FACING ENVIRONMENTAL SECURITY

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INTRODUCTION

Dead crows reveal the northward migration of a disease heretofore unknown to the region. A community, otherwise safe and secure, is thrown into turmoil when its water is found to be poisoned. Malaria arrives in the big city. Conflict erupts over lobster. Elsewhere, residents of low lying islands ponder a potential future under water, told by outsiders simply to move. Newspaper headlines read "we as a species can do better."[1] These lines remind us that nature has a will of its own and that often it is not nature, but our own acts of abuse against nature, that are the source of our insecurity. Recognizing this, it is worthwhile considering the environment-security nexus, and our place in the process.

This article surveys the debates regarding the construction of environmental security. Definitional debates abound and while the debate will not be resolved definitively here, it is important to ponder how an idea is constructed because with construction comes certain implications. Ultimately, with several caveats, it is suggested that some form of comprehensive or human security be adopted. If this route is taken analysts must avoid ethnocentrism and embrace the diversity inherent in multifaceted notions of security. Environmental security is part of a larger equation. By treating environmental issues in isolation from other security issues the complexity of the world around us becomes oversimplified and a developed state agenda is privileged. There are multiple insecurities. Prior to addressing the matter of construction it is worthwhile noting that this article is grounded in a critical perspective. Critical theory, according to Andrew Linklater, is marked by four characteristics. First, it rejects assumptions of neutrality of knowledge and encourages scholars to think about the social construction of knowledge and about how knowledge "reflects pre-existing social purposes and interests."[2] Second, it rejects claims that existing structures are immutable because it is believed that "human beings make their own history and can in principle make it differently."[3] Third, critical theory extends Marxist theory beyond class to look at other forces "which shape the contours of human history."[4] Finally, "critical theory judges social arrangements by their capacity to embrace open dialogue with all others and envisages new forms of political community which break with unjustified exclusion."[5]

The value of a critical approach is twofold. First, critical theory challenges producers of knowledge to recognize the power inherent in their product - our product. Analysts can either reproduce the discourse that legitimizes and justifies environmental degradation, often at the cost of others, or challenge the discourse and call for reflection on our place in the broader process as producers of knowledge and accomplices in the production of our own insecurity. As will be seen below, the way that a definition is constructed can have implications in terms of the identification of priorities and those priorities can be shaped by particular interests. Secondly,
critical theory ... takes issue with accounts of reality which underestimate the human capacity to problematise and transform inherited, and apparently natural, social conventions. It rejects

systems-determinism and affirms the capacity of human agents to act collectively to free themselves from structural constraints.[6]

In essence, critical theory encourages us to have a vision of a different world. It is this sense of the possibility of a different world that influences the argument in favor of human security. For all of its problems it takes us away from both the traditional realist influence of traditional environmental security and the Western-dominated perspective that informs global environmental security.

CONSTRUCTION(S) OF ENVIRONMENTAL SECURITY

Environmental security is a concept that has been subject to much careful thought in the last decade.[7] Since the systemic shift that marked the end of the Cold War, scholars have produced a large and diverse body of literature on the topic. Additionally, while concerns about environmental degradation and the implications thereof are not new, the fall of the Berlin Wall served as a catalyst for rethinking the concept of security.[8] This section offers a brief survey of the literature and draws on the insights of several leading scholars engaged in this area of study including Thomas Homer-Dixon, Jessica Tuchman Mathews, Simon Dalby, Ken Conca, and Daniel Duedney. For the purposes of this paper, three categories, based on their construction of the referent threat, are presented: traditional environmental security, global environmental security, and comprehensive or human security. Ultimately, the third category is supported, with some qualification. The most important qualification is that human security has, at least in the Canadian context, become associated with the foreign policy articulations of former Minister of Foreign Affairs and International Trade, Lloyd Axworthy. His views, and particularly the fact that human security has become associated with the state, have been criticized. Some of those criticisms are included in the penultimate section. Nonetheless, it is the view taken here that some variation of human security holds out the best hope for change. We begin with traditional environmental security.

