

WAR IS PEACE: HOW LANGUAGE BEGETS POWER AND HELPS TO SKIRT
INTERNATIONAL LAW IN U.S. EFFORTS TO ERADICATE COLOMBIAN COCA CROPS
USING CHEMICAL AND BIOLOGICAL AGENTS

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INTRODUCTION

I. WAR AS METAPHOR

In his 1969 hit song, “War,” singer Edwin Starr posed the rhetorical question, “War, what is it good for?”, and then answered his own question: “Absolutely nothin’.”¹ But despite the popularity of this sentiment, war continues to be perceived as a primary and often useful tool of human endeavor and the plethora of armed conflicts around the globe suggest that human enthusiasm for waging war is not likely to diminish in the near future. Not all wars are fought with troops and tanks, however, and “war” as a rhetorical tool can be equally as valued, and sometimes more so, compared to wars that are actually fought. Both real and metaphorical wars provide the advantage of a common enemy, the “faceless them,” around which political and social groups can come together and find unity. And, as in Orwell’s novel *Nineteen Eighty-Four*, there is at least a semblance of ideological and social peace to be found in such unity, along with an increased moral malleability and willingness to accept governmental controls and actions.² Orwell’s hero Winston reflects that, “[e]ven the humblest Party member . . . should be a credulous and ignorant fanatic whose prevailing moods are fear, hatred, adulation, and orgiastic triumph. In other words it is appropriate that he should have the mentality appropriate to a state of war.”³

Critical discourse analysis offers us the perspective that language, i.e., the human social interaction which takes place via linguistic discourse, is in many respects the site of political struggle for resources.⁴ In this view, the political elite use language as a tool to build and maintain hierarchies of power.⁵ This is the context in which even the idea of war can be effective, without any need to resort to armed conflict. Metaphorically, “war” has provided a convenient and effective justification for both domestic and international initiatives of different U.S. administrations over the past half century. The “war on poverty,” the “war on drugs” and the “war on terror” each posit a nebulous and faceless enemy, which serves to consolidate public support while simultaneously minimizing concerns about potential collateral effects associated with the war effort.

A. *The War on Drugs and “Plan Colombia”*

In 1971, President Richard Nixon announced a “war on drugs” that focused on one such faceless enemy, so-called narcotic drugs (as well as the growers and suppliers of them), and a governmental campaign was launched that comprised prohibition as well as foreign military and

¹ EDWIN STARR, WAR, (Motown Record Corporation, 1970).

² See, GEORGE ORWELL, 1984, (London ed. Penguin Books, 1949).

³ *Id.* at 192.

⁴ Bryan Meadows, *Distancing and Showing Solidarity via Metaphor and Metonymy in Political Discourse: A Critical Study of American Statements on Iraq During the Years 2004-2005*, 1 CRITICAL APPROACHES TO DISCOURSE ANALYSIS ACROSS DISCIPLINES, 1 (Issue 2) (2007).

⁵ *Id.*

domestic aid to combat this declared common enemy.⁶ Drugs of particular interest were those produced from three plants: *Cannabis sativa* L. (marijuana), coca plant (*Erythroxylum coca* Lam; the source of cocaine), and opium poppy (*Papaver somniferum* L.) Coca production in Colombia, and importation of cocaine, are particular areas of emphasis that have persisted through several presidential administrations. One auxiliary goal of the war on drugs, as applied to Colombia, was eradication of coca production with the additional hope of reducing the flow of income to the Colombian Marxist rebel movement, *Fuerzas Armadas Revolucionarias de Colombia* (FARC).⁷ In 2000, U.S. legislation under the name “Plan Colombia” was approved, aimed at both curbing drug smuggling and combating the left-wing insurgency by supporting military and crop eradication activities in that country.⁸ Plan Colombia funding was earmarked for training and equipping new Colombian army counter-narcotics battalions, and as well as for purchasing supplies for coca eradication. Former U.S. President George W. Bush doubled down on the “war on drugs” metaphor when he further declared narcotics trafficking to be a form of terrorism, in his frequent references to the “war on terror”.⁹ In this way, as drug eradication efforts began taking place against a backdrop of armed conflict, the war on drugs began to merge and become one with the flesh-and-blood armed conflict raging in Colombia, thus blurring the boundaries between the metaphorical war and the real thing.

Ambivalence about where the metaphorical war on drugs overlaps with actual armed conflict is not restricted to the government; it permeates American popular culture as well. As one illustration of this mimesis, consider the popular “first-person shooter” video game “Terrorist Takedown: War in Colombia”, which presents the player with the following scenario:

Criminals are flooding the U.S. with drugs thus earning loads of money from that business. Being fed up with that state of affairs, American government decides to get rid of drug bosses from Colombia. The war in Colombia breaks out . . . You are a soldier of U.S. Army Special Task Force. You have been dropped behind the enemy lines with one and only goal- to eliminate the boss of Colombian cartel.¹⁰

With a (perhaps inadvertent) neocolonial nod to U.S. military history in Vietnam and Cambodia, the game’s maker continues: “Fight night and day, rain or shine - The action doesn't stop! Battlefields include jungle swamps, native villages, drug plantations, enemy bases and mysterious ancient ruins. Use models of authentic American Army weapons. You can also capture and use enemy guns (AK47 assault rifle).”¹¹ Thus, criminalized (as individuals flooding

⁶“Nixon Calls War on Drugs” THE PALM BEACH POST (June 18, 1971), <http://news.google.com/newspapers?id=-5IjAAAAIBAJ&sjid=RLcFAAAAIBAJ&pg=973,31915&dq=nixon+war+on+drugs&hl=en>.

