Ethnicity and Indoctrination for Violence:

The Efficiency of Producing Terrorists

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Definitional Problem

There is no authoritative definition of terrorism, but a good starting point is one offered in the U.S. Code of Federal Regulations: "[T]he unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives."[1] This definition identifies the key aspect of intimidation. A behavioral focus requires that we broaden the definition by including legal acts (terror has been used by governments) and acts whose goals are unclear (surely an act can constitute terrorism as a means when its end is unknown). Terrorism also needs to be distinguished from warfare if the study of its motivation is not to expand to the study of the soldier. A behaviorally-oriented definition is: "The use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof."

Typically terrorism is the killing of noncombatants aimed at inducing fear among a civilian population or government. This is different to warfare, which is combat between armies. When Bin Laden's forces downed Soviet military helicopters over Afghanistan that was warfare. When his forces downed civilian airplanes that was terrorism. The distinction between primary and double effect originating with Aquinas helps isolate the essence of terrorism in the following manner. The killing of civilians constitutes terrorism if it is a means of causing terror, not if it is a side effect of destroying legitimate military targets. So Iraqi civilians caught in the cross-fire between the U.S. military and insurgents are not the victims of terrorism. That is only true when the combatants do not target civilians or accept the harm done to them partly because of desired psychological impact. But civilians targeted by car bombs or any other weapon are the victims of terrorism. This distinction has dirty hands because is has been used to excuse unnecessary harm. But analytically it is indispensable when trying to understand what motivates terrorists.

Introduction and Framework

It is often assumed that indoctrination is a necessary and sufficient condition for the terrorism afflicting many countries. It is assumed that without systematic education away from spontaneous human values terrorism would be reduced, especially the type involving suicide by the attacker. This approach is evident in analyses that focus predominantly on types of beliefs such as religious faith and by implication indoctrination in the etiology of terrorism.[2] One version of this view was expressed by Richard Dawkins shortly after the 9/11 attacks, that suicide bombing would be much less likely if people were not deceived into believing in an afterlife. Dawkins did not mention other motives except to indicate that Islamic violence is due to religion. The important causal factor, he contended, was the removal of restraint by religious indoctrination. "[T]estosterone-sodden young men too unattractive to get a woman in this world might be desperate enough to go for 72 private virgins in the next. . . . [I]s it any wonder that naive and frustrated young men are clamoring to be

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[1] 28 C.F.R. § 0.85 (2007).
[2] Mark Juergensmeyer, *Terror in the Mind of God: The Global Rise of Religious Violence* (Berkeley: University of California Press, 2000).

selected for suicide missions?"[3] The implication by omission is that indoctrination alone can produce terrorists including the self-sacrificial kind.

But indoctrination is costly when the subject does not seek it. It is even more costly when the subject resists. Brainwashing is the most powerful form of indoctrination. It has been used to some success in changing the allegiance of captured professionals and soldiers. As set out by Robert Jay Lifton, the process begins with imprisonment and strict control of the information received by the subject – "milieu control."[4] It then requires the full-time ministrations of trained interrogators and collaborators among the prisoners, with about a one-to-one ratio of indoctrinators to subjects.

Brainwashing is too inefficient to indoctrinate an indifferent population to the point where it produces a steady flow of volunteers for terrorism. Yet clearly indoctrination is involved. The routinization of terrorism, including that which relies on suicide bombers, depends on an administrative apparatus that includes systematic preparation of volunteers. In this paper I argue that indoctrination is too inefficient to be a sufficient cause of routine terrorism yet is still a necessary condition for it. That argument needs to be situated within a general causal framework of terrorism, one that includes evolutionary causes.

Charlesworth provides a comprehensive taxonomy or framework of causes, including evolved predispositions, that might contribute to terrorist acts.[5] "Taxonomy" indicates lack of commitment to any particular causal model, though this strikes me as too modest because the data reviewed by Charlesworth favor ethological mechanisms. Indeed Charlesworth adopts a broad ethological approach that treats terrorist acts as a single dependent variable and focuses on the category of individuals that commits them.

The starting point is recognition of terrorism as a type of aggression. In ethological theory aggression is an evolved behavior that is universal to the species and serves adaptive functions in regulating relationships between individuals and between groups. Genetically-based learning dispositions direct the individual to acquire adaptive behaviors such as aggressive and affiliative motivations from observing the family during development, from parental training, and from the wider cultural and social system. Terrorism probably derives from the repertoire evolved to manage inter-group relations.

Evidence of the deep evolutionary roots of aggression includes its universality and the documentation of systematic lethal aggression shown by chimpanzees towards neighboring communities, especially on the borders separating community territories. This leads Charlesworth to include evolutionary causes ("ultimate" causes) in his framework, which he terms *predisposing factors*. His taxonomy allows for other evolved predispositions related to aggression, such as ethnocentrism and the capacity for self-sacrificial altruism in defense of the tribe.