TRADITIONAL ENVIRONMENTAL SECURITY

Traditional environmental security is typically characterized by a narrow definition of security. Security is defined in military terms and is understood as "safety from violence and military threats."[9] The emphasis is on conflict arising from environmental degradation, population pressures or access to natural resources.[10]

The linkage between the environment and violence can be made in several ways. Degradation as the result of war is the first means of linking the environment and violence. Analysts who take this approach may focus on, for example, the environmental impact of civil wars or nuclear winter and other hypotheses about the consequences of a nuclear war.[11] A prime example of degradation as the result of war is the ecological disaster left in the wake of the Gulf War.[12] The

second linkage of environment and violence is to consider degradation as a contribution to war. "Environmental degradation may be viewed as a contribution to armed conflict in the sense of exacerbating existing conflict or adding new dimensions thereto."[13] Finally, there is the view of environmental factors as a source of conflict. Thomas Homer-Dixon, for example, studies the "relationship between environmental change and potentially violent conflict, both international and domestic."[14] Research adopting this perspective has examined the relationship between scarcity and violent conflict in Chiapas, the Middle East and South Africa.[15]

The literature subsumed under the aegis of traditional environmental security tends to have many common features. First, it is state-centric. Violence between states is a primary threat. Second, sovereignty continues to be an analytically and politically relevant concept. As Stephen Lonergan notes: "as long as the concept of national sovereignty remains sacrosanct, a state's resort to arms to retain control of its own natural resources or to protect its access to extraterritorial sources will remain a fully acceptable and frequent means of conflict resolution."[16] Third, the bulk of the empirical data is drawn from developing state case studies. It is assumed that less developed states are less able to adapt to environmental changes and that environmental problems will exacerbate existing tensions.[17] Lonergan's study of the Middle East rests on this assumption. He "concentrates on a region where political instability and the potential for conflict is more the norm than the exception."[18] Environmental change in these regions is more likely to cause shifts in regional balances of power and affect states' power capabilities than would be the case with industrialized states.

Finally, traditional environmental security includes calls for multilateral cooperation and a redefinition of the existing institutions. "In a rather fundamental way our common future will depend on the ability of the World Community to draw appropriate consequences from the increasing incapacity of the nation-state to deal with basic issues affecting the future of mankind (sic)."[19] The calls for cooperative ventures are frequently tempered with the characteristic cynicism of realists about multilateral cooperation. "In general, many scholars sense that environmental degradation will ratchet up the level of stress within national and international society increasing the likelihood of many different kinds of conflict and impeding the development of cooperative ventures."[20] There is a clear recognition of the need for change. However, there is also a deep concern, even pessimism, about the ability to meet these challenges.

Criticisms come from all quarters. Some, such as Gwynne Dyer, reject the linkages made between security and the environment and question the link made between environmental degradation as a result of war. Dyer argues that the impact of war on the environment is really quite minimal. With the exception of nuclear weapons "there are no viable techniques or weapons of war that would have major environmental effects at the global level."[21] Another critic, Daniel Deudney, in a rather sweeping judgement of this whole body of literature, challenges the assumption that violence will result from environmental degradation.[22] Three reasons are given to support this contention:

> First, the robust character of the world trade system means that states no longer experience resource dependency as a major threat to their military security and political autonomy...Second, the prospects for resource wars are diminished, since states find it increasingly difficult to exploit foreign resources through territorial conquest...Third, the world is entering...the age of sustainability, in which industrial civilisation is increasingly capable of taking earth materials such as iron, aluminum, silicon and hydrocarbons...and fashioning them into virtually everything needed.[23]

Deudney rejects the contention that environmental degradation will alter balances of power and lead to conflict and argues that it is an era where military and economic power are not as "tightly coupled"[24] as in the past.

Not only are the assumptions about causality challenged, the construction of the term itself has been viewed unfavorably. Traditional environmental security makes the issue one of controlling the "wild zones" and as such "plays to the foreign policy establishment's fears about mounting disorder in the politically turbulent and economically polarized second and third worlds."[25]

Traditional environmental security provides the developed states with a false sense of security. The problems are out there. Coupled with this false sense of security is a blanket of denial. The North is absolved of responsibility as long as the focus is on the South. As Simon Dalby observes, there is a generation of "others," when in fact we are the enemy.[26] The implication of this construction is articulated by Ken Conca who writes: "by starting with the geographic location of visible symptoms rather than the social location of underlying causes, the security framework draws attention away from the roots of the problem."[27]

How does one provide a sense of urgency about environmental degradation when the use of violence and force seems unlikely? Is a state or individual secure if there is little chance of armed conflict? Is global warming any less a challenge to industrialized states because it may not lead to war between them? The narrow conception of security would suggest then that global warming is not a security problem despite the fact that the physical integrity of the state is challenged. One option is to shift the optics and to consider the environment-security relationship articulated by global environmental security and human security proponents.

