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Saving the Children for the Tobacco Industry

In this article we juxtapose the recent success of child survival programs with the growing health problems and environmental destruction related to tobacco consumption and cultivation as a form of defective modernization. Data on tobacco cultivation and its impact on ecology, global smoking trends, the economics of the tobacco industry, cigarette marketing, and projected levels of morbidity are all reviewed. We focus on the effects of smoking not just on the consumer but also on the household. The complicity of the U.S. government in promoting cigarette sales in the Third World is considered in relation to ethical issues pertaining to the concepts of market justice and free trade.

All current concepts of health focus on the present, in that they take no account of either future individual health or the health of communities.

—King 1990:666

Over the last 15 years, the United States has played a significant role in fostering child survival and safe motherhood programs on a global scale. Under these programs massive immunization and oral rehydration efforts have been initiated and have achieved impressive adoption rates in many Third World settings. At the recent World Summit on Children researchers estimated that immunization programs have saved the lives of nearly two million children and oral rehydration has saved another one million (Potts 1990; United Nations International Children's Emergency Fund [UNICEF] 1990). We juxtapose this image of success with the sobering realization that chronic ill health related to tobacco consumption is dramatically increasing among adults in Third World countries. This escalating health problem affects not only the present but future generations in both direct and indirect ways.

We argue that "primary health care" and "child survival" need to be considered within a context of pathogenic trends in life-style which accompany "defective modernization" (Simonelli 1987). In addition, we question the focus of these international programs on children, often to the neglect of households, which are, after all, the units of health production (Berman, Kendall, and Bhat-tacharyya 1991).¹

We maintain that the effects of tobacco consumption need to be viewed not just in relation to the health of smokers but also to the health and welfare of all household members. In this article, therefore, we examine how tobacco con-

sumption negatively influences household health in three ways. First, smoking leads to and exacerbates chronic illness, which in turn reduces adults' ability to provide for their children. Smoking also daily diverts scarce household resources which might be used more productively. And third, children living with smokers are exposed to smoke inhalation and have more respiratory diseases. In short, we adopt an expanded concept of child survival that is both household-centered and diachronic. Unless such a perspective is adopted, the success in child survival that may be realized by immunizing children and keeping them rehydrated will be vitiated by a second child survival crisis arising from the chronic ill health or the death of their parents.

We maintain that the disease focus of child survival programs, like the individual responsibility focus of antismoking campaigns, diverts attention away from the political and economic dimensions of ill health.² Saving the children, the symbols of innocence, puts the United States in a favorable light in a turbulent world and competitive international marketplace, but it also deflects attention from other issues. One such issue is that families with young children represent a huge potential market for American products, such as tobacco, which undermine household health. While U.S. support of child survival programs received significant positive press coverage, tobacco more quietly became the eighth largest source of export revenue for the United States in 1985–86 (Wharton Econometrics 1987). Fostering tobacco consumption in the Third World may be healthy for the U.S. trade balance but not for those populations whose health is endangered by increased tobacco accessibility and advertising.

In this article we shall document the environmental and human impact of a cash crop so appealing as an immediate source of tax revenue and profit for First and Third World governments that policy makers surreptitiously support the tobacco industry even while speaking publically in favor of antismoking initiatives.

Tobacco Production, the Ecosystem, and Environmental Health

Recently, Maurice King (1990) has argued that primary health care policy must be contextualized in relation to the sustainability of the environment. King largely focuses his attention on population growth and the resource capacity of local ecosystems in the context of a rapidly deteriorating environment. Sustainability must, however, be viewed even more broadly. It needs to be viewed in relation to the carrying capacity of adults and how this is impacted by a mix of life-style and environmental factors that contribute to chronic ill health and incapacitating disease.

In this light it has been estimated that throughout the globe more than 100 million people, including workers and their dependents, rely for their livelihood on tobacco-based agriculture, manufacturing, and commerce (Tobacco Journal International 1988). Economically, tobacco has become a very attractive crop in many developing countries for the taxes and export earnings it generates. For example, 47% of Malaysia's taxes (Fischer 1987:20) and 55% of Malawi's export earnings (Madeley 1983:124) derive from tobacco sales. The Brazilian government receives \$100 million per month from this source (Mufson 1985).

The Third World presently accounts for 75% of the total tobacco acreage under production (Stanley 1989), with most plots averaging less than one hectare

in size (Muller 1983:1304). To help small farmers participate in tobacco production, international tobacco companies, the World Bank, and the Food and Agricultural Organization (FAO) have made available loans, extension advice, seed, and pesticides to farmers (Motley 1987; Muller 1983:1304). Since 1980, the World Bank has loaned more than \$1 billion (U.S.) for agricultural projects supporting tobacco production (Stanley 1989:12).