⁷See, GRACE LIVINGSTONE, *INSIDE COLOMBIA: DRUGS, DEMOCRACY AND WAR 4* (Marcela López Levy ed., Rutgers University Press 2004).

⁸*Id.* at 71.

⁹TED GALEN CARPENTER, *BAD NEIGHBOR POLICY: WASHINGTON’S FUTILE WAR ON DRUGS IN LATIN AMERICA 6* (Palgrave Macmillan 2003).

¹⁰*Terrorist Takedown: War in Colombia*, (Video game, City Interactive USA, Inc., 2008), available at <http://temi-x.blogspot.com/2012/05/pc-games-terrorist-takedown-war-in.html>.

¹¹*Id.*

the U.S. with drugs) and culturally marginalized (as inhabitants of swamps and native villages), the fictional opponents in *Terrorist Takedown* (i.e. Colombians, including peasant coca growers) occupy the lowest rung in the social hierarchy and are legitimized as targets for the game player. In this metaphorical war without rules, both their lives and their lands are forfeited.

A fundamental component of the war on drugs—the so-called “Plan Colombia”—conditions economic aid to the Colombian government on its willingness to conduct aerial application of chemical (and possibly biological) herbicidal agents to extensive forest acreage and peasant farmlands in an attempt to eradicate coca crops in those areas. An additional goal of this program is to reduce coca-derived income of FARC. The U.S. government defends and defines Plan Colombia as a domestic police action conducted under peacetime conditions. However, as this paper will discuss, U.S. sponsorship of Plan Colombia and its extensive use of chemical and (proposed) biological herbicides for coca eradication arguably run afoul of international law as embodied in the United Nations Chemical Weapons Convention and the Biological Toxins and Weapons Convention. In order to avoid application of these international rules of armed conflict, the reality of the war in Colombia must remain plausibly deniable by the U.S. government which provides financial and military support for it.

B. Do the rules of war apply to metaphorical wars?

In international conflicts, the use of the word “war” as a legal term has particular legal connotations.¹² Although there is no binding definition of war to be found in any multilateral convention, nevertheless International Humanitarian Law is considered the law of war. The laws involved are in effect, both in situations of declared war between the legal armed forces of two different states or of armed conflict more generally.¹³ For example, hostilities that take place inside the boundaries of a single state are termed “armed conflict not of an international character” or “non-international armed conflict” under Common Article 3 of the 1949 Geneva Conventions.¹⁴ Indeed, the majority of armed conflicts today are internal, some of which have persisted for decades.

One of the longest-running armed conflicts in the world is the ongoing struggle between the government of Colombia and FARC,¹⁵ the left wing and largely peasant guerilla group that now controls about forty percent of Colombian territory. Policy debates in the U.S. have linked the war on drugs with the Colombian insurgency, employing a “narcoguerrilla” theory to support the contention that the FARC insurgents are major drug suppliers and traffickers; thus, counterinsurgency and counternarcotic measures may be considered to be one and the same.¹⁶

¹² ELZBIETA MIKOS-SKUZA, *INTERNATIONAL LAW’S CHANGING TERMS: “WAR” BECOMES “ARMED CONFLICT”*, IN *WHAT IS WAR? AN INVESTIGATION IN THE WAKE OF 9/11*, 19-29 (Mary Ellen O’Connell ed., 2012).

¹³ *Id.* at 20.

¹⁴ Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in the Armed Forces in the Field art. 3, Aug. 12, 1949, 6 U.S.T. 3114, 75 U.N.T.S. 31; Geneva Convention for the Amelioration of the Condition of the Wounded, Sick and Shipwrecked Members of Armed Forces at Sea art. 3, Aug. 12, 1949, 6 U.S.T. 3217, 75 U.N.T.S. 85; Geneva Convention Relative to the Treatment of Prisoners of War, art. 3, Aug. 12, 1949, 6 U.S.T. 3316, 75 U.N.T.S. 135; Geneva Convention Relative to the Protection of Civilian Persons in Time of War, art. 3, Aug. 12, 1949, 6 U.S.T. 3516, 75 U.N.T.S. 287.

¹⁵ See generally JAMES J. BRITAIN, *REVOLUTIONARY SOCIAL CHANGE IN COLOMBIA: THE ORIGIN AND DIRECTION OF THE FARC-EP*, (Pluto Press) (2010).