Traditional environmental security would likely appeal to more traditional scholars. It recognizes sovereignty as legitimate and accords an important role to the state. The focus on war and conflict is consistent with the traditional understanding of security. As well, traditional environmental security has the perceived advantage of being "workable." It is not too messy and thus it is seen to be more accessible to policymakers. It does highlight the importance of the environment and this is worthwhile, but ultimately the weaknesses outweigh the strengths. It is thus necessary to turn to the second category.

GLOBAL ENVIRONMENTAL SECURITY

Global environmental security denotes a category of approaches that typically assume that national security defined in narrow terms is a concept of little use. In a landmark article, Jessica Tuchman-Mathews recommends that national security be broadened to include "resource, environmental, and demographic issues"[28] because

> the assumptions and institutions that have governed international relations in the postwar era are a poor fit with these new realities...The once sharp dividing line between foreign and domestic policy is blurred, forcing governments to grapple in international fora with issues that were contentious enough in the domestic arena.[29]

The definition of the threat differs from traditional environmental security. In the context of global environmental security, environmental degradation is viewed as the threat. Thus, rather than looking at the causal linkage between environmental problems and conflict, analysts are primarily concerned with the environmental problems themselves. Sea level rise, crop shifts, and the other predicted consequences of global warming are considered threats. The sources of these threats are multidimensional and include reliance on fossil fuels and energy inefficiency. The threats are not military. They are indiscrete, long-term and very difficult to combat. They are difficult to combat because they have economic, political and social origins.

Another element of the global environmental security literature is a rejection of the notion of sovereignty as a "workable concept."[30] Tuchman-Mathews argues that "our accepted definition of the limits of national sovereignty as coinciding with national boundaries is obsolete."[31] Sovereignty is regarded as an obstacle to international cooperation because conflicting national interests undermine multilateral cooperation. States do not want to relinquish their sovereign rights despite the fact that global environmental problems infringe on sovereignty and regardless of the fact that unilateral state responses are largely insufficient to deal with the challenges posed by global warming, ozone depletion and other transborder environmental problems. Unilateral national responses have some limited value in the short term. Improvements in the environmental policies of some states could set precedents for international action. For the long term, however, multilateral cooperation is necessary.

There are many criticisms of this approach. First, this is an approach that encompasses many issues. Global warming, for example, affects agriculture, energy, forestry, transport and fisheries. Understanding and then explaining the complexity of this problem is a little daunting. Second, according to Deudney, the connections between environmental issues and national security are unnecessary and analytically weak. He claims that "instead of attempting to gain leverage by appropriating national security thinking, environmentalists should continue to develop and disseminate this rich emergent world view."[32] The traditional state-centric militaristic conception of security embedded in this approach fundamentally clashes with the globalist environmental world view. Finally, charges of ethnocentrism have been leveled at proponents of the global environmental security approach. Global environmental security is rooted in the interests of the

developed states. As Georoid Tuathail argues "questions of ozone depletion, rainforest cover, biodiversity, global warming and production using environmentally hazardous materials are subject to new environmentalist mappings of global contemporary acts of geo-power that triangulate global space around the fears and fantasies of the already affluent."[33] In essence, global environmental security is viewed as promoting the interests and concerns of developed states when the real issues for developing states revolve around poverty. Worrying about global warming appears to be a luxury to many developing states. Thus, global environmental security has been equated with a new type of imperialism: eco-imperialism. Global environmental security is a Western redefinition of security which assumes a common perspective on the threats humanity faces.

In spite of the weaknesses noted above, this approach also has several strengths. One of its strengths is that it offers a more holistic vision. There is a recognition of the connections between social, economic and political factors. Second, the challenge to sovereignty reflects the nature of many global environmental problems that defy artificial boundaries. The West Nile disease, for example, will not stop at the Canadian border. Third, the emphasis on the threat to the environment begins to shift our attention away from the more militarized construction of traditional environmental security.