In most cases this assistance has rendered tobacco more profitable than competing food crops. Additionally, the heavy consumption of cigarettes worldwide makes the demand for tobacco, as well as its price, more consistent than many other primary products (Muller 1983). Increasing rates of tobacco consumption in developing countries further adds to the marketability of this crop.

However, there are many long-term environmental and health costs associated with tobacco cultivation. An enormous amount of firewood is necessary to cure tobacco leaves, for example. Given an average of 2–3 hectares of forest needed to flue-cure one ton of tobacco, Madeley (1983:1310) has estimated that 2.5 million hectares of trees are cut worldwide each year for tobacco curing. This is approximately one out of every eight trees harvested on an annual basis. The absence of adequate wood for the curing process has become a major constraint on tobacco production in southern Brazil, Pakistan, Kenya, and Nigeria (Muller 1983:1305).

In areas vulnerable to erosion, tree-felling reduces the productivity of soil needed for growing food crops. It may also increase the time and energy necessary for gathering firewood for household use. In addition, farmers and field hands may be exposed to hazardous levels of pesticides in countries where there are fewer health regulations for farmworkers pertaining to protective clothing and length of exposure (Madeley 1983:1310). Existing regulations are often also difficult to enforce, though the pesticides are usually highly toxic varieties that are banned in the United States. Since tobacco requires 8 to 16 times the number of applications of pesticides as food crops, the health risks from its cultivation both through direct exposure and contamination of drinking water are considerably greater (Madeley 1983:1310).

Prevalence of Tobacco Use

Worldwide, one billion smokers consume 5 trillion cigarettes per year or 14 cigarettes per day per smoker (Chandler 1986:39). On an international scale, it is estimated that about 50% of adult males and 10% of adult females are smokers (Stanley 1989:5). In developed countries, however, these proportions are 51% and 21% (Stanley 1989), with notable differences among national groups. For example, in Japan and the USSR rates of smoking among males are 66% and 65% respectively, while among females the rates are 14% and 11%. In the United States, on the other hand, the rates for males are considerably lower but are more nearly equal for the two sexes (32% and 27% for males and females respectively). The U.S. rates are closer to Latin American figures which, however, show almost consistently higher rates for males and lower rates for females than the U.S. rate (Table 1). In the Asian countries listed in the table, percentages of male smokers are 50% to 100% higher than in the United States, while percentages of women smokers are much lower.

TABLE 1
Smoking prevalence in various world areas by gender and residence.

Latin America^a	Males (%)	Females (%)
Argentina	43	27
Brazil	40	36
Chile	41	37
Colombia	37	18
Costa Rica	35	20
Ecuador	39	16
El Salvador	38	12
Honduras	36	11
Mexico	37	17
Peru	28	17
Uruguay	44	23
Venezuela	32	23
Asia^b	Males (%)	Females (%)
Bangladesh	70	20
China	61	7
India	52	3
Indonesia	61	5
Pakistan	44	6
South Korea	45	5
The Pacific^c	Urban (%)	Rural (%)
Fiji	66	88
Kiribati	88	84
New Caledonia	76	41
Western Samoa	76	41

^aGallup Organization (1988)

^bStanley (1989)

^cTuomkilehto (1986)

Specific data for smoking prevalence do not exist for much of the Third World. The percentages listed in Table 1 are incomplete in that they do not differentiate type of smoker by amount of tobacco consumed, smoker's age, or duration of habit. These various lacunae make cross-national comparisons difficult.³ For example, while rates of smoking appear particularly high among both urban and rural areas in the Pacific, the quantity of tobacco consumed may be much less than in Asia or Africa.

Regional patterns of tobacco consumption exist and are manifested in distinct public/private, gender, and age cohort smoking behavior. In China, for example, smoking prevalence among males increases sharply between the age of 20 and 24, while among females it increases after age 45 (Table 2).⁴ While urban smoking rates globally are generally higher than rural rates, this is not always the

TABLE 2
Smoking prevalence in China by age and gender.

Age	Males (%)	Females (%)
15-19	19.0	0.3
20-24	52.1	0.7
25-44	72.7	4.3
45-64	74.6	16.4
65 +	63.4	17.3

Source: Yu et al. (1990)

case. Higher rates of smoking have been reported among Chinese peasants than among urban dwellers. In one survey 81% of male peasants were found to smoke (Tomson and Coulter 1987) as compared to a countrywide average of 61%.