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[3]   Religion's Misguided Missiles," *Guardian Unlimited*, September 15, 2001, (http://www.guardian.co.uk/Archive/Article/0,4273,4257777,00.html).

[4] "Thought Reform of Western Civilians in Chinese Communist Prisons," *Psychiatry* 19 (1956), pp. 173-195; *Thought Reform and the Psychology of Totalism: A Study of 'Brainwashing' in China* (Chapel Hill: University of North Carolina Press, 1989).

[5] "Profiling Terrorists," pp. 241-264.

Charlesworth then defines three other types of causes: facilitating; sustaining; and situational.

Facilitating causes operate from birth to about puberty. These include expression of the child's unique genome and parental treatment. There is evidence of aggression-inducing effects of weak parental attachment even in the first two years of life. Early experience of neglect and humiliation is held by some researchers to lead to heightened fear reactions and callousness in the child. These effects can also be produced directly or indirectly by occupying powers, either by rendering the environment stressful for families through threat or resource deprivation, by mistreating children, or by presenting violence and repression in a legitimate light.

Charlesworth qualifies this review by noting the near absence of research on the genetics of early socialization, whether from the perspective of parental or child behavior. Neither do studies report the number of children that suffer abuse in the various societies studied, nor account for children who develop normally despite deprived early environments. He concludes that early environment does not produce aggressive behavior but rather dampens or magnifies a genetically-given base level. Base levels vary between individuals.

As discussed further with regard to behavioral mechanisms, normal social development entails group identification, beginning with the family. By age five children begin to learn the social categories that include them – ingroups – and those that do not – outgroups.

Sustaining causal factors operate from puberty through to early adulthood. This is the age range where individuals begin to take an interest in ideological/religious ideas and begin to be recruited into institutions that, even if not malign at first, can act to prepare them for revolutionary or paramilitary causes. Nine-year-old children are sometimes enlisted into military bodies as combatants, porters, sentries and spies. But typically indoctrination into combat groups and combative ideas takes place from puberty to early adulthood. This process develops aggression already latent from earlier development, including the effects of deprived and abusive conditions. Its expression is elicited and directed against particular enemies. "Such preparation is made easier if the children are brought to perceive themselves as victims of historically unjust systems."[6] Indoctrination is most effective when the process is framed as a simulacrum of the evolutionary environment, typically as preparation to defend the ethnic group or nation. The effect is enhanced by portraying ingroup and outgroup as victim and aggressor respectively.

Because he is presenting a framework of possible causes, not a particular hypothesis, the mechanisms suggested by Charlesworth are not always consistent. For example, he states that indoctrination necessary to prepare juveniles to kill enemies must be "vigorous and prolonged." On the other hand, he points to evidence of the normality of inter-group hostility at this age. Juvenile boys in all cultures direct homicidal fantasies against threatening outgroups, indicating a phylogenetic origin in group defence.[7]

Charlesworth surmises that the task of indoctrination for conducting suicide attacks is eased by adolescent boys' proclivity for heroism in battle. Cultures and religions such as Christianity and

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[6] Charlesworth, "Profiling terrorists," p. 255.

[7] Charlesworth cites D. T. Kenrick and V. Sheets, "Homicidal Fantasies," *Ethology and Sociobiology* 14 (1993), pp. 231-246.

Islam celebrate martyrs and some rehearse martyrdom in ritualistic form despite condemning murder. Roger Masters hypothesizes that poor societies with large families and low parental investment might be more willing to sacrifice juvenile boys in battle than societies with small families and high parental investment.[8] Charlesworth also refers to the higher rate of suicide among depressive individuals. He notes that depression is often caused by inability to achieve personal goals, and draws a hypothetical parallel with societies undergoing stress. Feelings of worthlessness and consequent self-destructive behavior can result from poor environments and health, emotionally inadequate relationships, lack of prospects for heterosexual relationships, marriage and children, and the sense of being a burden on loved ones. Martyrdom could provide an outlet for such feelings when it is perceived as likely to raise the family's status and reduce its economic burden.

Situational causes are the immediate conditions that give rise to terrorist acts. Charlesworth dates the beginning of this phase as the time the subject receives the order to attack, and he deals only with suicide attacks. This brief period is poorly researched and Charlesworth can only speculate about psychological and behavioral states of the terrorist leading up the act. The scant data offered include the fact that an order and approbation are received. There is sometimes a martyr ceremony. According to the kin of Gaza suicide bombers, the terrorist sometimes visits a religious center or shrine or a place that holds special memories. The terrorist is rehearsed in the attack plan, is armed and dressed.