The strengths of global environmental security should be built upon. However, the emphasis on environmental security to the exclusion of other forms of security poses a problem that is difficult to overcome. A way must be found to integrate multiple perspectives on security. With this in mind, even more comprehensive visions of security will be examined.

COMPREHENSIVE/HUMAN SECURITY

Human security and comprehensive security are multifaceted conceptions of security that include environmental issues without privileging them. They recognize an interconnectedness between the numerous sources of insecurity. Comprehensive human security according to Arthur Westing:

> has two intertwined components: political security on the one hand (with its military, economic, and social/humanitarian sub-components); and environmental security on the other (with its protection-oriented and utilization-oriented sub-components). To achieve comprehensive security requires the satisfaction of both the political and the environmental sub-components - neither of these two major sub-components being either attainable or sustainable unless the other is satisfied as well.[34]

A more recent variation of comprehensive human security, simply labeled human security, has been championed by the Canadian government. The ideas informing the Canadian conception of human security are not new although the term is frequently ascribed to the United Nations Development Program (UNDP) report of 1994.[35] There is little consensus on what constitutes

human security. The UNDP definition identifies "seven distinct dimensions of security: economic, food, health, environmental, personal, community and political."[36]

In the Canadian government vision, human security is intertwined with state security.[37] "Security between states remains a necessary condition for the security of people...[but] at the same time, national security is insufficient to guarantee people's security."[38] More specifically, human security is understood to be "freedom from pervasive threats to people's rights, safety or lives."[39] This human-centered approach to security rejects the exclusive focus on state security while at the same time recognizing the integral role of the state both fostering and undermining security. States are not obsolete, but in keeping with Westing's vision, it is assumed "that states have the obligation to protect their citizens not only from military threats to their security, but also from the threats of socially unjust and environmentally unhealthy living conditions."[40]

For both human security and comprehensive security, there are multiple threats. In the Canadian conception of human security "gross violations of human rights, environmental degradation, terrorism, transnational organized crime, gender-based violence, infectious diseases and natural disasters"[41] among other factors such as social unrest and economic crisis are sources of insecurity. As well, the approaches under this umbrella offer an integrated view of security recognizing that the "forces affecting human security are interrelated and mutually reinforcing."[42]

At first glance one can identify many potential problems with these approaches. Both comprehensive human security and human security are more inclusive than either traditional environmental security or global environmental security. They demand that an analyst incorporate a variety of variables into any study of security, maybe too many variables. As well, there is little guidance in the priorization of variables. These approaches are analytically messy and thus may be deemed unworkable and impractical.

The adoption of more such visions of security by the state troubles some. Critical theorist Mark Neufeld has argued that through government adoption of concepts such as human security, one witnesses the co-optation of civil society and non-governmental organizational ideas by the state, with the aim of legitimizing the state.[43] Both comprehensive security and human security, regardless of who is promoting them, are also subject to concerns about the militarization of the environment, as suggested by Duedney in the discussion of global environmental security. One is also impelled to ask whether or not these concepts have the potential to be ethnocentric? Do these concepts lend themselves to the promotion of a vision of the world that is not inclusive, is Western designed and ignores, for examples, indigenous concepts of humanity's relationship to the environment? Scholars with a particular interest in the environment might shun these concepts because they do not assign enough significance to the environment. What is more important, human security as described above focuses on the security of the individual and while the environment is treated as a source of conflict, consistent with the work of Homer-Dixon, the environment itself is not recognized as being in need of security from threats.

Without question, the multifaceted notions of security are riddled with problems. However, it is the vision inherent in human security that is supported here. Without question the concept, especially as articulated in the Canadian foreign policy literature has been subject to many thoughtful critiques,[44] but human security reminds us of the power of ideas. Ideas can translate into practice. For all of its problems, human security could challenge the status quo.

Concerns about co-optation of the ideas of non-governmental organizations are not easily dismissed but perhaps the integration of alternative ideas into state policy and thinking could have a transformative effect. Perhaps there is a way, as suggested by Westing above, to make states responsible for their behavior. To address the concern of the low priority given to the environment, one option is to include an explicit call for human responsibility - to each other and to the environment.