¹⁶ See Ricardo Vargas, *The Revolutionary Armed Forces of Colombia (FARC) and the Illicit Drug Trade, Drugs and Democracy*, The Transnational Institute, (June 7, 1999), available at

Common Article 3 of the Geneva Convention defines non-international armed conflicts as those “armed conflicts that are non-international in nature occurring in one of the High Contracting Parties.”¹⁷ Although Common Article 3 provides that certain minimum rules of war apply to non-international armed conflicts within the boundaries of a single country, the rules do not apply to some forms of violence, like riots or isolated acts of violence; thus, classification as a non-international armed conflict is often an abstract and politically-determined distinction.^{18,19} There may be political opposition to calling an armed conflict an insurgency, since the very classification may be construed as recognition of the insurgents as legal participants in the conflict, rather than simply as criminals.²⁰ Although international law may be likened to a very large beast with very small teeth, nonetheless the international rules of armed conflict, when they apply, constrain the military options of those engaged in armed conflict. International humanitarian law proscribes both certain tools of war (e.g., chemical and biological weapons) and practices (e.g., harming of civilian populations,²¹ and environmental destruction²²). Thus, one advantage to declaring a metaphorical war, such as the war on drugs, and defining the opponent as an unorganized and faceless group of criminals, is that there are no applicable rules of war that the declarant is required to follow.

II. HERBICIDES AGAINST COCA: TOOLS OF PEACE OR WEAPONS OF WAR?

Herbicides are, by definition, a group of pesticides consisting of chemical or biological substances, used to kill plants. Herbicides are used routinely and extensively by farmers in conventional agriculture worldwide, to control unwanted vegetation (weeds) in both terrestrial and aquatic environments. The U.S. company Monsanto’s glyphosate (aka ‘Roundup™’) herbicide is the most widely used agricultural chemical in the world, in large part stemming from

<http://www.tni.org/briefing/revolutionary-armed-forces-colombia-farc-and-illicit-drug-trade> (last visited Jan. 17, 2013).

¹⁷ Geneva Convention Relative to the Treatment of Prisoners of War art. 3, Aug. 12, 1949, 6 U.S.T. 3316, 75 U.N.T.S. 135.

¹⁸ S. Vite, International Review of the Red Cross, *Typology of armed conflicts in international humanitarian law: legal concepts and actual situations*, 91(873):69–95 (2009).

¹⁹ International Committee of the Red Cross, Opinion Paper (Geneva), *How is the term armed conflict defined in international humanitarian law?* (2008).

²⁰ A. Cullen, *The Concept of Non-international Armed conflict in international humanitarian law*, 11 CAMBRIDGE STUDIES IN INTERNATIONAL LAW AND COMPARATIVE LAW 66 (2010).

²¹ For example, Article 54(2) of the 1977 Additional Protocol I to the Geneva Conventions provides that “[i]t is prohibited to attack, destroy, remove or render useless objects indispensable to the survival of the civilian population, such as food-stuffs, agricultural areas for the production of food-stuffs, crops, livestock, drinking water installations and supplies and irrigation works, for the specific purpose of denying them for their sustenance value to the civilian population or to the adverse Party, whatever the motive, whether in order to starve out civilians, to cause them to move away, or for any other motive.” Similarly, Article 57(2)(a)(ii) provides that “[t]hose who plan or decide upon an attack shall ... take all feasible precautions in the choice of means and methods of attack with a view to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects.” Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), June 8, 1977, 1125 U.N.T.S. 3, *available at* <http://www.icrc.org/ihl.nsf/full/470>.

²² *Id.* Article 35(3) provides that “[i]t is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.”

the increased use of genetically modified glyphosate-resistant (“Roundup-ready™”) crop plants including corn, soybean, sugar beet, alfalfa, among others.

A. Chemical herbicides to eradicate coca crops.

One important component of Plan Colombia has been the attempted eradication of Colombian coca crops by aerial spraying of Monsanto's chemical herbicide, glyphosate. In 1997, the area of coca sprayed annually with glyphosate has increased steadily, reaching 153,000 hectares in 2007.²³ From 2000 to 2003, approximately 380,000 ha in Colombia were aerially sprayed with glyphosate.²⁴ The herbicide is tank-mixed with an adjuvant product to improve penetration and effectiveness, and is applied at a typical rate of 3.69 kg a.e./ha.²⁵

Over a number of years, destruction of food crops alongside coca crops has forced large-scale relocation of peasant communities, and has caused significant adverse health effects from herbicide drift onto both people and livestock. For that reason, “Manuel Alzate Restrepo, the Mayor of Puerto Asis, one of the largest towns in Putumayo department in south-west Colombia, called Plan Colombia ‘the Plan against Colombia.’”²⁶ In Putumayo, much of the coca is grown by peasant farmers who own only a few hectares of cropland carved from the surrounding jungle. Coca is grown as a cash crop, alongside subsistence crops including pineapple, cassava, and maize. Because glyphosate is a non-selective herbicide, food crops are destroyed along with the coca crop. Colombia’s Council for Human Rights and Displacement alleges that the herbicide program has left 75,000 people nationwide displaced due to crop destruction.²⁷ Along with the destruction subsistence food crops, residents living inside of spray zones allegedly suffer a variety of skin, respiratory, and other ailments.

