THE NEW HEROIN USERS IN THE USA: WHAT LESSONS CAN BE LEARNED FROM THE DIFFUSION OF HEROIN INHALATION IN THE NETHERLANDS TO PREVENT LARGE SCALE TRANSITIONS TO INJECTING DRUG USE

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ABSTRACT: The central focus of this article is the spread of heroin smoking in the Netherlands. Globally, injecting heroin users are outnumbered by those who ingest this drug by method of smoking or, more correctly, inhalation. It is argued that heroin adminstration patterns are determined by an interaction of primarily economic and socio-cultural factors, which are moderated by drug policy and enforcement. A theoretical diffusion model of the spread of this social phenomena is developed utilizing data from the Netherlands. Utilizing the concept of diffusion, other large scale transitions in route of administration of opiates that have occurred in the USA and in England will briefly be discussed. The article concludes with an assessment of future developments.

Introduction

The focus of this paper is the currently expanding use of heroin in the United States and its potential for a new drug injection related HIV epidemic. While we often equate heroin use with injection drug use, this does not necessarily have to be the case. Considered from a global perspective, this association is, in fact, only valid for a minority of heroin users. Heroin, and most other opiates can be taken into the body in more, although less efficient, ways. Simple oral ingestion (mixed with food or drink or not), sniffing and smoking all produce similar states of intoxication. Injecting is only one of the several routes of heroin self-administration, although the most efficient. Globally, those who ingest this drug by the method of smoking (or, more correctly, inhalation) outnumber injecting heroin users. Drawing on my previous research in the Netherlands and other historical examples, I will show that heroin administration patterns are determined by an interaction of primarily economic and socio-cultural factors, which drug policy and enforcement moderate. Given the present context of the new heroin use in the United States, I will argue that while we probably cannot halt substantial increases in the incidence and prevalence of heroin use, we can prevent massive transitions toward injection drug use.

In the first section I will describe heroin administration patterns and present information on the determinants of heroin use in the 1990s. I will describe the increased world production of heroin and how it impacts the availability of heroin on American Streets. I will present the available information on existing and new users of heroin, and their mode of administering the drug. Utilizing the idea of diffusion, the second section will analyze large scale transitions in the administration preferences of opiate users having occurred in the US in the first half of this century, in the Netherlands in the past two decades, and in England since the late 1970s. The emphasis will be on the Netherlands as I recently analyzed this development in a study authorized by the Dutch Ministry of Health (Grund & Blanken 1993). Finally, in the third section these examples will be compared and discussed in terms of their relevance for the present American situation.

Heroin in the 1990s: An Expanding World Market Catering to New User Populations

Since the late 1980s, reports suggest a significant and continuing increase in the availability of heroin on the American street drug markets. Increasing seizures and observations of (street) drug markets in cities around the country show the availability of greater quantities of the drug at lower prices and higher purity levels (Grund 1993; Sabbag 1994; General Accounting Office 1992; Maas 1994; Rhodes & Hyatt 1992; Hunt & Rhodes 1993; Community Epidemiology Work Group (CEWG) 1994). The upsurge in heroin availability on US streets is largely a reflection of the increased heroin production worldwide. Despite unrelenting interdiction efforts, the world production of heroin has been, and is, increasing dramatically. The US and other countries committed to reducing drug trafficking have apparently very little leverage in production areas (Bureau of International Narcotics Matters 1992). Crops in traditional heroin production areas have soared. According to the United Nations' International Narcotics Control Board (INCB) opium cultivation in South East Asia doubled in the second half of the 1980s (INCB 1992). They estimated the 1991 opium production of Myanmar --the world leading opium producer for more than a decade-- at approximately 2500 metric tons. In 1992, they expected that Afghanistan doubled its 1991 yield of "at least 2000 metric tons" to 3000-4000 tons (GDD3 1992). In India, a traditional producer of legal opium, illicit crops are spreading rapidly, ranking the country as "the third 'major' international purveyor of heroin" (GDD4 1992). A steady flow of heroin has been reported from other established production zones as well, such as Turkey, the Lebanese Bekaa valley and Mexico (GDD1 1991).