Charlesworth then uses his framework to contrast alternate hypotheses and show that they emphasize different parts of the causal chain. Gene-based models place great weight on predisposing factors, early-experiential models emphasize facilitating causes, and indoctrination models place much weight on sustaining causes. All three models might be valid if each applies to one type of individual or another. For example, analysts should be alert for predisposing (idiosyncratic genetic) and sustaining causes (intense indoctrination) in the case of a terrorist who is the product of a comfortable middle class family belonging to a secure ethnic group. But facilitating causes are likely to be more influential in the case of terrorists who come from an economically depressed family and a neighborhood that has been under enemy occupation for decades and who has had friends or relatives killed or humiliated by those forces. Charlesworth notes the need for further research to increase the predictive value of such profiles.

Comments on Charlesworth's Framework

Recall that Charlesworth is not offering a particular causal model so much as a taxonomy of possible causes. By carving at the joints of individual social development this framework seems general enough to allow for a range of hypotheses. A taxonomy, however, is not a hypothesis. Indeed it allows for the compilation of inconsistent causes, as noted earlier. Charlesworth's framework can be whittled down at least part way towards a causal model by adding information that favors one model over another, as I shall do concerning facilitating causes, at least with regard to suicide terrorists.

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[8] Masters, "Explaining and responding to terrorism: Inclusive fitness theory and suicide bombers," paper presented to the Association for Politics and the Life Sciences, Montreal, August 2002.

My starting point is the observation that self-sacrifice for one's community is generally not the result of defective development and impaired cognition, though it might be related to elevated indoctrinability. Charlesworth's own data on Palestinian suicide bombers indicate the opposite. He found that suicide bombers were slightly more religious and came from slightly larger families compared to controls; none had psychological or social problems, apart from being caught up in the Intifada. Charlesworth cites interview data on Palestinian suicide bombers as well as the Basque terrorist group ETA.[9] The anger and feelings of desperation experienced by these terrorists appear not to have been the result of anti-social personalities but to have been the proximate result of economic deprivation and harassment by occupying authorities.

Wiessner's field study of cyclical revenge in contemporary Highlands Papua New Guinea also identifies prosocial motivation, though magnified in effect to a maladaptive level by the availability of assault rifles and the breakdown of traditional society. Young revenge fighters are partly motivated by loyalty to their clans and distribute income to their communities, who honor them for their service.[10]

I also want to look more closely at the excellent points made by Charlesworth regarding threats to resources as a spur to inter-group violence. He states that in addition to immediate environmental stressors, "aggressive behavior is associated with population density, territory and boundary disputes, all related to lack of resources necessary for survival."[11] He goes on to argue that territory "is the pre-eminent resource" providing ready access to vital resources and "the time and opportunity to engage in peaceful . . . creative life activities without threat and interruption from the outside." This conclusion is argued from the perspective of behavioral ecology, both anthropological and zoological. In humans, coalitions of relatively poor young males recur as agents of violence with other similar coalitions and better-off groups.

Based on this ecological perspective Charlesworth then criticizes theories of human conflict that emphasize what he sees as non-ecological causes, namely nationalism, ethnic enmity, and religious/ideological fanaticism. Surely, he argues, these ideological factors are "complementary" such that they "causally interlock" with ecological variables. He refers to the evidence of the territorial component of terrorist motivation, including Bin Laden's justification of Al-Quaida on the grounds of the infidel presence in or occupation of Islamic countries and their exploitation of local resources undermining the Islamic religion and culture.[12]

It is here that Charlesworth's framework can be expanded and linked with contemporary research on ethnicity and nationalism. The theories that omit genetic and territorial factors belong to the modernist school of nationalism studies that has been dominant in Western universities since the Second World War. Modernist theories of ethnicity and nationalism see both phenomena as

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[9] Charlesworth, "Profiling terrorists," p. 250.

[10] Wiessner, "From Spears to M-16s: Testing the imbalance of power hypothesis among the Enga," *Journal of Anthropological Research* 62 (2006), pp. 165-191.

[11] Charlesworth, "Profiling terrorists," p. 247.

[12] Charlesworth, "Profiling terrorists," p. 248, citing Usama bin Laden, "Declaration of war against the Americans occupying the Land of the Two Holy Places," in Y. Alexander and M. S. Swetnam (eds.), *Usama bin Laden's al-Quaida: Profile of a terrorist network* (Ardsley, New York: Transnational Publishers, 1996), pp. 1-22.

constructed, whether by elites or by the state.[13] One modernist conception of the nation is that it constitutes a power container essentially synonymous with the state.[14] The nation is typically dated by modernists from the French Revolution of 1789 on the basis that the revolutionary state invented the French nation.[15] National sentiment serves purely economic, practical purposes such as finding employment for a new literate clerical class.[16] Ethnic identities are likewise held to be constructed by self-interested elites, typically the capitalist class. Nations are "imagined communities" that emerged from print capitalism and rising popular literacy spreading ideas of national identity, fraternity, and freedom.[17]

Modernism's view of ethnicity and nationalism as constructed, top-down phenomena fits a rational choice approach to motivation.[18] People choose to belong to ethnic groups and nations because they believe that doing so serves their personal interests. Mainstream modernist theory has had no place for ethnic or national interests; indeed it has generally sought to deconstruct what it sees as an outdated destructive form of false consciousness.