Colombia is listed as one of the world’s megadiverse countries, and is estimated to host almost fourteen percent of the planet’s biodiversity.²⁸ According to Colombia's Ombudsman's Office (Defensoria del Pueblo), the combined problems of insurgency, coca production, and attempted coca destruction have resulted in extensive destruction of the areas richest in biodiversity, such as the Putumayo.²⁹ Coca farming is one direct result of the confluence of armed conflict, social conflict, and economic inequity in Colombia.³⁰ Colombia loses up to 3,000 km² of forest annually to deforestation. A process called “triple deforestation” occurs: coca crops are

²³E. J. P. Marshall, Keith R. Solomon, and Gabriel Carrasquilla, *Coca (Erythroxylum coca) Control is Affected by Glyphosate Formulations and Adjuvants*, 72 J. TOXICOL. AND ENVIRON. HEALTH, PART A: CURRENT ISSUES 930 (2009).

²⁴*Id.*

²⁵*Id.*

²⁶Jeremy McDermott, *Anti-drugs plan threatens Colombian peasants*, BBC NEWS (Aug. 23, 2000), <http://news.bbc.co.uk/2/hi/americas/891810.stm> (last visited 1/15/2012).

²⁷Coletta A. Youngers and Eileen Rosen, *Drugs and Democracy in Latin America: The Impact of U.S. Policy*, Washington Office on Latin America (WOLA) at 118.

²⁸*Country Profiles*, CONVENTION ON BIOLOGICAL DIVERSITY, Colombia: <http://www.cbd.int/countries/?country=co> (last visited Jan. 16, 2012).

²⁹Cecilia Zarate-laun, *Introduction To Putumayo- The U.S.-assisted war in Colombia*, Z MAGAZINE, (Feb. 2001), <http://www.zcommunications.org/introduction-to-putumayo-by-cecilia-zarate-laun> (last visited Jan. 13, 2012).

³⁰*Id.*

planted, herbicide spraying is undertaken, both coca and food crops are destroyed, and peasants flee the area to start again in a new location.³¹

Spraying of chemical herbicides against Colombian coca crops allegedly has also caused transboundary damage, i.e., environmental damage caused by or originating in one State and affecting the territory of another.³² In 2008, Ecuador filed a lawsuit against Colombia in the International Court of Justice seeking to end Colombia's use of glyphosate along the border between the two countries.³³ Ecuador made the claim that, from 2000 through 2008, herbicide drift sickened people on the Ecuadorean side of the border and harmed livestock, farmland, and sensitive, ecologically diverse rainforest areas.³⁴ Whether liability for any transboundary harm in such a case might extend to more than just the originating state of Colombia is open to debate. There is a strong case for extending liability beyond Colombia since the United States has consistently applied both diplomatic and economic pressure, as well as financial assistance, for Colombia's implementation of drug crop eradication programs.³⁵

B. The use of herbicides in armed conflict.

Herbicides have been extensively used in armed conflict in the past several decades. Warren provides a history of the use of chemical herbicides in modern warfare, starting with the British use in Malaya (1948) of helicopters to disperse chemicals for crop destruction.³⁶ Although U.S. military research on herbicide development and screening apparently stopped in 1950, a lower level of effort was continued as "anticrop warfare research."³⁷ Both chemical and biological herbicide research was conducted until 1958 at the Fort Detrick facility in Maryland.³⁸

³¹ *Id.*

³² Hanqin, Xue, *TRANSBOUNDARY DAMAGE IN INTERNATIONAL LAW 1* (Cambridge University Press, 2003).

³³ *Aerial Herbicide Spraying (Ecuador v. Colombia)*, International Court of Justice, case filed April 1, 2008, <http://www.icj-cij.org/docket/files/138/14470.pdf> (accessed May 6, 2013). As a basis for the Court's jurisdiction, Ecuador invoked Article XXXI of the American Treaty on Pacific Settlement of 30 April 1948 (Pact of Bogotá), to which both States are parties. Ecuador further claimed that Colombia had violated customary international law as a result of transboundary harms (*see generally* Robert Esposito, *The ICJ and the Future of Transboundary Harm Disputes: A Preliminary Analysis of the Case Concerning Aerial Herbicide Spraying (Ecuador v. Colombia)*, *Pace Int'l L. Rev. Online Companion*, Aug. 2010, at 5).

³⁴ *Id.*

³⁵ The question of potential U.S. liability in this example is certainly arguable. The U.S. has signed but has not ratified the Pact of Bogota and thus is not a party to the treaty. The question of whether prevention of transboundary harm has been, or should be, elevated to the status of customary international law has been hotly debated (*see generally* Daniel Bodansky, *Customary (and not so Customary) International Environmental Law*, 3 *IND. J. GLOBAL LEGAL STUD.* 105 (1995)). To the extent that customary international law is implicated, liability may be reflected in the principle of independent responsibility of States, as embodied in the International Law Commission's *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, to wit: "Where several States are responsible for the same internationally wrongful act, the responsibility of each State may be invoked in relation to that act." (*Draft Articles on Responsibility of States for Internationally Wrongful Acts*, in Report of the International Law Commission on the Work of Its Fifty-third Session, UN GAOR, 56th Sess., Supp. No. 10, at 43, UN Doc. A/56/10 (2001), Article 47, <http://www.un.org/law/ilc/> (last visited Apr. 15, 2011)).