Likewise, poppy cultivation and heroin production have proliferated in regions formerly unaccustomed with this illicit Fortune 500 industry. Over the past few years, expanding poppy crops have been observed in Kenya, while in Nigeria --already Africa's number one transshipment country for Asian heroin-- opium plantations have been noticed in the northeast of the country (GDD0 1991). Furthermore, Nigerian traffickers-turned-producers are attempting to extend production across the Cameroon border. Morocco --

known for its large cannabis crop-- is under scrutiny by the Drug Enforcement Administration (DEA), following reports of experimental poppy crops (GDD1 1991).

Since the start of perestroika and the subsequent collapse of the communist power structures, the former USSR has increasingly become involved in illegal drug production, trafficking and consumption. The new Commonwealth of Independent States (CIS) may soon become one of the largest producers of heroin and other drugs. Regions where opium (and hashish) is traditionally produced and consumed, such as Central Asia and the Caucasus, have in recent years been joined by, for example, the Ukraine, which has very rapidly become a sophisticated poppy producing region (GDD4 1992). In 1991, the (formerly) centrally orchestrated Soviet poppy eradication campaign revealed both increased production and rising numbers of people involved in production and trafficking. Officials admit that the actual growth in poppy production may be much larger than statistics indicate (GDD1 1991). Furthermore, the Central Asian Republics of Kazakhstan, Tajikistan, Uzbekistan, Kirghizistan and Turkmenistan, where eradication campaigns have occurred every year since 1968, now refuse any intervention from Moscow concerning narcotics (GDD1 1991).

The development perhaps speaking most to the public's imagination is the reorientation of the South American cocaine industry towards production and marketing of heroin (Treaster 1992). Attempts to cultivate poppies date back at least to 1984, when 27 hectares of poppy fields were eradicated and field laboratories destroyed in Colombia's Tolima region. In 1991, some 7000 hectares of illicit poppy crops were said to be eradicated in various mountainous regions of the country, leaving an estimated 2000-3000 to a rumored 25,000 hectares in production (GDD4 1992). In 1992, the Colombians cultivated about 33,000 hectares (in addition to 10,000 hectares in Mexico) (Sabbag 1994). Many of these fields are apparently controlled by Cali-based organizations and, in this market, the competing guerilla organization FARC (GDD4,7 1992). The quality of Colombian heroin has improved dramatically and is currently only outranked by the Golden Triangle product. In contrast with most other heroin trafficking organizations, the Colombians exert a tight control over their product from raw material to US wholesale. They are essentially utilyzing their stable cocaine trafficking networks to market the new product (Sabbag 1994).

It is thus clear that large scale heroin production, formerly limited to one or two clearly delineated geographic areas, has spread to many developing countries around the globe. In addition to favorable climatological conditions, these regions, while unique in themselves, share a pattern of social-political and economic circumstances in which the production and trafficking of illicit drugs thrives and, indeed, addresses an obvious local economic need. As is the case in the traditional Asian ones, the new heroin producing regions and the countries involved in trafficking are characterized by unstable and limited government supervision, destitute economies and poverty, as well as by various forms of ethnic, political and social conflict. Manufacturing spillover into local distribution networks at the source and along trafficking routes has resulted in the diffusion of heroin use in entirely new populations and geographic areas --a process reinforced by diversification of trafficking routes (Stimson 1992). It is probably wishful thinking to assume that the described trend in the international heroin market will recede or that America will be able to prevent the increased supply from entering the country. On the contrary, we can safely assume that the availability of high potency heroin in America will, perhaps drastically, increase until the year 2000.