Trends in Tobacco Use

In the United States, smoking prevalence has been declining steadily since 1974 at an annual rate of approximately 2% (cf. Cohen 1981). Between 1974 and 1985, 1.3 million people per year quit smoking. The number of ex-smokers has been offset, however, by the addition of approximately one million new young American smokers a year (Pierce, Fiore, and Novotny 1989). Notably, teenage girls are the chief segment of the North American population who are increasing their consumption of tobacco (Greaves and Buist 1986:8). In 1987, U.S. consumers smoked 1.5% less than in 1986 and 10% less than in 1981.

The American tobacco industry, however, has been little affected by the decline in domestic tobacco consumption. Over this time period, U.S. cigarette exports have increased 56%, and production has increased 5% (Grise 1988). In developing countries, 54% of adult males and 8% of adult females are presently believed to smoke (Stanley 1989). This calculation includes both traditional forms of smoking and the rapidly increasing use of manufactured cigarettes.⁵ Tobacco consumption worldwide is estimated to have increased by 73% over the last 20 years, particularly in the Third World. This increase represents not simply *more* people becoming smokers, but a larger *percentage* of the world's population acquiring tobacco habits. Between 1970 and 1985 increases in cigarette consumption exceeded population growth by significant amounts in Africa, Asia, and South America (Table 3).

Traditional uses of tobacco tend to predispose men more than women to adopt highly refined packaged cigarettes. In much of Africa, Asia, the Pacific, and Latin America, women generally start smoking later than men (Waldron et al. 1988). Social sanctions commonly prohibit young women from smoking commercial cigarettes but are often less restrictive about the consumption of locally grown tobacco products. Sanctions may reflect women's lack of access to Western goods and do not result in a sex difference in overall tobacco consumption (Waldron et al. 1988). Access to goods like tobacco is associated with women's work opportunities and their acquisition of disposable income. Cigarette compa-

TABLE 3
Trends in cigarette consumption worldwide.

<u>Region</u>	Percent annual increase in cigarette consumption 1970–1985	Adjusted for rate of population change
Africa	5.3	2.4
Asia	4.0	2.0
South America	3.8	1.5
Europe	1.4	0.9
North/Central America	1.1	0.4
Oceania	1.6	0.0
<u>Leading Countries</u>		
Indonesia	8.1	5.8
Brazil	4.8	2.5
China	4.6	3.0
Italy	3.1	2.7
France	2.8	2.2

Source: Rothwell and Maseroni (1988)

nies are presently attempting to capitalize on women's enhanced income worldwide by selling cigarettes as a marker of status change (Gupta and Ball 1990).

Marketing of Cigarettes

On a worldwide scale, the tobacco industry spends approximately \$12.5 billion dollars annually on advertising. Not surprisingly, cigarettes rank among the top three most advertised products in the world (Jacobson 1983). In 1988 the U.S. tobacco industry spent \$2.5 billion dollars for advertising and promotion, or about \$6.5 million dollars a day. In contrast, the U.S. Office of Smoking and Health has a total annual budget of \$3.8 million dollars (Cohen 1981). This discrepancy between expenditures for tobacco promotion versus expenditures for health through smoking cessation is not limited to the United States. In 1983, \$10,000 (U.S.) was spent by the Argentinean government on antitobacco campaigns, while tobacco companies reportedly spent \$40 million (U.S.) on marketing and publicity (Baragiola 1986).

Cigarette smoking is escalating rapidly among adolescents in several developed countries (Mintz 1987). It has been well documented in the West that 90% of persons who smoke cigarettes have begun by the age of 19 (Kandel and Logan 1984). This trend reflects a greater availability of cigarettes to teens, and it is associated with an increased number of misconceptions regarding the risk of addiction and individual vulnerability to smoking-related diseases (Leventhal, Glynn, and Fleming 1987:3376). Within the context of the family, researchers have found that adolescents whose parents and older siblings smoke are more likely to become smokers themselves (Chassin et al. 1984:239).