³⁶ *See* WILLIAM F. WARREN, *A REVIEW OF THE HERBICIDE PROGRAM IN SOUTH VIETNAM 2* (1968), available at <http://specialcollections.nal.usda.gov/sites/specialcollections.nal.usda.gov/files/03121.pdf>.

³⁷ *Id.*

³⁸ David A. Butler, *Connections: The Early History of Scientific and Medical Research on "Agent Orange"*, 542 *J.L. & POL'Y*, 527, 542 (2005).

The most notorious example of extensive herbicide use in modern warfare was the U.S. application of so-called “Agent Orange” (a one-to-one blend of the herbicides 2,4-D and 2,4,5-T, inadvertently contaminated with a highly toxic dioxin) as a defoliant during the Vietnam War. Between 1961 and 1971, about 1.3 million hectares of forest lands and 100,000 hectares of croplands were sprayed.³⁹ Rates applied in Vietnam were much higher than used for these chemicals in forestry, presumably because the intent was to destroy entire ecosystems (“ecocide”).⁴⁰ It is estimated that as many as 1 million Vietnamese people have been disabled, killed, or have health problems due to Agent Orange, along with thousands of U.S. veterans.⁴¹

In 1966, the U.S. was strongly criticized by communist nations for using both tear gas and chemical herbicides in Vietnam, and Hungary charged in the United Nations General Assembly that use of such agents in war was prohibited by international law, particularly the Geneva Protocol.⁴² However, the U.S. denied that the protocol applied to chemical herbicides, declaring during debate that it was up to each country to decide how to adhere to the protocol, “in the light of constitutional and other considerations.”⁴³

Subsequently, the U.S. opposed a resolution in the General Assembly that condemned the use in international armed conflict of all chemical and biological agents, as being contrary to international law.⁴⁴ Reporting to President Nixon in 1970, Secretary of State Rogers recommended ratification of the protocol with certain reservations, including the position that the protocol was not applicable to wartime use of herbicides.⁴⁵ However, although Nixon then resubmitted the protocol to the Senate, the U.S. Foreign Relations Committee did not accept the reservation on herbicide use in war, and action on ratification was deferred. Subsequently, in renewed efforts to ratify the protocol simultaneously with the Biological Weapons Convention, President Ford reaffirmed the previous administration's view on the scope of the protocol, but stipulated that the Administration was prepared, “to renounce as a matter of national policy: (1) first use of herbicides in war except use, under regulations applicable to their domestic use, for control of vegetation within U.S. bases and installations or around their immediate defensive perimeters.”⁴⁶ However, in his testimony to the Foreign Relations Committee, Arms Control and Disarmament Agency (ACDA) Director Fred Ikle conceded that there would be “no formal legal impediment” to a potential presidential decision broadening the permissible uses of herbicides in times of armed conflict.⁴⁷

Nonetheless, the question is moot if the use of glyphosate in Colombia is considered part of a domestic police action, rather than a military action executed during armed conflict. As

³⁹ *Chemical Warfare - Use Of Herbicides During The Vietnam War*, JRANK ARTICLES (Feb. 21, 2013), <http://science.jrank.org/pages/1391/Chemical-Warfare-Use-herbicides-during-Vietnam-War.html#ixzz284IYGIUc>.

⁴⁰ *Id.*

⁴¹ Jessica King, *U.S. in first effort to clean up Agent Orange in Vietnam*, CNN (August 10, 2012), <http://edition.cnn.com/2012/08/10/world/asia/vietnam-us-agent-orange/> (last visited Jan. 18, 2013).

⁴² See Federation of American Scientists, *Weapons of Mass Destruction - Geneva Protocol*, available at <http://www.fas.org/nuke/control/geneva/intro.htm> (last visited Jan. 14, 2013).

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ *Id.*

Trimble notes, the rules of international law confirm more authority and power than they deny.⁴⁸ Thus, states generally have exclusive authority to regulate conduct within their own territory—including authority to establish police control. If Plan Colombia can be defined as one component of a police action undertaken by the government of Colombia (albeit with U.S. assistance), then it can be considered to fall outside the rules of international law, including the rules that are applicable to armed conflict. In other words, if the war is not real, but only metaphorical, then international rules of war become irrelevant.

C. *Biological herbicides to eradicate coca crops.*

In addition to enthusiasm for the application of chemical herbicides in Colombia, the U.S. government has shown considerable interest in the possibility of using plant pathogenic biological agents to eradicate coca crops. Plant pathogens cause diseases of domesticated and wild plants, and those comprised of fungal agents and used purposely to kill plants are called “mycoherbicides.” Several commercial mycoherbicide products have been registered for agricultural weed control in the U.S., including “Collego” (*Colletotrichum gloeosporioides*) for control of northern joint-vetch in rice, and “Devine” (*Phytophthora palmivora*) to control strangler vine in citrus.