The users: Seasoned Junkies and the Young and Trendy

While estimates vary, current available data suggest between 500,000 and 1 million seasoned heavy users of heroin in the United States (Rhodes 1993). Many are individuals who have survived the heroin injecting epidemic of 1964-1972. However, during the 1970s and 1980s, heroin has retained an attraction in certain segments of the population (Inciardi 1989). While AIDS has taken its toll, during the 1980s prevalence seems to have stabilized into an endemic state at the above estimate. These aging consumers are mostly injecting the drug. They alone could account for substantial increases in the amount of heroin consumed. Drawing on several data sources (e.g., National Household Survey on Drug Abuse (NHSDA), Monitoring The

Future Survey (MTF), System to Retrieve Information from Drug Evidence (STRIDE), Drug Use Forecasting system (DUF), Drug Abuse Warning Network (DAWN), National AIDS Demonstration Research projects (NADR), and Treatment Admissions data), a recent report to the Office of National Drug Control Policy (ONDCP) concluded that "the bulk of the increased supply of heroin is consumed by older established heroin addicts who primarily inject the drug, often mixing it with cocaine. ... [A]vailable data do not suggest a large influx of new users..." (Hunt & Rhodes 1993). These veteran users may partly absorb the increased supply, in particular through the rise in purity of the product they routinely purchase. Likewise, many of these IDUs are apparently diversifying their use patterns as to include snorting and smoking, which may account for a further portion of the increased heroin supply (Hunt & Rhodes 1993). However, it remains a question whether the increased supply will be filled by the demand of the existing pool of users. Most data used for the ONDCP report reflected the situation until 1991. Changes may however appear quite rapidly and initially unnoticed. The data sources utilyzed for the ONDCP report may be especially problematic in picking up new trends, in particular when these trends develop in 'unsuspected' parts of the population.

In that respect, more recent figures from DAWN, DUF, treatment admissions, DEA and state and local law enforcement agencies do point to a resurgence of heroin use in New York City and other cities around the country. These data are compiled bi-annually by NIDA's Community Epidemiology Work Group. Over the past two or three years many cities have reported increases in heroin indicators, ranging from substantial to moderate. For example, Atlanta, Boston, Chicago, Los Angeles, Newark and New York, Seattle all report substantial increases, while Denver, Hawaii, Miami, Philadelphia and San Francisco report more moderate increases or mixed pictures (Community Epidemiology Work Group (CEWG) 1994). Clearly, we can not speak of a uniform national trend, but not only has the prevalence of heroin use (and also other drug use) always varied geographically to a large degree in the US, but drug use trends generally 'diffuse' through specific pathways and these pathways may be subject to change (Kaplan et al. 1989).

While most data are still preliminary and often anecdotal, they indicate that heroin may be increasingly consumed by entirely new segments of the population. The most diverse group of new heroin users is apparently to be found among European-Americans, age 20s to 40s, of every class background (Gabriel 1994). Furthermore, heroin is becoming increasingly available in suburban and rural areas (Turning Point 1994; Hunt & Rhodes 1993; CEWG 1994). But the most publicized is the apparent rise in trendsetting circles of people in the music, film and fashion industries (Gabriel 1994). Newspaper and magazine articles speak of heroin use in trendy nightclubs of New York and Hollywood (Gallman 1994; McInerney 1994). Apparently, heroin does not only appeal to the young as many new initiates are presumably educated and affluent professionals in their 30s and 40s (Gabriel 1994). This is not limited to the large cities on East- and West-coast as the Texas Epidemiology Work Group also reported increasing heroin use by the higher socioeconomic groups (Maxwell 1994). Heroin's new found popularity may in part be explained by a combination of 'generational forgetting' and peoples distrust of official drug education sources (Wilkinson 1994). Furthermore, the main barrier between heroin and the middle and upper classes --the need to inject the highly diluted substance-- has lost its meaning with the rise in purity (Sabbag 1994). The current situation is reminiscent of the situation during the late 1970s/early 1980s when cocaine started filtering down from the trendsetters to the trendfollowers (Gabriel 1994).