Over three-quarters of the world's young people aged 15–24 live in Third World countries. This population constitutes an immense marketing opportunity, as well as an extremely vulnerable audience for advertising campaigns. Cigarette advertising in developing countries has been largely directed toward men, but women and adolescents are being increasingly targeted as well (Taha and Ball 1985). Even when not specifically targeted, adolescents interpret cigarette advertisements in ways very similar to adults (Aitken, Leather, and O'Hagan 1985:785). Research suggests, for example, that adolescents find it difficult to comprehend the long-term risks of smoking (Aitken et al. 1987; Amos, Hillhouse, and Robertson 1989; Charlton 1990; Roberts 1987; Stebbins 1987). Teens are also more susceptible to the images of romance, success, sophistication, popularity, and adventure which advertising suggests they could achieve through the consumption of cigarettes (McCarthy and Gritz 1987; Yankelovich et al. 1977). As two critics of this form of advertising in Kenya observe, however:

The cruel irony is that the majority of Kenyans (like many of the target groups for Western advertisements) will never have the successful careers, the high consumption life styles or the sense of satisfaction depicted in the advertisements. Yet when they buy the attractively packaged cigarettes they are buying part of the myth. Along with their deadly products, the tobacco industry pedals the myth of the Western ideal of development. [Currie and Ray 1984:1137; see also Stebbins 1987:529]

Rather than being regarded simply as objects to consume, cigarettes become indices of social membership for adolescents who are searching for their identities or who wish to escape the immediate reality into which they have been born (Baudrillard 1981). The growing number of adolescent smokers at home and abroad suggests that the impact of these forms of tobacco promotion may be formidable.

Household Expenditures on Tobacco

How much of a drain on household income is tobacco consumption among those living at the margin? Little household-based data exist on expenditure for tobacco in relation to household income. One study in São Paulo, Brazil, found that expenditure for cigarettes in a low-income population ranged from 3.1 to 14.6% (\bar{x} = 9.8%) of family income (Silveira et al. 1982). This was higher than expenditures for either transportation (5.8%) or milk (8.3%) among the same families. Brazil is the fifth largest cigarette market in the world, and cigarettes are the most heavily advertised product. Over 40% of Brazil's 120 million people are under the age of 15, 70% of its people live in urban areas, and television reaches three-quarters of all households. Sixty percent of males and 26% of females in urban areas of Brazil smoked in 1978 (Jacobson 1983:37).

A 1979 study by Nichter (1991) in South India among subsistence level agricultural households of the Shudra and Harijan castes found that tobacco was consumed in one form or another (smoking, snuff, in conjunction with betel nut) in virtually every household. Sixty-five percent of a sample of males over age 25 (N = 100) were smokers of "beedies" or cigarettes. Respondents smoked for relaxation, as a means of social exchange, to reduce hunger, control toothache, enhance digestion, and assist with routine defecation.

Among two convenience samples of households ($N = 50$) of male smokers (where female tobacco consumption habits were assumed to vary randomly), weekly modal expenditure on all forms of tobacco was 5 rupees (median expenditure = Rs. 4.5). In 1979, the daily wage for agricultural labor was Rs. 5–6 (U.S. \$.63–.75) in this region. Among a sample of smokers ($N = 25$) having a mean estimated yearly household income of Rs. 2500 (U.S. \$312), tobacco purchases were estimated to account for 10% of total household income. Among a second sample ($N = 25$) having a mean estimated annual household income of Rs. 3,600 (U.S. \$450), tobacco accounted for 7% of annual income. These annual tobacco expenditures equalled annual household health care expenses in both samples (Nichter 1991).

In a study conducted in 1988–89 in Alexandria, Egypt, Marcia Inhorn (personal communication) found that 151 of 190 (79%) lower-class male heads of household had smoked cigarettes. Of the 145 regular cigarette smokers, 102 (70%) smoked between one and three packs per day at a daily cost of £1–3 (U.S. \$.40–1.20) for the lowest priced, Egyptian-manufactured brand. Cigarette expenditures for most men were between £30–90 per month. Although monthly combined household incomes ranged from £40–400 per month, the majority (65%) ranged from £50–200. On a regular basis, expenditures for cigarettes thus accounted for between one-third and one-half of all disposable income in the majority of households. In nuclear family households supported by a cigarette-smoking husband, the husband's need for "pocket money" to buy cigarettes was often regarded by wives as the major reason for their inability to provide proper nourishment for their children. Although a small number of husbands had intentionally "weaned" themselves from cigarettes to less expensive water-pipe tobacco, the majority of Egyptian men in this study were addicted to cigarettes, having begun smoking in most cases during their late adolescent years.