It had been observed since the 1930s that severe plant disease epidemics periodically occurred on coca plants in Peru.⁴⁹ A similar epidemic was also observed in Hawaii in 1997.⁵⁰ The pathogenic agent, which causes infected coca plants to wilt and die, was identified as the fungus *Fusarium oxysporum* f. sp. *erythroxyli* by Professor David Sands and others at Montana State University.⁵¹ Sands subsequently formed the company Ag/Bio Con (agricultural biological control), for the purpose of marketing this fungus. By the late 1990s, the use of plant pathogenic fungi as mycoherbicides was being touted as a major new tool in the war on drugs.⁵² In 1999, the U.S. Congress added a provision to the Plan Colombia aid package that called for the employment of mycoherbicides against coca crops and imposed a requirement for Colombia to test the biological agents in return for counterinsurgency funding. However, that requirement was subsequently overridden by President Clinton.⁵³ Part of the President’s concern was that unilateral deployment of these biological pest control agents might be perceived as an act of biological warfare, and he noted “. . . the potential impact on biological weapons proliferation and terrorism.”⁵⁴ Subsequently, the Andean Committee of Environmental Authorities (CAAAM),

⁴⁸Phillip R. Trimble, *International Law, World Order, and Critical Legal Studies*, 833 STAN. LAW REV. 42, No. 3 (1990).

⁴⁹E. Arévalo, O. Cabezas, and L. Zúniga, *Progress of coca (Erythroxyllum coca) wilt caused by Fusarium oxysporum f.sp. erythroxyli in coca growing areas of Peru* (Spanish), 35 *Fitopatologia* 10 (2000).

⁵⁰David Sands, E. Ford, and R. Miller, B. Sally, M. McCarthy, T. Anderson, M. Weaver, C. Morgan, and M. Pilgeram, *Characterization of a Vascular Wilt of Erythroxyllum coca Caused by Fusarium oxysporum f. sp. erythroxyli Forma Specialis Nova*, 81 *Plant Disease* 501 (1997).

⁵¹*Id.* at 501.

⁵²Bryan Bailey, K. Prakash Hebbar, Mary Strem, Robert Lumsden, Lee Darlington, William Connick, Jr., and D. Daigle, *Formulations of Fusarium oxysporum f. sp. erythroxyli for Biocontrol of Erythroxyllum coca var coca*, 46 *Weed Science* 682 (1998)

⁵³William Clinton, *Memorandum of Justification in Connection with the Waivers under Section 3201(a)(4) of the Emergency Supplemental Act, as Enacted in the Military Construction Appropriations Act 2001*, 23 August (2000).

⁵⁴*Id.*

representing the governments of Bolivia, Colombia, Ecuador, Peru, and Venezuela, stated its, “rejection of the use of the *Fusarium oxysporum*’ fungus as a means of eradicating illegal crops in the Member Countries of the Andean Community.”⁵⁵

Despite the reluctance of the Colombian government and its neighbors to embrace the idea of applying mycoherbicides to eradicate coca, the idea continues to have significant support in the United States. Mycoherbicides continue to be promoted in some quarters as a safer (and more environmentally persistent) alternative to chemical herbicides for the control of coca and opium poppy. This position was somewhat uncritically given weight by a 2002 report produced by the United Nations Office on Drugs and Crime.⁵⁶ In 2006, Congress passed a provision attached to the Office of National Drug Control Policy (ONDCP) Reauthorization Act of 2006 (H.R. 6344), requiring that the potential use of mycoherbicides against drug crops be investigated and tested in field trials. The issue has even made a tenuous appearance in popular culture, with the publication of Walton Cook's 2001 narco-thriller “Buzzword,”⁵⁷ in which an imaginary Cornell University plant pathologist publicly advocates developing and deploying mycoherbicides against coca, a position that drags him into a variety of deadly situations and chase scenes involving drug lords and their minions. Cook wears his own advocacy for mycoherbicide use on his sleeve, and has one Mafia kingpin explain in the novel, “The winner's edge goes to whoever shapes the public perception first. Establish him as a rogue scientist, willing to break all the principles of civilized society.”⁵⁸ Even in metaphorical wars, apparently, there is power in rhetorical weapons.

D. Biological warfare?

Could the use of mycoherbicides against illicit drug crops actually be construed as an act of biological warfare? Proponents of the program apparently do not think so, claiming that it falls under the “peaceful use” exemption of the Biological Toxins and Weapons Convention (BTWC).⁵⁹ They also point out that Article 26 of the Single Convention on Narcotic Drugs, a treaty promulgated with U.S. backing in 1961, states that “[t]he Parties shall so far as possible enforce the uprooting of all coca bushes which grow wild. They shall destroy the coca bushes if illegally cultivated.”⁶⁰ However, critics of the program are not so sure, and point to both the language and the on-the-ground reality of the “war on drugs.” The United States’ history of active biological warfare research at Fort Detrick, Maryland, some of which involved mycoherbicides, lends credence to the viewpoint of critics.⁶¹ The U.S. Army, as part of its

⁵⁵Press release of the Secretaria General, Comunidad Andina, September 7, 2000, <http://www.comunidadandina.org/ingles/press/press/np8-9-00.htm>. (last visited Apr. 9, 2013).