Reports disagree on the involvement of minority newcomers. Some ethnographers report encountering very few newcomers in New York's minority neighborhoods. They hypothesize that minority youth conform to group norms against the use of "hard" drugs like smokable cocaine and injectable heroin, enforced by gangs such as the Latin Kings, Netas or Zulu Nation (Curtis, pers comm). Hamid reported on young males, ages 18 to 20, favoring milder drug-using patterns, thus "drinking beer, smoking what marihuana is available, enjoying sex, and snorting 'nitro' (cocaine powder)" (Hamid 1992). On the other hand, in my own ethnographic research in both New York City and in New London, Connecticut, I found several young male Latino and African American heroin snorters. Reports from Chicago also point at the

involvement of minority newcomers. Ouellet et al. report that heroin use is becoming popular among youth in their teens and twenties in Chicago's inner-city neighborhoods (Ouellet et al. 1993).

Route of administration

In many studies of heroin users, injection drug use is both a constant and an intake criterium. This is reflected in for example funding priorities of the federal government. Injection drug use is the buzzword in many federal grant programs, which is understandable since injection drug use is associated with approximately 35% of current AIDS cases in the US (adapted from CDC HIV/AIDS Surveillance Report Mid-year 1996 Edition, Vol.8, No.1: Table 3). Scientific interest in other heroin administration routes has therefore been minimal. As a result, little is known about the factors that mediate the initiation and maintenance of injection. Likewise, many HIV literature for IDUs recommend quiting drugs, and if such is not feasible, not to share works, or to clean (bleach) syringes between use. Ceasing injecting and switching to less direct routes of administration (intranasal, smoking) is apparently not considered a viable option. Although heroin can be used orally, rectally, intranasally and by way of vapor inhalation (smoking), injection drug use is mostly considered as an invariable. Given the low potency of street heroin and the pervasiveness of injecting in heroin using networks until recently, this assumption was largely correct. However, times have changed.

Starting in the late 1980s, the purity of heroin on the American streets has been increasing gradually. In contrast to the 3 to 10% of the 1970-80, a purity averaging between 40% and 60% was recorded in early 1990s (Rhodes & Hyatt 1992). While the rise in purity seems to be noticed all around the country, in some regions, such as New York, New Jersey and Chicago, it is especially evident. Along with the rise in purity in New York an interesting phenomenon has occurred: Most heroin now found on the streets of New York is double bagged, that is, the glassine is heat sealed in plastic. Double bagging started spreading through New York City in 1991/1992 and signifies the increased control of the higher echelons of the drug organizations on the purity level of the bags that reach the street. The innovation is also spreading from the city as fieldwork in Eastern Connecticut found double bagged New York heroin brands for sale.

A significant feature of the new heroin use is that only few recent initiates seem to inject the drug. Around 1990, mostly anecdotal reports began appearing suggesting both an increase in people snorting heroin and the emergence of chasing the dragon (a form of drug smoking). "Chasing" seems to be practiced primarily on the West Coast (Gabriel 1994), but is not unknown in other parts of the country. Treatment intake data indicate that an increasing number of new heroin intakes are not injecting. This trend is particularly apparent in some larger cities, such as Chicago, New York and Newark. In Chicago, 60% of 1993 treatment admissions for heroin cited intranasal use as the primary route of administration, up from 30% in 1991 (Ouellet et al. in press). According to Wiebel et al. (1994) [CEWG] there are currently two heroin using cohorts in Chicago: older IDUs and younger snorters. The New York stats are a close resemblance: 51% of admissions in 1993 (first 6 months) up from 33% of admissions in 1990 (Frank & Galea 1993). In Newark, 66% of 1993 heroin treatment admissions snorted the drug. In other cities, the majority of heroin treatment admissions still inject, but there too change towards intranasal use is becoming visible. In Philadelphia, 84.6% of male users and 83.9% of female users injected in the second half of 1992, while for the first half of 1993 these percentages are 81.8 for both males and females. Intranasal use increased over this same period from 10.6% to 14% for males and from 11.8% to 14.2% for females (CEWG 1994). While 94% of 1992 heroin treatment admissions in San Francisco reported injecting and only 2.4% smoking as the preferred route, ethnographic data suggest that in 1993 snorting and smoking achieved a substantial presence among users in their twenties (CEWG 1994). Again, we cannot speak of a uniform national trend, but in some regions (with very high purity heroin available) non-injecting heroin use has surpassed heroin injecting and in others it seems like it is only starting to spread.