Morbidity/Mortality

In 1989 the World Health Organization estimated that 2.5 million people die each year of tobacco-related deaths, approximately one death every 13 seconds (Ile and Kroll 1990). One-and-a-half to two million of these deaths occurred in developed countries, with the United States accounting for approximately 400,000 deaths per year (Peto 1990).⁶ The two biggest tobacco producers outside the United States, China and India, also have high tobacco-induced mortality rates which are predicted to rise even higher. Peto has estimated that fewer than 100,000 Chinese people now die of tobacco-related diseases a year, but by the year 2025 two million Chinese (mostly male) will die a year. In India as in China, some 60–80% of adult males smoke. Gupta (1989) has conservatively estimated that in this decade 630,000 to one million adults will die per year from tobacco-induced diseases.

Beyond the fatalities, the estimated lost productivity associated with chronic diseases related to smoking is staggering. The Office of Technology Assessment of the U.S. Congress has calculated that in 1985 the direct costs of treating smoking-related diseases in the United States was \$22 billion. The indirect costs from lost income because of illness and premature deaths attributable to tobacco was \$43 billion (Stanley 1989:27). These figures are rough estimates of the price one

country is paying for tobacco use. It is impossible to calculate comparable costs among impoverished populations in developing countries.

Overshadowing these figures on fatalities and lost productivity among tobacco users are considerations of "significant others" indirectly affected by the inability of an adult to support them, for those directly affected by tobacco-related ill health are often responsible for the economic well-being of children, pregnant or lactating mothers, and older relatives. Expensive treatment regimens and disabilities resulting in lost wages can severely deplete family resources.

Fatal and disabling diseases either induced or exacerbated by tobacco that have been reported in the medical literature include: lung cancer, chronic obstructive lung disease, heart disease, myocardial infarctions, peripheral vascular disease, and hypertension. These diseases develop in a manner which is dose-dependent and increases with time of exposure (Peto 1986)—i.e., the earlier a person starts smoking and the higher the tar content of the tobacco smoked, the greater the risk of developing pathological problems (Tominaga 1986:131).

Manufactured cigarettes bearing international brand names which are sold in the Third World often have much higher tar and nicotine levels than those sold in the West (Table 4). The median tar level in the United States is 20 mg/cigarette, while in Indonesia it is 36 mg/cigarette (Stanley 1989:4). The use of filter-tips in Western countries has become increasingly popular, as have low-tar cigarettes. Cigarettes produced in the Third World, however, are often unfiltered, as are traditional tobacco products such as beedies. Yach (1986:286) notes a disturbing trend in which people from the lowest social classes in both Nigeria and South Africa smoke cigarettes with the highest tar and nicotine contents. Access to "safer" cigarettes varies between richer and poorer nations, as well as between social classes within individual countries.

Because there is a 20–25 year time lag before health problems related to smoking manifest themselves, current disease rates reflect the consequences of habits acquired decades ago. The Council on Scientific Affairs of the American Medical Association cites increased usage of cigarettes as the major contributing cause of increasing rates of lung cancer in the Third World (Council on Scientific Affairs 1990:3318). Further epidemiological profiles of Third World adults are sure to reflect changing trends in both active and passive smoking. An increasing number of children smoke and/or are exposed to adults who smoke (Nath

TABLE 4

Yields of tar in cigarette brands marketed in different countries (mg per cigarette).

	Philippines	United Kingdom	Austria	Kenya
Kent	33	13	15	—
Marlboro	25	15	14	—
Chesterfield	31	16	18	—
Benson & Hedges	—	17	—	22
State Express	—	18	—	31

Source: Yach (1986:286)

1986:33). It is estimated that approximately 200 million children now under 20 years of age will die from tobacco use (Peto and Lopez 1990:1).

Passive smoke inhalation constitutes a significant health risk by increasing susceptibility to acute respiratory tract infections. Acute lower respiratory tract infections are the second major cause of death among children in the Third World, accounting for some three to four million infant and child deaths per year, or approximately one-third of the total global infant child mortality (Berman and McIntosh 1985; Gadowski 1990; World Health Organization 1988). The cumulative incidence of acute respiratory tract infections increases significantly with the presence of a smoker in the household (Chen et al. 1988).⁷ This holds true for children of parents who do and do not have histories of asthma or wheezing (Table 5).

In sum, smoking directly affects the health of children either when they themselves smoke or when they are the passive recipients of their parents' smoke. Indirectly, their health is also affected by the health of their caretakers: with increased absenteeism, decreased productivity, and more money spent on illness treatments, families with members who have tobacco-related illnesses are likely to have fewer resources to spend on nutritious food and health care.