⁵⁶United Nations Office on Drugs and Crime (UNODC), *Research and Development of an Environmentally Safe and Reliable Biological Control Agent for Opium Poppy*, UNODC Regional Office for Central Asia, Tashkent, Uzbekistan, 25-27 November (2002).

⁵⁷WALTON COOK, *BUZZWORD*, Public Policy Press, (2001).

⁵⁸*Id.* See also 10 *IBG News* No. 2 (December 2001) 21.

⁵⁹Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, Apr. 10, 1972, 26 U.S.T. 583, 1015 U.N.T.S. 163.

⁶⁰INT’L NARCOTICS CONTROL BD, *Single Convention on Narcotic Drugs, 1961*, http://www.incb.org/documents/Narcotic-Drugs/1961-Convention/convention_1961_en.pdf (accessed March 15, 2011).

⁶¹THOMAS PRESTON, *FROM LAMBS TO LIONS- FUTURE SECURITY RELATIONSHIPS IN A WORLD OF BIOLOGICAL AND NUCLEAR WEAPONS*, 207 (2007).

biological weapons program centered at Fort Detrick, was for several years evaluating the potential for large-scale deployment of spores of the wheat stem rust fungus as a mycoherbicide.⁶² The program, conducted during the 1950's, was presumably focused on one of the United States' two major cold war enemies, the Soviet Union. Not surprisingly, parallel research was allegedly being conducted at Fort Detrick using the fungal pathogen that causes rice blast disease, potentially a devastating weapon against the People's Republic of China.⁶³ It would be hard to argue that a mycoherbicide that was successfully deployed to destroy major croplands of an unfriendly country would not have substantial impacts on both the civilian population and ecological biodiversity. However, in part due to the secrecy that surrounded offensive mycoherbicide research prior to international adoption of the Biological Weapons Convention of 1975,⁶⁴ and perhaps in part because of the environmentally benign patina that so-called biological control had acquired, relatively few concerns were raised.⁶⁵

E. Collateral damage: Potential health and ecological considerations of coca eradication programs.

Some close relatives of *Fusarium oxysporum* f. sp. *erythroxyli* are implicated in a variety of human infections, however, the species *F. oxysporum* is highly variable, and this particular subspecies is not known to be pathogenic to humans or other animals. Several strains of *Fusarium* are known to be infection risk factors for immunosuppressed persons, including HIV/AIDS patients, persons suffering hematologic malignancy, transplant patients, chemotherapy patients, burn patients, and newborns. The AIDS-affected population in Colombia is relatively high, recently estimated at 0.5 percent of the population but increasing as the armed conflict in that country rages.⁶⁶ The proportion of immunosuppressed persons in the Colombian peasant population is likely to be relatively high, due to a combination of factors including malnutrition, lack of medical facilities, and conflict-related injuries.

Coca eradication would have additional economic and cultural effects that are rarely factored into policy considerations. For example, limited coca production for traditional use is legal in Peru, Bolivia, and Chile. Coca leaves have been used for thousands of years in Bolivia for medicinal and religious purposes; they are chewed or used to make tea (*mate de coca*). Indigenous cultures value the coca leaf for its medicinal qualities in alleviating hunger, fatigue and headaches, and the coca plant has been called a "cultural keystone species" for indigenous Amazon communities.⁶⁷ A Bolivian law passed in 1988 allows for the production of coca on

⁶²JAMES MARTIN, GEORGE CHRISTOPHER, & EDWARD EITZEN, HISTORY OF BIOLOGICAL WEAPONS: FROM POISONED DARTS TO INTENTIONAL EPIDEMICS, IN: MEDICAL ASPECTS OF BIOLOGICAL WARFARE, 5 (The Borden Institute, U.S. Army Medical Department 2007).

⁶³*Id.* at 5.

⁶⁴Convention, *supra* note 55.

⁶⁵Guy R. Knudsen, *International Deployment of Microbial Pest Control Agents: Falling Between the Cracks of the Convention on Biological Diversity and the Cartagena Biosafety Protocol?* 30 PACE ENVTL. L. REV. (2013).

⁶⁶UNAIDS, Colombia, Joint United Nations Programme on HIV/AIDS, (Jan. 23, 2013), <http://www.unaids.org/en/regionscountries/countries/colombia/#2>.

⁶⁷Sergio Cristancho & Joanne Vining, *Culturally Defined Keystone Species*, 11 HUMAN ECOLOGY REV. 153, 155 (2004).

12,000 hectares of land in the Los Yungas region near La Paz (the U.S. considers this sufficient to meet domestic demand).

Potential ecological consequences of widespread mycoherbicide use in Colombia have also drawn considerable attention. In 2010, the National Academy of Sciences convened an expert committee to examine scientific issues associated with the feasibility and potential environmental impacts of using mycoherbicides to eradicate coca and opium poppy crops. One threat that was specifically identified in the committee's charge was potential adverse impacts of the mycoherbicide on the biodiversity of habitats where it is applied.⁶⁸

The coca plant is grown in a number of different habitats, including intercropped with food plants (sometimes for camouflage), on mountain hillsides, and deep within jungle wild lands. Concerns about biodiversity are logical, when considering the proposed wide-scale deployment of an agent whose sole purpose is to eradicate, or at least drastically reduce, a plant species. The genus *Erythroxylum*, which includes the cocaine-producing species *Erythroxylum coca*, contains approximately 250 additional species of tropical flowering plants. The ecological roles of these species, which are found in a variety of South American habitats, may include stabilization of steep hillside soils and serving as a food source for herbivorous insects. There currently is relatively little available information about the susceptibility of these other *Erythroxylum* species to the proposed mycoherbicide.