Clearly modernist theories of this stamp, whatever their sophistication in treating economic and political aspects, will not fully engage a theory of terrorism that includes genetic and developmental-biological variables. Nor do they explain the passion and altruism of ethnic and national conflict.[19] There are alternative schools of nationalism theory that provide or at least allow such engagement and such explanation. These are primordialism,[20] ethnic nepotism theory,[21] and perennialism,[22] the latter a modernist theory that incorporates primordialist ideas and is compatible with behavioral and evolutionary mechanisms.[23]

Instead of describing these schools of nationalism theory I shall limit myself to describing some core definitions that they share, that are becoming widely accepted within anthropology, sociology,

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[13] See, e.g., John Breuilly, *Nationalism and the State* (Manchester: Manchester University Press, 1993).

[14] Anthony Giddens, *The Nation-State and Violence* (Cambridge: Cambridge University Press, 1996).

[15] Eric Hobsbawm and Terrence Ranger (eds.), *The Invention of Tradition* (Cambridge: Cambridge University Press, 1992).

[16] Ernest Gellner, *Nations and Nationalism* (London: Cornell University Press, 1983).

[17] Benedict Richard O'Gorman Anderson, *Imagined Communities: Reflections on the origin and Spread of Nationalism* (London: Verso Editions, 1983).

[18] Michael Hechter, "A Rational Choice Approach to Race and Ethnic Relations," in John Rex and David Mason (eds.), *Theories of Race and Ethnic Relations* (Cambridge: Cambridge University Press, 1986), pp. 268-277.

[19] Paul C. Stern, "Why do People Sacrifice for their Nations?" in Paul C. Comaroff and Paul C. Stern (eds.), *Perspectives on Nationalism and War* 7 (Amsterdam: Gordon and Breach, 1995), pp. 99-121.

[20] Clifford Geertz, *The Interpretation of Cultures* (New York: Basic Books, 1973); Steven Grosby, "Territoriality: The transcendental, primordial feature of modern societies," *Nations and Nationalism* 1, 2 (1995), pp. 143-162.

[21] Pierre L. Van den Berghe, *The Ethnic Phenomenon* (New York: Elsevier, 1981); Tatu Vanhanen, *Ethnic Conflicts Explained by Ethnic Neoptism* (Stamford, CT: JAI Press, 1999).

[22] Walker Connor, "The Timelessness of Nations," in Maria Montserrat Guibernau and John Hutchinson (eds.), *History and National Destiny: Ethnosymbolism and its Critics* (Oxford: Blackwell, 2004), pp. 35-47; Anthony D. Smith, *The Ethnic Origins of Nations* (Oxford: Basil Blackwell, 1986).

[23] Walker Connor, "Beyond Reason: The Nature of the Ethnonational Bond," *Ethnic and Racial Studies* 16, 3 (1993), pp. 373-389; J. Phillipe Rushton, "Ethnic Nationalism, Evolutionary Psychology, and Genetic Similarity Theory," *Nations and Nationalism* 11 (2005), pp. 489-507.

and political science and that help link ideas of evolutionary causation and territoriality to recent findings on behavior incident to ethnic and national identity. I shall conclude that there are well-established behavioral mechanisms that respond against threats to deeply held group identities, especially ethnicity, religion, and nationality. It is these mechanisms that give identity politics its heat. Such threats release innate motivations for aiding fellow ethnics and nationals and defending territory that forms part of ethnic or national identity.

Four Bridging Concepts

An *ethnic group* is a "named human population with myths of common ancestry, shared historical memories, one or more elements of common culture, a link with a homeland and a sense of solidarity among at least some of its members."[24] Members believe that they are descended from common ancestors. They might not occupy their ancestral homeland but their memory of that homeland forms part of their collective identity. Typically a substantial fraction of the ethny feels loyalty to fellow ethnics. Religious symbols can form part of ethnic identity and in some circumstances they constitute the core of that identity. Such has been the case with Orthodoxy and Islam and Medieval "Christendom." More often religion contributes to shared memories and culture due to a shared liturgy and beliefs and in the form of religious motifs in art and literature. Religion has often been the only institution able to reproduce historical memories across multiple generations.