United States Policy and Complicity

This year the first author interviewed a U.S. marketing executive in East Africa who said,

It is our moral duty to help educate those in the Third World and to help Third World nations become self-sufficient so they can stand on their own two feet and be full partners in international trade. Literacy is good for business and good for democracy. There are some who say that taking advantage of an illiterate population through image advertising is immoral. They may have a point. The innocence of an illiterate population is easily exploited. When that population can read, however, it's a question of free choice. Once literate, you have to respect a man's choice. They are on their own.

Notwithstanding antismoking legislation at home, the U.S. government has exerted its influence in developing the world tobacco market in several ways. In the 20 years following World War II, one billion dollars in Food for Peace

TABLE 5
Annual incidence (per 100 infants) of "bronchitis" or pneumonia in the first year of life.

Parental asthma or wheeze	Parental smoking habit			Habit changed
	Neither parent smokes	One parent smokes	Both parents smoke	
Neither	6.7	9.6	13.7	8.7
One	8.9	18.0	22.3	7.4
Both	14.3	13.6	39.3	30.0

Source: Cited in Peach (1986) from a study by Leeder et al. (1976).

(PL480) funds were spent supplying Third World countries with tobacco as a means of reducing the U.S. surplus and creating a market for cigarettes in the Third World (Motley 1987; Stebbins 1988; Taylor 1984). As Stebbins notes,

Despite its name, the Food for Peace program's main function was not to combat hunger and malnutrition, but to develop new markets for American agricultural products, to dispose of surplus commodities and to further U.S. foreign policy. [1988:9]

More recently, U.S. trade policy has protected the American tobacco industry. Countries such as Japan, South Korea, and Thailand (to name but the most recent examples), have been pressured to open their doors to American cigarette sales and advertising or suffer trade sanctions (American Public Health Association 1988; Connolly 1988a, 1988b; Connolly and Walker 1987; U.S. Department of Agriculture 1988). When South Korea resisted American tobacco industry advertising, it was met with a retaliatory list of possible trade sanctions which would go into effect should restrictions continue (John 1988:28). Section 301 of the revised 1974 United States Trade Act protects American export industry from "discriminatory" trade restrictions, including foreign monopolies in tobacco sales, importations, and advertising. As Schmeisser has noted, the tobacco industry has used the 1974 Trade Act to enlist the services of the executive branch of the U.S. government to "arm twist offending foreign powers into a more magnanimous trade posture" (Schmeisser 1988:18). The Food and Agricultural Organization (FAO) and the World Bank have meanwhile promoted tobacco production through multimillion dollar loans to several Third World countries, including India and Pakistan.

U.S. foreign policy on health matters is inconsistent. Small children are worth saving, apparently because they are innocent, while their older brothers and sisters and their parents are fair game for the tobacco industry. The marketing executive quoted above introduced a curious variation on the theme of innocence by equating it with illiteracy. While it may be immoral to influence those unable to read through advertising, literacy renders people responsible for their actions as free agents. This argument fosters victim-blaming: the poor of the Third World who "choose" to smoke processed cigarettes, often to affiliate with a highly advertised fantasy good life (commodity fetishism), are, by this reasoning, held accountable for their own poor judgment (or Western taste?).

Several health activists interviewed by the first author in India and the Philippines expressed the opinion that antismoking campaigns need to play a greater role in primary health care programs. Immunization emerged as a metaphor which was extended to antismoking campaigns. Children need to be immunized against the false consciousness of cigarette image advertisements, just as they need to be immunized against polio and measles.⁸ Emotional appeals targeted at parents who smoke were also suggested as a means of making them more aware that they were risking their ability to care for their children.

While these tactics merit consideration, polluted environments, poor occupational health conditions, and other more immediate health risks serve to minimize the impact of such messages.⁹ "Immunization" programs, in the form of antismoking messages, may also divert attention from issues essential to successful antismoking programs. A national policy which fosters the accessibility of

cigarettes may be masked by token policy gestures such as legislation that bans cigarette advertisements on the radio while allowing billboard advertisements in bus terminals. Such actions give the appearance of an antismoking position which is in fact not sustained for reasons related to profit and tax revenues.

Incorporating smoking education within existing primary health care programs is insufficient (Milio 1985:610). What is needed is to reduce public access to cigarettes. Such a program, however, requires political will of a different order from what is necessary to mount a mass media antismoking campaign (Stebbins 1990:233). The political will must be strong enough to withstand significant losses from tax revenues and survive a public outcry if tobacco taxes are raised.

Summary and Conclusions: Lessons for International Health and Medical Anthropology

The foregoing data suggest that it will be difficult for the many Third World countries that derive substantial revenue from internal cigarette sales (external sales are another matter) to escape the paradoxes contained in the following scenario.