Mycoherbicide use at the landscape scale potentially contravenes the Convention on Biological Diversity (hereinafter CBD).⁶⁹ The CBD defines biodiversity as, "the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems."⁷⁰ The CBD requires States Parties to promote the protection of ecosystems and natural habitats, and to maintain viable populations of species in natural surroundings.⁷¹ The CBD also specifically requires States to prevent introduction of alien species which threaten ecosystems, habitats or other species, and to control or eradicate those alien species if they are introduced.^{72,73} Unlike chemical herbicides, mycoherbicides have potential to proliferate in the environment and spread to areas outside the original zone of application. This potential for persistence and spread of the fungus has been touted as one advantage of the mycoherbicide approach, since it might provide long-term control of the target crop, but the same attribute might also allow mycoherbicide fungi to spread indiscriminately and affect legal and other non-target plants, or, in other words, to become invasive.

III. THE SEMANTIC DANCE: IS IT WAR, OR IS IT PEACE?

⁶⁸RAGHAVAN CHARUDATTAN ET AL., FEASIBILITY OF USING MYCOHERBICIDES FOR CONTROLLING ILLICIT DRUG CROPS 169 (2011).

⁶⁹Convention on Biological Diversity, 1760 U.N.T.S. 79.

⁷⁰*Id.*

⁷¹*Id.* at Art. 8.

⁷²*Id.* at Art. 8(h).

⁷³Stas Burgiel, Greg Foote, Marcos Orellana, & Anne Perrault, *Invasive Alien Species and Trade: Integrating Prevention Measures and International Trade Rules* CENTRE FOR INTERNATIONAL ENVIRONMENTAL LAW (2006), http://cleantrade.typepad.com/clean_trade/files/iastraderpt0106.pdf (last visited Apr. 15, 2011).

“I just want you to know that, when we talk about war, we're really talking about peace.” former U.S. President George W. Bush⁷⁴

One central tenet of the critical legal studies movement is that the logic and structure of law derive in large part from the power relationships of society, and that the rule of law often is little more than a tool by which the economically and politically powerful in society oppress the powerless.⁷⁵ Arguably, however, international humanitarian law (IHL) arose in large part out of a determination to specifically protect the powerless in situations of armed conflict: i.e., IHL provides rules to protect prisoners, noncombatants, and the environment.⁷⁶ Thus, IHL prohibits or at least constrains the use of certain tools of war, where a bona fide armed conflict exists.

The challenge for the politically powerful, then is to change the name of the game so that the rules of war will no longer apply. If an armed conflict such as the Colombian civil war can be reinvented and redefined as a domestic police action against “narcoguerrillas”, drug cartels, or terrorists, then what might otherwise be considered chemical or biological weapons of war instead become simply domestic agricultural or police tools. At the same time, the rhetoric of a metaphorical “war on drugs” (or “war on terror”) is a useful tool that the politically powerful are loath to relinquish. The need to demonize the peasants of Putumayo and elsewhere in Colombia, and to avoid looking at them as victims of war whose human, cultural, and ecological rights are being violated, is critical to public acceptance of Plan Colombia.⁷⁷

Thus enmeshed in a semantic dance, U.S. policy towards Colombia and coca eradication comes to resemble the Hindu deity Shiva, whose different aspects are held together simultaneously, even in apparent contradiction.⁷⁸ And, much as the wealthy and the powerful may use the law as an instrument of oppression to maintain their place in the economic and social hierarchy, manipulation of the language of war and peace has helped to minimize both public opposition to Plan Colombia and public awareness of its social and ecological consequences, while both literally and semantically skirting the rule of international law.

⁷⁴President George W. Bush Speaks to HUD Employees on National Homeownership Month (June 18, 2002), ARCHIVES OF THE U.S. DEP'T OF HOUSING AND URBAN DEVELOPMENT, available at <http://archives.hud.gov/remarks/martinez/speeches/presremarks.cfm> (last visited Jan. 15, 2012).

⁷⁵John Hasnas, *Back to the future: From Critical Legal Studies Forward to Legal Realism, or How Not to Miss the Point of the Indeterminacy Argument*, 45 Duke L.J. 84 (1995).

⁷⁶See generally ICRC, WHAT IS INTERNATIONAL HUMANITARIAN LAW? (2004), available at http://www.icrc.org/eng/assets/files/other/what_is_ihl.pdf (last visited Jan. 17, 2013).

⁷⁷See McDermott, *supra* note 25.

⁷⁸ALBERT C. MOORE, ICONOGRAPHY OF RELIGIONS: AN INTRODUCTION, 115 (1977).