A *nation* shares some aspects of ethnicity but is more of a political association. Nationals identify themselves by a collective proper name, occupy the historic territory that forms part of their national identity, have common political myths and memories, often have shared religious symbols, share a mass public culture, and share an integrated territorial economy and communications infrastructure. Nations can consist of a single ethnic group, and nations typically grow around an original ethnic group that provided the founding language, core culture and origin myths.[25] Nations such as Switzerland can be formed by more than one ethnic group sharing similar or the same religions that have lived together long enough to have formed a common culture and historic memories, for example of defeats and victories and other corporate achievements.

Nationalism has particularistic and universalist variants. The former motivates those seeking to throw off foreign rule. It is usually a social and political movement of the weak for securing their identity, unity and autonomy on behalf of an actual or potential nation. Religious symbols often form part of the set of national symbols. Universalist nationalism is typically evinced by those not immediately threatened, who see some positive-sum material advantage or the realization of a universal ideal. Although it takes different forms a common formula is a world posited as being divided into nations, each with a distinctive character. The ideal includes national sovereignty. Universal nationalists believe that a just world order should defend the freedom of nations.

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[24] John Hutchinson and A.D. Smith, "Introduction," in John Hutchinson and Anthony D. Smith (eds.), *Ethnicity* (Oxford & New York: Oxford University Press, 1996), p. 6.

[25] A.D. Smith, *The Ethnic Origins of Nations* (Oxford: Basil Blackwell, 1986).

Particularistic nationalism but not the universalistic type has repeatedly proved capable of generating self-sacrificial commitment. This is the kind needed for weak powers to conduct asymmetric conflict, because it requires fighters willing to risk their lives.

Notice that neither an ethnic group nor a nation is synonymous with a *state*. Max Weber's description is still definitive: a state is a compulsory association that monopolize the deployment of legitimate force within a territory.[26] A nation-state is a nation that controls its own state apparatus.[27] There are few ethnically homogeneous nation states but that term still applies as long as there is a leading ethny. Typically the leading ethny is the majority but it need not be. In principle a minority population can control the state apparatus, typically also exerting economic and cultural hegemony.[28] A recent example is Apartheid South Africa. An example of minority cultural leadership is Anglo influence in the United States until the 1960s or 1970s.[29]

These definitions suggest how important putative kinship is to ethnic identity and shared historical memories and culture are to national identity. Territory is also important for both ethnic and national identity, an association not yet fully explained. Psychological theories of ethnic and national behavior also point to the importance of these features. There is no generally accepted unified theory in this field of study. Making behavioral connections will necessitate drawing knowledge from a range of social sciences.

Ethnic and National Behavior

Several ethnic behaviors are described and compared by MacDonald.[30] *Affiliation by similarity* is strong along the dimension of ethnicity, influencing choice of friends and mates. Assortment by similar characteristics is well confirmed by numerous studies.[31] *Social identity mechanisms* begin to appear by age five. Individuals are drawn to identify with various groups which they then evaluate positively while evaluating other groups negatively, even in the absence of group competition. Competition between groups magnifies the effect.[32] *Collectivism-individualism* is a dimension along

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[26] Max Weber, "The Nation," in H. H. Gerth and C. W. Mills (eds.), *From Max Weber: Essays in Sociology* (New York: Oxford University Press, 1946), pp.82-83.

[27] Walker Connor, "A Nation is a Nation, is a State, is an Ethnic Group, is . . .," *Ethnic and Racial Studies* 1, 4 (1978), pp. 378-400.

[28] Donald Baker, "Race and Power: Comparative Approaches to the Analysis of Race Relations," *Ethnic and Racial Studies* 1, 3 (1978), pp. 316-335; H.M. Blalock, Jr., *Toward a Theory of Minority-Group Relations* (New York: Wiley, 1967); Eric P. Kaufmann (ed.), *Rethinking Ethnicity: Majority Groups and Dominant Minorities* (London and New York: Routledge, 2004).

[29] E.D. Baltzell, *The Protestant Establishment: Aristocracy and Caste in America* (New York: Random House 1964); S. Huntington, *Who Are We: The Challenges to America's National Identity* (New York: Simon and Schuster 2005).

[30] Kevin MacDonald, "An Integrative Evolutionary Perspective on Ethnicity," *Politics and the Life Sciences*, 20, 1 (2001), pp. 67-79.

[31] Miller McPherson, Lynn Smith-Lovin and James M. Cook, "Birds of a Feather: Homophily in Social Networks," in K. S. Cook and J. Hagan (eds.), *Annual Review of Sociology* 27 (Palo Alto: Annual Review, 2001), pp. 415-444; D. Theissen and B. Gregg, "Human Assortative Mating and Genetic Equilibrium: An Evolutionary Perspective," *Ethology and Sociobiology* 1 (1980), pp. 111-140.