Ethnocentrism can be guarded against by involving the appropriate interested parties, but one must also not fall into absolute cultural relativity. The one element that has the potential to check the tendency toward universalism and ethnocentricism is the emphasis on the individual. The question is: are we going to allow the perspective to promote a vision of a "universal and essentially asocial human individual"[45] as has been observed by Steven Ney, or are we going to recognize that security means different things to different people? Security is a real issue to everyday people and human security provides an opening for the recognition of the diversity of threats that face people everyday.

The idea is complex and messy but one of its most significant strengths is that it recognizes the interconnectedness between issues and individuals and thus challenges the myopia of issue-specific analysis and the abstraction of the levels of analysis. The emphasis on connectedness challenges the dominance of the construct of autonomy and it complements J. Ann Tickner's argument that "striving for attachment and community is as much a part of human nature as is the desire for independence."[46] The inclusion of the individual is a welcome addition to discussions of security and offers a means by which to analyze violence at all levels, while at the same time challenging the artificial nature of geopolitical boundaries.

The claims made here may appear naive and idealistic. However, one must make a choice: perpetuate pessimism or promote a different vision. The latter is the route adopted here. As Richard Falk has stated: "we have little to lose and much to gain."[47]

CONCLUSION

Given the abstract nature of the conclusions drawn here one may be inclined to ask: why bother? If there are all these competing visions of security and if they have been analyzed at length, why bother engaging in this debate? It can be frustrating. Yet, it remains important for analysts and practitioners to think about the construction of concepts. Definitions, by their nature, include and exclude certain variables. There is power inherent in how issues are viewed.

Environmental issues have been excluded for far too long and this cannot continue. One can integrate them into the study of international relations in a variety of ways. One way is to adopt the security lens and to pose questions about the environment-security nexus. It is the view here that it is necessary to do more than focus on environmental security. A more holistic approach is needed and thus human security is promoted. Herein lies the crux of the issue: scholars and practitioners continue to analyze conceptions of security because people remain insecure. Insecurity will never disappear, but as a beginning it is possible to acknowledge the existence of multiple insecurities and hold out a possibility for some change.

NOTES

1. Alanna Mitchell, "We as a Species Can do Better," *Globe and Mail* (August 31, 2000): A1. For references to the other issues noted in the paragraph see for example, "Latest Dead Crow Fuel West Nile Concern in the US,"
(http://www.planetark.org/dailynews...m?/newsid+7642newsdate+31-Jul-2000) and Siobhan Roberts "Anatomy of an Outbreak: West Nile Virus," *National Post* (August 19, 2000):1-10, (wysiwyg://Network_Page.6/http://ww.ml?f=/stories/20000819/37581.html); on Walkerton see Don Crosby, "Walkerton's Water Contaminated for 21 years, report suggests," *National Post* (August 10, 2000):,
(wysiwyg://Network_Page.6/http://ww.ml?f=/stories/20000810/366507.html); on malaria in Canada see Tom Spears, "Malaria Poised to Make Canadian Comeback: Experts," *National Pos*, (September 19, 2000):,
(wysiwyg://Network_Page.6/http://ww.ml?f=/stories/20000919/403643.html); on the conflict over lobster see "Three arrested after shots fired on Miramichi Bay," *CBC News*, (http://cbc.ca/cgi-bin/templates/view.cgi?/news/2000/09/23/burntchurch_tension000923).

2 Andrew Linklater, "The Achievements of Critical Theory" in Steve Smith, Ken Booth and Marysia Zalewski eds., *International Theory: Positivism and Beyond* (Cambridge: Cambridge University Press, 1996), 229.

3 *Ibid*., 282.

4 *Ibid*., 280.

5 *Ibid*.

6. *Ibid*., 282.