Judging from the available information, one may speculate that we are currently experiencing a new heroin epidemic at the end of its (largely unnoticed) incubation period, ready to erupt into widespread diffusion (Hamid 1992). However, it is too early to establish whether the increase in use will reach epidemic

proportions. Nevertheless, given the experiences with previous drug epidemics in this country, it is questionable whether any attempt at primary prevention will be successful to stop the growth of the heroin using population, especially under the current totalitarian state of prohibition. That is, if an epidemic is indeed emerging. It has been argued that drug epidemics follow their own course, only minimally influenced by anti drug propaganda (Hamid 1992). At minimum, expecting significant increases in the number of heroin users seems realistic (which may differ substantially from older generations, as to demographics and use patterns), in particular in certain geographic areas. However, that does not mean that drug policy has no influence at all on emerging drug use patterns. As expressed by Des Jarlais et al. (1991), "[p]olicy choices form the environment in which illicit drug use patterns will evolve, but do not completely determine those patterns." Thus, while we may be unable to prevent increases in use, certain policy choices and interventions may influence the course of such a development and perhaps limit the harm, experienced by its users, their families and the rest of society.

This brings us back to the issue of safer drug use. AIDS is undoubtedly the gravest harm associated with the use of heroin, probably followed by (accidental) overdose deaths. Will it be possible, in particular for new users, to develop rituals and rules around the ingestion of heroin that prevent these negative consequences (Zinberg, 1984; Grund 1993)? Many of the harms caused by heroin use are less related to the substance than to its mode of administration. Snorting or smoking heroin precludes the most direct route of HIV transmission, while the chance of an overdose is significantly reduced when snorting and, particularly, smoking (Stern & Grund, 1993). Currently, the potency of black market heroin allows for other ingestion routes than injecting, and apparently most new heroin users opt for those safer routes.

Therefore, rational policy making --as well as any intervention-- aimed at reduction of drug related problems will greatly benefit from an analysis of the structural factors (and their interaction) that determine heroin administration patterns. What induces heroin users to initiate injecting or, in contrast, maintain a non-injecting use pattern? In the next section I will present such an analysis of the development in the Netherlands, supplemented by data from the United Kingdom and United States.

A Theoretical Diffusion Model of the Spread of Chasing in the Netherlands

The concept of 'diffusion' can explain the spread of social phenomena, such as the acceptance of certain technological innovations to drug use. Katz et al. (1963) defined diffusion as "the acceptance, over time, of some specific item --an idea or practice-- by individuals, groups, or other adopting units, linked to specific channels of communication, to a social structure, and to a given system of values, or culture." In the field of drug use epidemiology the most commonly used model in explaining the diffusion of drug trends has been the 'contagion model,' which explains the spread of drugs in a community through personal contacts within established peer group networks (Hughes 1977). Another model, termed 'micro diffusion' explains how drugs may disseminate between different social groups within a certain geographic area. According to Parker et al. (1987) in the process of micro diffusion "heroin and the associated cultural knowledge are spread between young people of different social groups by means of communication and exchange between individuals from different networks who live in close proximity to one another. The sharing of pubs, clubs, cafes and street corners within a densely populated urban area is likely to be a major component of this process." Finally, geographical diffusion or 'macro diffusion' supposes that "heroin epidemics emerge in the most densely populated cities and towns, and gradually spread to less heavily populated areas" (Parker et al. 1987).