1. At a time when incomes are falling in much of the Third World, increased funds are needed to maintain social welfare programs and child survival efforts.¹⁰
2. Significant tax revenue is generated by cigarette taxation in an environment in which tobacco consumption is increasing. (For example, 12% of Brazil's revenue comes from tobacco sales, "enough to pay all expenses for medical care in the country including drugs and hospitalization, or 40% of all social benefits of the country" [Lokshin and Barros 1983:1314].)
3. Existing consumer demand increases as a result of advertising. Advertising targets new markets and populations who are not already brand loyal. Young people and women increasingly are the targets of carefully planned campaigns.
4. The age of initiation into smoking decreases, particularly in urban areas. A younger age of initiation translates into a younger age when the negative health effects of smoking are realized. These effects are increasingly apparent in the 35–45 age range.
5. A significant number of adults are affected by chronic disease during the time when their carrying capacity for the young and the old (especially women) is high. This begins to have a noticeable impact on the household production of health.
6. Short-term assets from cigarette tax revenues are offset by the costs of long-term health care and loss of productivity. However, politicians, whose tenures in office are relatively short, look to tobacco as an immediate source of revenues which enable them to finance programs of high visibility in order to marshal public support. Child survival programs provide highly visible proof of government action which is also internationally applauded.
7. Faced with massive chronic health problems linked to smoking, in the context of poor environmental and occupational health conditions, child survival programs and adult health care programs will compete for very limited funds.

Roland Barthes (1973) has used the term "inoculation" to describe confessing a little sin as a means of ventilating and feeling better so that many more sins can be committed. This occurs not only in the confessional but in the press. A little bit of criticism doled out routinely takes the fire out of an issue. So does an overdose of statistics on relative and attributable risk associated with consumer behavior or life-style. These "inoculations" lead people to conclude that everything one does or consumes is injurious to health in an environment which is itself suspect. Fatalism leads to a sense of powerlessness, an acceptance of risk as basic to life, so that collective responsibility appears to be merely foolishly misplaced effort and preventive health efforts are trivialized (Becker 1986).

The international health issues surrounding smoking are too serious to be smothered by statistics and forgotten. In the search for new markets, multinational tobacco companies are fostering defective modernization in countries little able to cope with tobacco's ultimate health consequences (Currie and Ray 1984; Yach 1986).

A greater awareness of U.S. complicity in propagating tobacco consumption in the Third World and the toll it is likely to take challenges our national values, our national stake in appearing to be morally right and committed to the development of "health for all." Research revealing the tobacco industry's role in the household production of ill health shifts attention from our collective public efforts to "save the children" to our support of cigarette sales in Third World countries as a means of establishing a more equitable balance of trade. Such research recontextualizes the problem as one involving serious ethical questions concerning free trade and market justice.

The concept of "market justice" ultimately lays responsibility for poor health in the hands of the consumer/citizen in the name of free trade as a democratic principle tied to individual rights. Factors that predispose and condition humans to engage in "voluntary behavior" associated with health risk need to be examined critically. So does a behavioral model of public health rooted in the "market justice/individual responsibility" paradigm of health education (McLeroy, Gottlieb, and Burdine 1987). Several questions need to be raised. Do people freely choose their own risks in an environment saturated by market images (Foege 1990)? How has a desire to engage in risky behavior been fostered? Have particular segments of a population been targeted for promotion of products associated with risky behavior? Who profits from the promotion of risk-taking behavior? To what extent have people become immune to antismoking messages? What images have been employed to reduce the impact of health education messages?

Beauchamp (1976, 1985), among others (e.g., Neubauer and Pratt 1981), has argued for the formulation of a new critical paradigm of public health that is sensitive to the production and representation of so-called voluntary risks. This paradigm challenges attempts to limit public attention to the behavior of the smoker or drinker (Beauchamp 1976:12). Central to this emergent paradigm is the critical examination of "market justice" as a means of opening dialogue about a counter ethic. Since a major American tobacco company is presently affiliating itself with the Bill of Rights in its latest marketing campaign, research exposing the household and environmental costs of a "free" international tobacco trade are timely.¹¹

The case of tobacco illustrates why medical anthropologists interested in public health need to pay as much attention to the social relations of consumption and the semiotics of consumables as they do to modes of production and world systems penetration of local markets.¹² Each contributes in profound and multiple ways to international health. International health must be situated within what Baudrillard (1981:200) has termed our true environment, "the universe of communication," as well as within the market, its economic equivalent. Within this environment the illusion of freedom is fostered through objects of immediate gratification, such as cigarettes, alcohol (Singer 1986), and sugar (Mintz 1985), which establish group membership, affiliate one with the "good life," take the edge off frustrated aspirations, blur the contradictions of everyday life, and make the intolerable tolerable for the moment. At issue is the hidden cost in human suffering and ecological destruction paid for expressions of personal freedom shaped by market interest. Taking stock of this issue constitutes an agenda for international health as important as vaccine development. Pathogens come in all shapes and sizes.

