, Geopolitics: The Struggle for Space and Power (New York: Putnam's, 1942); Herbert Feis, "Raw Materials and Foreign Policy," Foreign Affairs 16 (July 1938): 574-86; Brooks Emeny, The Strategy of Raw Materials: A Study of America in Peace and War (New York: Macmillan, 1934); Stephen D. Krasner, Defending the National Interest: Raw Materials Investments and U.S. Foreign Policy (Princeton: Princeton University Press, 1978); Ludwell Denny, We Fight for Oil (New York: Alfred A. Knopf, 1928).

³⁷ Simon D. Strauss, Trouble in the Third Kingdom: The Minerals Industry in Transition (London: Mining Journal Books, 1986), pp. 158-59; T. S. Lovering, Minerals in World Affairs (New York: Prentice-Hall, 1943), p. 84; Alfred E. Eckes, The United States and the Global Struggle for Minerals (Austin: University of Texas Press, 1979), p. 58; Robert C. North, "Toward a Framework for the Analysis of Scarcity and Conflict," International Studies Quarterly 21 (December 1977): 584.

³⁸For a sampling of the more dramatic statements of the resource-war hypothesis, see: The Resource War in 3-D--Dependency, Diplomacy, Defense, ed. James Arnold Miller, Daniel Fine, and R. Daniel McMichael (Pittsburgh: World Affairs Council of Pittsburgh, 1980); National Strategy Information Center, The Resource War and the U.S. Business Community: The Case for a Council on Economics and National Security (Washington: Council on Economics and National Security, 1980); Warren P. Baker, "Next: A Resource War?" Seapower 23 (October 1980): 55-61; and W. C. J. van Rensburg, "Political Change in South Africa and the Importance of the Republic of South Africa as a Raw Material Supplier," in Probleme der Rohstoffsicherung (Bonn: Friedrich Ebert Stiftung, 1981), pp. 95-100.

³⁹Edward S. Mason, "American Security and Access to Raw Materials," World Politics 1 (January 1949): 151-53.

⁴⁰Mancur Olson, Jr., "American Materials Policy and the 'Physiocratic Fallacy,'" Orbis 6 (Winter 1963): 683.

⁴¹Charles L. Schultze, "The Economic Content of National Security Policy," Foreign Affairs 51 (April 1973): 523.

⁴²Barry M. Blechman, National Security and Strategic Minerals: An Analysis of U.S. Dependence on Foreign Sources of Cobalt, Westview Special Studies in National Security and Defense Policy (Boulder, Colo.: Westview Press, 1985).

⁴³A Leninist perspective on raw-material competition can be found in Harry Magdoff, The Age of Imperialism: The Economics of U.S. Foreign Policy (New York: Monthly Review Press, 1969); and Michael Tanzer, The Race for Resources: Continuing Struggles over Minerals and Fuels (New York: Monthly Review Press, 1980). An interesting discussion of certain theoretical affinities between left- and right-wing analyses is Ole R. Holsti, "The Study of International Politics Makes Strange Bedfellows: Theories of the Radical Right and the Radical Left," American Political Science Review 66 (March 1974): 217-42.

⁴⁴David K. Shipler, "U.S. Morals and South Africa's Metals," New York Times, 15 February 1987, p. E2.

⁴⁵See Percy W. Bidwell, Raw Materials: A Study of American Policy (New York: Harper and Bros./Council on Foreign Relations, 1958).

⁴⁶John Lewis Gaddis, Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy (New York: Oxford University Press, 1982), p. 132.

⁴⁷U.S. General Accounting Office, National Defense Stockpile: Adequacy of National Security Council Study for Setting Stockpile Goals, GAO/NSIAD-86-177BR (Washington, August 1986); U.S. Federal Emergency Management Agency, Stockpile Report to the Congress, April-September 1985 (Washington: December, 1985); Alfred R. Greenwood, "The Reagan Administration Proposes Dramatic Changes to National Defense Stockpile Goals," 86-578 ENR (Washington: Library of Congress, Congressional Research Service,

February 1986); Idem, "National Defense Stockpile Policy--The Congressional Debate," 86-863 ENR (Washington: Library of Congress, Congressional Research Service, August 1986).

⁴⁸U.S. General Accounting Office, Oil Reserve: Status of Strategic Petroleum Reserve Activities as of June 30, 1986, GAO/RCED-86-205 (Washington, July 1986).

⁴⁹John E. Cameron, "Nickel," in Natural Resources in U.S.-Canadian Relations, vol. 2: Patterns and Trends in Resource Supplies and Policies, ed. Carl E. Beigie and Alfred O. Hero, Jr. (Boulder, Colo.: Westview Press, 1980), p. 69.

⁵⁰U.S. Congress, Office of Technology Assessment, Strategic Materials: Technologies to Reduce U.S. Import Vulnerability (Washington: May 1985), p. 113.

⁵¹The relationship between territorial insulation and foreign-policy role conceptions is explored in William Fox, "Geopolitics and International Relations," in On Geopolitics: Classical and Nuclear, ed. Ciro E. Zoppo and Charles Zorgbibe (Dordrecht: Martinus Nijhoff, 1985), pp. 15-44.