Heroin was introduced in the Netherlands around 1972, along with a previously unknown method of drug administration "chasing the dragon" or "chinesing". In contrast with the situation in many other European countries and the U.S.A., only a minority of heroin users in the Netherlands inject. Most Dutch heroin users inhale their heroin (and cocaine) by way of chasing. We can distinguish two phases in the diffusion of chasing in the Netherlands, which I have termed Primary Diffusion and Secondary Diffusion.

Primary diffusion refers to the introduction and spread of chasing within the Surinamese immigrant community where the phenomenon first appeared. After introduction through initial contacts with Chinese dealer/users (micro diffusion), heroin chasing rapidly spread and consolidated as the dominant heroin self-administration ritual in the networks and peer groups of young Surinamese immigrants --which were to a large degree isolated from other (sub)cultural youth networks and Dutch society in general (peer group contagion). Secondary diffusion represents the phase in which heroin chasing first entered other cultural groups in the Netherlands through contacts with Surinamese users (micro diffusion), upon which the spread continued along the lines of friendship and peer group networks of the new users (contagion). Furthermore, this phase was characterized by the geographical diffusion from the big cities in the west of the Netherlands (mainly Amsterdam and Rotterdam) to other Dutch cities and towns.

[About here Figure 1: The Diffusion of Chasing in the Netherlands]

In both phases distinctive factors can be discerned, influencing the diffusion process. These have been clustered into general socio-economic factors, drug market factors socio-cultural factors, and socio-ecological factors. Figure 1 presents a graphical presentation of the diffusion of heroin chasing in the Netherlands. The graph shows the clustered factors and shows where in the model these factors apply. Table 1 summarizes the clusters. Although the graph was designed to facilitate the specific explanation of the diffusion of heroin chasing in the Netherlands, it also exhibits a main general diffusion route of heroin use itself. However, when viewing Figure 1, remember that it is a two-dimensional depiction of a multidimensional process. This inevitably leads to loss of information. First, the information available for this analysis may not be exhaustive --unknown factors and relations are not included. Secondly, the figure's flow chart properties suggest a chronology. This is only correct to a limited extent. Certain events in the diffusion process (e.g., the initial contacts between the Chinese and the Surinamese) can be located more precisely in time. However, the majority of events (e.g., the process stages in different cities, the contacts between the various cultural groups, or the geographical diffusion) cannot, as these may have occurred independently and at different times in different places. Thus figure 1 is only meant to facilitate and structure thinking about this complex process and help to unravel some of the many intertwined and interdependent factors involved. In the following paragraphs I will discuss these factors as they applied to, first, the primary diffusion, and, second, the secondary diffusion of heroin chasing in the Netherlands.

[About here Table 1: Clustered Factors of the Diffusion Model]
[*** adapt table]

The Primary Diffusion of Heroin Chasing

Drug Market Factors: The Introduction of Heroin in the Netherlands: Supply and Demand

On the supply side, the introduction of heroin in the Netherlands was strongly stimulated by an upheaval in the international heroin market --the end of the Vietnam war and the successive withdrawal of American forces from that region. The end of this war resulted in the cessation of an important and large outlet for the heroin traffickers of the 'Golden Triangle'. During the Vietnam war many American G.I.'s were smoking heroin, which was cheap and of high quality (Robins et al. 1979). To compensate the loss of this profitable market, the international traffickers turned to Europe, in search of new markets (McCoy 1972; Kaplan 1986). Perhaps this move was further stimulated by the famous break up of the 'French Connection,' which exported Turkish heroin after final processing to the U.S.A.. The interdiction of this major smuggling route may have resulted in surplus heroin stocks at the South European transhipment points, inducing a siphoning into the new market. A sizable share of the international heroin trade was traditionally in Chinese hands and there existed firm relations with the large Chinese community in the Netherlands. This community has been involved in the trafficking and use of opium since the early twentieth century (de Kort & Korf 1992; Korf & de Kort 1990). The heroin that became available in the Netherlands in the early 1970s came almost exclusively from the Golden Triangle and the Chinese community in the Netherlands was strongly associated with its introduction (Korf & de Kort 1990; Janssen & Swierstra 1982).