7. See for example, Arthur H. Westing ed., *Global Resources and International Conflict: Environmental Factors in Strategic Policy and Action* (Oxford: Oxford University Press, 1986); Thomas F. Homer-Dixon. "Environmental Change and Human Security," *Behind the Headlines* 48: 3 (Spring 1991); idem, "On the Threshold: Environmental Changes as Causes of Acute Conflict," *International Security* 16: 2 (Fall 1991): 76-116; Richard A. Matthew, "A Clean, Secure Future," *Forum for Applied Research and Public Policy* 13:4 (Winter 1998):115-119; Steven Ney, "Environmental Security: A Critical Overview," *Innovation* 12: 1 (March 1999): 7-30; Simon Dalby, "Geopolitics and Global Security: Culture, Identity, and the 'pogo' Syndrome" in Gearoid O Tuathail and Simon Dalby eds., *Rethinking Geopolitics* (London: Routledge, 1998); Maria Mies and Vandana Shiva, *Ecofeminism* (London: Zed Books, 1993).

For an outstanding review of the literature see Simon Dalby, "The Politics of Environmental Security," in Jyrki Kakonen ed., *Green Security or Militarized Environment* (Brookfield USA: Dartmouth, 1994).

8. See for example Jessica Tuchman Mathews, "Nations and Nature: A New View of Security" in Gwyn Prins ed., *Threats Without Enemies: Facing Environmental Security* (London : Earthscan, 1993), 25-28

9. Homer-Dixon, "Environmental Change and Human Security," 2.

10. On the matter of resource scarcity see Arthur H. Westing, "Environmental Factors in Strategic Policy and Action: an Overview," in Arthur H. Westing ed., *Global Resources and International Conflict: Environmental Factors in Strategic Policy and Action*. On the impact of soil degradation, population pressures and other matters see Homer-Dixon, "Environmental Change and Human Security." For a recent debate on the merits of this approach see Geoffrey D. Dalbelko, Tom Deligiannis, Ted Gaulin, Thomas F. Homer- Dixon, Richard A. Matthew, Daniel M. Schwartz, "Commentary: Environment, Population and Conflict," *Environmental Change and Security Project Report* (Summer 2000): 77-106.

11. See for example, *Ambio* XVIII: VII, 1989. The entire edition is dedicated to the environmental consequences of nuclear war.

12. On the environmental effects of the Gulf War, see for example Martin Mittelstaedt, "Environment Toll Still Rising in Gulf," *Globe and Mail* (March 2, 1991).

13. Johan Jorgen Holst, "Security and the Environment: A Preliminary Exploration," *Bulletin of Peace Proposals* 20:2 (1989): 123.

14. Homer-Dixon, "Environmental Change and Human Security," 2.

15. .See Peter Gizewiski, "Environmental Scarcity and Conflict," *Commentary* 71 (Spring 1997), Canadian Security Intelligence Service, (http:www.csis-scrs.gc.ca/eng/comment/com71e.html), pp. 1-9. This publication also offers the reader a nice bibliography of the work conducted by the Project on Environment, Population and Security at the University of Toronto. For a study that focuses on China see, Robert T. Stranks and Nicolino Strizzi, "China: Environmental Stress and National Security," (Ottawa: Department of Foreign Affairs and International Trade, 1996), 1-34. Similar concerns about conflict arising as a result of resource depletion can be found in Canada, Department of National Defense, "Adjusting Course: A Naval Strategy for Canada," (http://www.dnd.ca/navy/marcom/acp1char.html), 2.

16. Stephen Lonergan. “Climate Warming, Water Resources and Geopolitical Conflict: A Study of Nations Dependent on the Nile, Litani and Jordan River Systems,” *Extra Mural Paper* 55(Ottawa: DND, March 1991), 5.

17. See Homer-Dixon, “Environmental Change and Human Security,” 10. For a somewhat different perspective, see Norman Myers, “Environment and Security,” *Foreign Policy* 74 (Spring 1989): 23-41. Myers focuses on the policy implications of "Third World" environmental decline for the United States.

18. Lonergan, “Climate Warming, Water Resources and Geopolitical Conflict,” 7. It is important to note that Lonergan uses the broader definition of security, but nonetheless focuses on environmental change as a causal factor of war.

19.Holst, See also Homer-Dixon, and Westing.

20. Homer-Dixon, 3.

21. Gwynne Dyer, “Environmental Warfare in the Gulf,” *Ecodecision* (September 1991): 25.

22. Daniel Deudney. “The Case Against Linking Environmental Degradation and National Security,” *Millennium* 19: 3 (Winter 1990): 461-476.

23. *Ibid*., 470-471.

24. *Ibid*., 472.