[32] Dominic Abrams and Michael A. Hogg, *Social Identity Theory: Constructive and Critical Advances* (New York: Springer-Verlag, 1990).

which individuals and cultures are distributed. Collectively-minded individuals predicate personal decisions more on how outcomes will affect their families and communities than do the individually-minded.[33] *Human kinds* processing is the categorization of individuals and groups according to the imputed essential characteristic of shared biological descent. By age four children grasp that races are descent groups while other types of categories such as occupations and dress styles are not.[34] Two other behaviors not directly treated by MacDonald are territoriality and altruism.

Territoriality appears to be a cross-cultural universal in humans. Contemporary hunter-gatherer bands usually separate themselves spatially. Territory is sometimes shared with other groups as a means of sharing resources, but permission is given first. Unauthorized hunting on another band's territory leads to altercations and often conflict.[35] The innateness of territoriality is indicated by its presence in chimpanzees, who patrol their community territory and attack trespassers.[36] Themes of attachment to territory and its jealous defense are evident in patriotic discourse and are held by some scholars of ethnicity to be a core feature.[37]

Altruism is discussed by Charlesworth with reference to evolutionary theory. The hypothesis is not as important as the fact that heroic behavior on behalf of a community, whether ethnic, religious or national, is characteristic of contemporary terrorism. This is especially true in the case of individuals who give their lives in order to kill the enemy. Heroism is understood to be a type of altruism. Awards for valor go to individuals who risk their lives for their comrades, and there is no higher form of valor than the deliberate, calm sacrifice of one's life, as demonstrated by suicide bombers. The passion and self-sacrifice shown in ethnic politics and conflict fit the psychological definition of altruism as unreciprocated giving and the biological definition as assistance that reduces the individual fitness of the giver.

Charlesworth summarizes an evolutionary hypothesis of suicide bombers proposed by Masters,[38] according to which juvenile (typically male) heroism, even when self-sacrificial, can pay off genetically when it promotes the reproduction of the hero's genes. This is a special case of a broader

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[33] H. C. Triandis, "Cross-Cultural Differences in Assertiveness/Competition vs. Group Loyalty/Cooperation," in Robert A. Hinde and Jo Groebel (Cambridge: Cambridge University Press, 1991).

[34] Lawrence A. Hirschfeld, *Race in the Making: Cognition, Culture, and the Child's Construction of Human Kinds* (Cambridge, MA: MIT Press, 1996)

[35] E. Cashdan, "Territoriality among human foragers: Ecological models and an application to four Bushman groups," *Current Anthropology* 24, 1(1983), pp. 47-66; Irenaus Eibl-Eibesfeldt, *Human Ethology* (New York: Aldine de Gruyter, 1989), pp. 321-339.

[36] Christopher Boehm, "Segmentary 'warfare' and the management of conflict: Comparison of East African chimpanzees and patrilineal-patrilocal humans," in A. H. Harcourt and F. B. M. De Waal (eds.), *Coalitions and Alliances in Humans and Other Animals* (New York: Oxford University Press, 1992), pp. 137-173.

[37] Grosby, "Territoriality: The Transcendental, Primordial Feature of Modern Societies," *Nations and Nationalism* 1, 2 (1995), pp. 143-162.

[38] R. Masters, *op cit.*

hypothesis of ethnic altruism developed originally by Hamilton[39] and Shaw and Wong.[40] Undoubtedly the threshold for such altruism can be lowered by religious doctrines, for example concerning an afterlife, as Dawkins argues. An evolutionary theory of suicide terrorism that analyses religion and young male coalitional raiding is presented by Thomson.[41] A full evolutionary account of warfare as male coalitional reproductive strategy must encompass raiding behavior common to humans and chimpanzees.[42] These analyses are sophisticated versions of Dawkins' approach. The present discussion does not contradict these analyses, but adds the premise that defensive ethnic behaviors release fighting motivation in the first place as well as lowering the threshold for altruism, mainly for kin groups (family, clan and ethny), religious community, and nation.

Dawkins also misses a critical element of religious motivation for terrorism, that it embues the cause with a sense of moral certitude. "God is on our side" is a common refrain in ethnic and national wars. Righteous punishment is delivered with considerable prejudice in defence of the tribe, as indicated by recent findings on altruistic punishment. Individuals playing bargaining games are eager to pay real money to punish free-riders – players who harm the "public good" by acting selfishly.[43] Ethnic competition magnifies the effect. In a recent experiment conducted in Papua New Guinea, players sacrificed a large part of a day's wage to punish free-riders from a different ethnic group who harmed ingroup members.[44] Less was sacrificed to punish free-riders when all players came from the same tribe.