⁵²Explanations of American foreign policy that focus on "ideological" motivations are Krasner, Defending the National Interest; and Albert K. Weinberg, Manifest Destiny: A Study of Nationalist Expansionism in American History (Chicago: Quadrangle Books, 1963). For the thesis that capitalist economic necessity propels U.S. foreign policy, see William Appleman Williams, The Tragedy of American Diplomacy, 2d ed. (New York: Dell, 1972). A reading of U.S. foreign policy that stresses the determining aspects of relative power is Robert W. Tucker, The Radical Left and American Foreign Policy (Baltimore: Johns Hopkins Press, 1971).

⁵³David G. Haglund, "Oil as a Factor in U.S. Policy toward the Middle East," in Superpower Involvement in the Middle East: Dynamics of Foreign Policy, ed. Paul Marantz and Blema S. Steinberg (Boulder, Colo.: Westview Press, 1985), pp. 175-98.

⁵⁴See footnotes 38 and 43.

⁵⁵In a speech to the Royal Military College, Kingston, 15 January 1987. Other examples of this tendency to overestimate the degree to which the U.S. either needs or covets Canadian resources are Philip Sykes, Sellout: The Giveaway of Canada's Energy Resources (Edmonton: Hurtig, 1973); and Philippe J. Brossard, Sold American! (Toronto: Peter Martin Associates, 1971).

⁵⁶John M. Dunn, "American Dependence on Materials Imports: The World-Wide Resource Base," Journal of Conflict Resolution 4 (March 1960): 118. Also see Fillmore C. F. Earney, "The Geopolitics of Minerals," Focus 31 (May/June 1981): 4.

⁵⁷U.S. Department of Energy, United States Uranium Mining and Milling Industry: A Comprehensive Review (Washington: Energy Information Administration, 1984), pp. xiii-xiv.

⁵⁸U.S. Department of Energy, Domestic Uranium Mining and Milling Industry: 1984 Viability Assessment (Washington: Energy Information Administration, 1985), p. 11.

⁵⁹The official is George White, of Nuexco, who was quoted in William E. Blundell, "Nuclear Reaction: U.S. Uranium Mines, Thriving Five Years Ago, Are Nearing Extinction," Wall Street Journal, 12 June 1985, p. 1.

⁶⁰U.S. Department of Energy, Domestic Uranium Mining and Milling Industry: 1983 Viability Assessment (Washington: Energy Information Administration, 1984), p. 47; Energy, Mines and Resources Canada, The Canadian Mineral Industry Monthly Report: May 1985 (Ottawa: EMR, 1985), p. 44.

⁶¹J.C. Runnalls, Ontario's Uranium Mining Industry: Past, Present, and Future (Toronto: Ontario Ministry of Natural Resources, 1981), pp. 8-9. For the origins of further-processing in the Canadian mineral industry, see O.W. Main, The Canadian Nickel Industry: A Study in Market Control and Public Policy (Toronto: University of Toronto Press, 1955).

⁶²U.S. utilities, and many other utilities abroad, require for their light-water reactors enriched uranium to sustain a nuclear reaction. This means that the relative distribution of isotopes in natural uranium must be altered so that the proportion of "fissile" U-235 is increased from its naturally occurring 0.711 percent (by weight) to about 3 percent; the enrichment process, by the same token, reduces the share of U-238 to about 97 percent of the weight of the finished product.

⁶³Hanns Maull, Raw Materials and Western Security (London: Macmillan/International Institute of Strategic Studies, 1984), pp. 50-51.

⁶⁴Robert T. Whillans, "Uranium," in Canadian Minerals Yearbook 1983-1985: Review and Outlook (Ottawa: Energy, Mines and Resources Canada, 1985), pp. 63.8-63.9, 63.16.

⁶⁵Robert P. Luke, "U.S. Uranium Supply: Past Present and Future," a paper presented at the Atomic Industrial Forum Fuel Cycle Conference, New Orleans, March 1985.

⁶⁶U.S. Department of Energy, Domestic Uranium Mining and Milling Industry: 1985 Viability Assessment (Washington: Energy Information Administration, 1986), p. ix.

⁶⁷Testimony of Robert P. Luke before the Subcommittee on Energy Research and Development, Senate Committee on Energy and Natural Resources, Washington, 9 March 1987, pp. 2-3.

⁶⁸James F. Keeley, "Canadian Nuclear Export Policy and the Problems of Proliferation," Canadian Public Policy 6 (Autumn 1980):614-27. Also see Mark J.

Moher, "The Policies of Supplier Nations," in Nuclear Non-Proliferation and Global Security, ed. David B. Dewitt (London: Croom Helm, 1987), pp. 85-104.

⁶⁹ According to another section of the Atomic Energy Act of 1954, sec. 170(B), as amended by sec. 23(B) of the Nuclear Regulatory Commission Authorization Act of 1982, the Secretary of Energy must make an annual viability assessment of the American uranium industry for each of the ten years from 1983 through 1992. For a discussion of this and other statutory provisions affecting uranium see David G. Haglund, "Protectionism and National Security: The Case of Canadian Uranium Exports to the United States," Canadian Public Policy 12 (September 1986):459-72.

⁷⁰ Carey French, "Builders Bet on Nuclear Subs," Globe and Mail, 6 April 1987, p. B1.