NOTES

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¹While progress in international health has unquestionably been made when measured in terms of reduction in mortality among infants and young children, international programs may be criticized for approaching health problems among the poor with acute-care strategies, while in actuality these problems more closely resemble chronic illnesses (Chen 1986).

²Social scientists (Crawford 1979; Neubauer and Pratt 1981; Winkler 1987), as well as people in public health (Allegrante and Green 1981; Bush 1986; Godin and Shephard 1984), have identified the attention to the physical body as a means of diverting attention from the body politic. It has been suggested, for example, that such a tactic underlies support for the fitness movement in the United States, where responsibility for ill health is placed upon the individual rather than on those complicit in manipulating national tastes for fast driving, irresponsible sex, drinking, smoking, etc., through the media. Individuals are also held responsible for their own health in situations where illnesses result from environmental pollution and hazardous working conditions (Alexander 1988).

³Also missing are data on the meaning of smoking in different cultures. Prevalence data must be viewed critically and in relation to the meaning of tobacco consumption and exchange (Black 1984; Marshall 1981).

⁴Other countries have similar age-related tobacco consumption trends as China. For example, in the Philippines 30% of the population are smokers. Eighty percent of Philippine smokers are males aged 26–35 who consume at least half a pack a day. The majority of these smokers come from the lower socioeconomic classes (Aung-Thwin 1987).

⁵The *Multinational Monitor* (Motley 1987) has published a much larger table of "smokers worldwide," summarizing data available from the World Health Organization and numerous other sources. In most cases, figures cited exceed those noted from Stanley (1989). The validity of these figures varies depending on the survey methods employed and the sample size. The figures are meant to provide some estimate of smoking prevalence.

⁶In contrast to these statistics, the U.S. tobacco industry proclaimed in 1980 that "many eminent scientists hold the view that no case against smoking has been proved" (Ashton and Stepney 1983).

⁷Chapman et al. (1990) argue that the risks associated with passive smoking particularly threaten the cigarette industry, because passive smoking shifts attention from the arena of individual and personal freedom to social responsibility and larger units of analysis.

⁸An immunization model has been applied in U.S. smoking prevention programs. See, for example, Evans, Rozelle, and Maxwell (1981); Hurd et al. (1980); McAlister, Perry, and Maccoby (1979); and Perry, Maccoby, and McAlister (1980); as well as Dur-yea, Ransom, and English (1990) for a critical commentary.

⁹While significant, tobacco is far from being the only factor increasing respiratory diseases. Breathing the air in Mexico City is equivalent to smoking two packs of cigarettes every day (Wayburn 1991). Poorly regulated occupational settings, as well as the larger polluted living environment, have been clearly implicated in contributing to the increased prevalence of various cancers and pulmonary disorders. Antismoking campaigns need to be situated within this wider context to weigh all causative factors appropriately. It would be a shame to see tobacco habits scapegoated at the expense of ignoring such issues as improper disposal and regulation of industrially produced toxins. On the use of smoking as a "whipping boy," see Alexander (1988), Brown et al. (1990), and Sterling (1978).

¹⁰At a time when increases in foreign aid for child survival are unlikely and the average incomes of many Third World nations throughout much of Africa and Latin America are reported as falling 10 to 25 percent (Chernomas 1990), governments are being encouraged to explore new means of community financing (Bossert 1990; Chen 1986).

¹¹Those engaged in developing a critical public health paradigm may gain much from anthropological studies looking beyond the physical body to the social body, body politic, and consumer body (O'Neill 1985; Scheper-Hughes and Lock 1987). King (1990) draws attention to the deep conviction within Western civilization that we are able to control the natural world, thus enabling all communities to develop indefinitely. This notion of progress defines modernist thinking and has been critiqued by Bateson in his discussion of *creatura* (1972) and by Toulman (1982) in his definition of a new cosmology that draws upon ecological wisdom.

¹²Of course it may be argued that the mode of consumption is simply a mode of production of self-identity.

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