25. Ken Conca, “The Environment-Security Trap,” *Dissent* (Summer 1998): 41.

26. Dalby, “Geopolitics and Global Security,” 307.

27. Conca, “The Environment-Security Trap,” 43.

28. Jessica Tuchman-Mathews, “Redefining Security,” *Foreign Affairs* (Spring 1989): 162.

29. *Ibid*. For other variations on the theme of expanded notions of security see Richard H. Ullman, “Redefining Security,” *International Security* 8:1 (Summer 1983); Michael Renner, “National Security: The Economic and Environmental Dimensions,” *Worldwatch Paper 89* (Washington: Worldwatch Institute, 1989).

30. Renner, “National Security: The Economic and Environmental Dimensions,” 39.

31. Tuchman-Mathews, “Redefining Security,” 174. See also Tuchman-Mathews, “Nations and Nature: A New View of Security,” 33.

32. Deudney, "The Case Against Linking Environmental Degradation and National Security," 469.

33. Gearoid O Tuathail, *Critical Geopolitics: The Politics of Writing Global Space* (Minneapolis: University of Minnesota Press, 1996), 253. See also Somaya Saad, "For Whose Benefit? Redefining Security" in *Ecodecision* (September 1991): 59.

34. Arthur H. Westing. "The Environmental Component of Comprehensive Security," *Bulletin of Peace Proposals* 20:2 (1989): 129.

35. See Canada, Department of Foreign Affairs and International Trade, "Human Security: Safety for People in a Changing World," (Ottawa: DFAIT, 1999) http://www.dfait-maeci.gc.ca/foreignp/HumanSecurity/secure-e.htm.

36. See Canada, Department of Foreign Affairs and International Trade, "Human Security: Safety for People in a Changing World," 3. For the most recent articulations of this concept see Department of Foreign Affairs and International Trade, "Freedom From Fear: Canada's Foreign Policy for Human Security," (Ottawa: DFAIT, September 2000) http://www.dfait-maeci.gc.ca/forei...ecrity/HumanSecurityBooklet-e.asp, 1-17. For a more recent iteration of this idea see: Canada, Department of Foreign Affairs and International Trade, "Freedom From Fear: Canada's Foreign Policy for Human Security," (Ottawa: DFAIT, 2000), http://www.dfait-maeci.gc.ca/foreignp/g7/2000/brocure-e.asp, 1-14.

37. See Canada, Department of Foreign Affairs and International Trade, "Human Security: Safety for People in a Changing World," (Ottawa: DFAIT, 1999) http://www.dfait-maeci.gc.ca/foreignp/HumanSecurity/secure-e.htm, 1-6.

38. DFAIT, "Human Security: Safety for People in a Changing World," 2.

39. Department of Foreign Affairs and International Trade, "Freedom From Fear: Canada's Foreign Policy for Human Security," 4.

40. Westing, "The Environmental Component of Comprehensive Security," 129-130.

41. DFAIT, "Human Security: Safety for People in a Changing World," 3.

42. Lloyd Axworthy, "Canada and Human Security: The Need for Leadership," (Ottawa: DFAIT, 1997), 1, http://www.dfait-maeci.gc.ca/foreignp/sechume.html.

43. Mark Neufeld, "Democratization in/of Canadian Foreign Policy: Critical Reflections," *Studies in Political Economy* 58 (Spring 1999): 97-119.

44. Fen Hampson and Dean F. Oliver, "Pundit Diplomacy: A Critical Assessment of the Axworthy Doctrine," *International Journal* LIII:III (Summer 1998): 379-406; Denis Stairs,

"Canada and the Security Problem: Implications as the Millennium Turns," *International Journal* LIV:III (Summer 1999): 386-403; Kim Richard Nossal, "Pinchpenny Diplomacy: The Decline of Good International Citizenship in Canadian Foreign Policy," *International Journal* LIV:I (Winter 1998-9): 88-105.

45. Ney, "Environmental Security: A Critical Overview," 24.

46. J. Ann Tickner, *Gender and International Relations: Feminist Perspectives on Achieving Global Security* (New York: Columbia University Press, 1992), 132.

47. Richard Falk, *On Humane Governance: Toward A New Global Politics* (University Park, Pennsylvania: Penn State University Press, 1995), 240.