Ethnic Behavior and Charlesworth's Causal Framework

Knowledge of ethnic behavior allows a finer-grained analysis of the predisposing causes identified by Charlesworth. The ethnic behaviors described above are: affiliation by similarity; social identity; collectivism; human kinds processing; territoriality; and altruism. Some of these promote ethnic formation before conflict begins. Afterwards they facilitate attack against perceived enemies. The various behaviors seem to fit into Charlesworth's framework thus.

Predisposing causes. All of the behaviors qualify as predisposing causes because all appear to be evolved learning dispositions. They appear early, have a degree of automaticity, and are cross-cultural universals except for human-kinds research which has not yet been replicated cross-culturally.

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[39] W.D. Hamilton, "Selection of Selfish and Altruistic Behaviour in Some Extreme Models," *Narrow Roads of Gene Land, Vol. 1: Evolution of Social Behaviour* (Oxford: W. H. Freeman 1996), pp. 198-227; "Innate Social Aptitudes of Man: An Approach from Evolutionary Genetics," *ibid*. pp. 329-51.

[40] R.P. Shaw and Y. Wong, *Genetic Seeds of Warfare: Evolution, Nationalism, and Patriotism* (London: Unwin Hyman 1989), Appendix 1: A cost-benefit framework applicable to ethnic conflict, pp. 211-31.

[41] J.A. Thomson, "We Few, We Happy Few, We Band of Brothers (And Occasional Sister): The Dynamics of Suicide Terrorism" (Paper presented at the Biennial Congress of the International Society for Human Ethology, Detroit 2006).

[42] J.M.G. van der Dennen, *The Origin of War. The Evolution of a Male-Coalitional Reproductive Strategy*. (Groningen, Netherlands: Origin 1995).

[43] Ersnt Fehr and Simon Gachter, "Altruistic Punishment in Humans," *Nature* 415 (2002), pp. 137-140.

[44] Helen Bernhard, Urs Fischbacher and Ernst Fehr, "Parochial Altruism in Humans," *Nature* 442 (2006), pp. 912-915.

Facilitating causes. These operate from birth through to puberty. I am not aware of research on early environmental-developmental effects on ethnic behaviors, but it is possible that social identity processes or territoriality, to take two examples, might be enhanced or reduced in salience by parental behavior or experiences with peers.

Sustaining causes. These causes operate from puberty through to early adulthood. In the case of terrorism they operate up to the point at which the individual decides to attack or is ordered to do so. One behavior likely to be involved in this stage is social identity mechanisms. Identification of different ethnic or national groups alone will prime the young adult to accept positive evaluations of the ingroup and negative evaluations of the outgroup. Plausible reports of attacks on the ingroup will release aggression toward the attacker. Categorizing the enemy as a different descent group will reduce sympathy for them. Collectivism is strongly influenced by culture. Any society under attack over a prolonged period can be expected to increase in collectivism as a defensive reaction. In addition, individual variation will mean that those who are more collectivist-minded will show higher levels of social responsibility by rallying to their community's defense. Invasion or occupation of the ethnic territory will release territorial-defensive motivation to expel the invader from "our" country, and injury to the ingroup will release altruism, including the wrath of altruistic punishment.

It is possible that some of these sustaining causes begin to operate in this early period. Discussion of the enemy, their misdeeds, and observation of the drama of conflict might be impressed on the young mind. This is made more likely by the fact that social identity mechanisms and human kinds processing begin by age five.

Situational causes are not much informed by ethnic behaviors, except to the extent that they maintain the terrorist's commitment to his goal in the final hours.

Efficient Indoctrination

It is well known that threats against the ethny or nation prime a population for war. Behavioral science explains some of the psychological and group processes. Leaders of societies at all stages of development have held up the "bloody shirt" of a slain group member as a means of uniting the group behind them.[45] Diaspora ethnic groups that have managed to avoid assimilation for centuries have "oppositional symbols" embedded in their religious rituals commemorating great victories and defeats.[46] Historical oppositional symbols are also important in mobilizing nations. For Serbians it is the defeat at Kosovo in 1389, for Americans it has been the War of Independence, the Alamo and Pearl Harbor, for Jewish Israelis the Holocaust, for African-Americans slavery. Oppositional symbols are the historical, long-range version of the "bad blood."

I began by noting the inefficiency of indoctrination directed at unwilling subjects. This can be put in context by comparing the techniques used in different types of persuasion. Table 1 set out some of those techniques across many different persuasion strategies. The point is that it is costly to change strongly held values. This was achieved by Communist Chinese brainwashing during the

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[45] H. P. Caton, *Descriptive Political Ethology* (Griffith University, 1994).
[46] Edward H. Spicer, "Persistent Cultural Systems," *Science* 174 (November, 1971), pp. 795-800.

Korean War but is not achieved by the other types of persuasion. For example, cult persuasion works on volunteers, individuals who are at least partly motivated to join the group.[47]

[Insert Table here]

[47] Frank Salter, "Indoctrination as Institutionalized Persuasion: Its Limited Variability and Cross-Cultural Evolution," in Irenaus Eibl-Eibesfeldt and Frank Salter (eds.), *Indoctrinability, Ideology, and Warfare: Evolutionary Perspectives* (Oxford and New York: Berghahn, 2001), pp. 421-452.

Behavioural techniques of indoctrination [Approaches ranked in order of effectiveness – from Salter 2001/1998, p. 444]

Key: • = tactic used; ? = uncertain)

Behavioural tactic	Full brain-washing	Deprog-ramming	Traditional initiation	Moonies: from first workshop	Leninist Bolshevism	Religious education	Moonies: at first contact	Advertising
PHYSICAL COERCION and restraint	•	•	•					
ROUTINE OBEDIENCE	•	?			•	•		
MILIEU CONTROL	•	•	•	•	•			
ISOLATION from information	•	•	•	•	•			
SEVERANCE of interpersonal bonds	•	•	•	•	•			
INTENSE PEER PRESSURE	•	•	•	•	•			
INTERROGATION	•							
THREAT	•	•	•		•			
RITUAL ATTACK ON OUTGROUP	•	•	?	?	•			
SLEEP DEPRIVATION	•	?	•	•				
PHYSICAL DEBILITATION	•		•	?	?			
SHACKLES - made highly dependent	•		•					
REPETITION of message	•	•	•	?	•	•		•
REHEARSE PETTY COMPLIANCE	•		•					
ACCUSATION	•	•				•		
MILD DEGRADATION - self-revelation	•			•	?	•		
INTENSE DEGRADATION - confession/apology	•					•		
PUNISHMENT AND REWARD	•			•		•		
ARGUMENTATION/statement of doctrine	•	•	•	•	•	•	•	•
PRESTIGE TESTIMONIALS	•	•	•	•	•	•		•
INTENSE AFFILIATION				•				
CONSIDERATION and concern at point of collapse	•		•					
EFFECTIVENESS	HIGH	HIGH	HIGH?	MID	MID	MID?	LOW	LOW

Indoctrination is easy when limited to articulating and actuating an existing intent. This is all nations need do to train raw recruits in a popular defensive war. Boot camp is intense but brief. Indoctrination in such circumstances can be performed without lengthy imprisonment, without controlling all information available to the subject, without inducing mental and physical breakdown, and thus with a much lower ratio of instructors to subjects. That is why threats to group identity and autonomy make the work of preparing terrorists, and soldiers, so much easier than indoctrination from a cold start. Indeed when the homeland is in peril people, especially young men, *seek* indoctrination into fighting units.[48]

That is the basis of the hypothesis I seek to present: that in the absence of real threats to the ethny, religious community or nation, indoctrinating people to commit terrorism, let alone kill themselves in the process, is likely to be so inefficient that for practical purposes it will not work.

A rationale for conflict resolution

Several strategies help reduce the incidence of terrorism, including military and police operations and regulating international money flows. In the long run the most effective strategies will work with human values. Motivations of defense, hostility, and self-sacrifice need to be replaced by cooperative values. The intermediate effect of doing so would be to render the cost of indoctrinating terrorists prohibitive.

Two strategies for reducing the efficiency of indoctrination suggest themselves. The first is to counteract the nationalist and religious ideologies that prime individuals to resist threats to their communities. The second is to remove those threats. Though both approaches are difficult, they are not necessarily mutually exclusive.

Suppressing and subverting nationalist ideology is recommended by the modernist theory discussed earlier. To be activated the behavioral tendencies described above require the release of national or ethno-religious culture. The first is a well-studied phenomenon. Modern nationalist ideology was invented by pre-Revolutionary French intellectuals in emulation of English national consciousness that had arisen by the 16th century.[49] That ideology then spread during the 19th century borne by Napoleonic invasion and facilitated by growing levels of education and the development of economic and communications infrastructure. The result is a nationalized conception of "us" and "them" that is culturally constructed from innate motivations. The process can also revolve around religious identity.

This account of the spread of nationalist ideology indicates that one means of counteracting or redirecting ethnocentric ideology might be to engineer a country's culture by controlling the mass media and education systems that disseminate ideology. Thus pressure has been put on Gulf states to reduce their funding for madrasa Islamic schools. The United States is directing substantial funds

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[48] H. P. Caton, "Reinvent yourself: Labile psychosocial identity and the lifestyle marketplace," in Irenaus Eibl-Eibesfeldt and Frank Salter (eds.), *Ethnic conflict and indoctrination: Altruism and identity in evolutionary perspective* (Oxford and New York: Berghahn, 2001), pp. 325-343.

[49] L. Greenfeld, *Nationalism: Five roads to modernity* (Cambridge, Mass.: Harvard University Press, 1992).