On the demand side, the heroin traffickers found a ready market in the drug driven youth counter-culture of that period. Drug use played an important symbolic function in that group (Janssen & Swierstra 1982). The popular drugs of the subculture were cannabis and LSD and, to a lesser degree, amphetamines and opium. The latter drugs were also injected. Before the 1960s opium smoking was limited to the Chinese immigrant communities, in which it enjoyed great popularity. The many opium dens in the Chinatowns of Rotterdam and Amsterdam served an estimated 75% of the community (de Kort & Korf 1992). Because the dens did not cause a nuisance and were only visited by Chinese, the police tolerated them. At the end of the 1960s an increasing number of Dutch citizens started buying opium at the dens. Initially the Chinese were reluctant to sell to the Dutch. This resulted in a growing group of Dutch users loitering outside opium dens waiting for a dealer. This attracted police attention and, partly because use was no longer contained to the Chinese community, the opium trade became a target for intervention. Dens were closed and dealers (and many elderly opium smokers) arrested. In the early 1970s the police succeeded in deregulating opium availability. Ironically, it was in that same period that heroin became available.

Regular users of amphetamines and/or opium were among the first consumers of the newly marketed and cheap heroin. These primarily white Dutch users had oriented themselves to the American counter culture. They saw their injecting drug use as a symbol of a new deviant lifestyle (Kaplan et al. 1986). Around the time of the independence of Suriname, a Dutch colony until 1975, large numbers of young and single Surinamese males came to the Netherlands. They became a second group of customers of the Chinese heroin dealers. From the early 1970s onwards, the middle and low levels of the heroin distribution were primarily controlled by Surinamese (Kaplan et al. 1986).

Socioeconomic Factors: Massive immigration during rapidly rising unemployment

During the late 1960 and the 1970s a large number of citizens of Suriname left their homeland to pursue an uncertain, but economically more promising future in the Netherlands. In contrast with Surinamese from higher socioeconomic strata, who, before this large influx, temporarily came to the Netherlands to study for an academic degree, most of the new immigrants came from lower socioeconomic ranks (van Gelder & Sijtsma 1988). The exodus of people was a disturbing phenomenon for the Surinamese community. Many extended families were broken up, divided between the Netherlands and Suriname and scattered over different cities in the Netherlands. Many young immigrants arrived without any preparations or conceptualizations. As the independence was approaching, in some cases, they made plans to leave just days before the scheduled flight. Many young people were sent alone by their parents with a suitcase, some money and the address of a relative somewhere in that strange and cold country.

These young immigrants came to the Netherlands just before the economic recession of the 1970s. While unemployment rapidly rose among the indigenous population --in particular youth unemployment-- the new immigrants were hit especially hard. Most of these immigrants were poorly educated and unskilled and not at all prepared for living under Dutch conditions (different socioeconomic organization, language, climate, etc.). Only a few found jobs quickly, while the majority remained unemployed. Many men lived on welfare in rooming houses or in groups of men in similar positions. In contrast with their expectations, soon after their arrival they wound up in a socially marginalized position (Janssen & Swierstra 1982). Such a situation could only lead to problems. Not only were the new immigrants confronted with a broad spectrum of adaptation and acculturation problems, but Dutch society experienced an immense 'absorption' problem. The upcoming economic crisis was a significant factor, but the limited experience of the Dutch society with ethnic/cultural minorities may not be underestimated. Although the Netherlands had extensive colonial experience, before the 1960s, few colonial citizens immigrated.

Drug Market Factors: The Composition of 'Dutch' Heroin: Chemical Profile and Smokability

To make heroin inhalation cost-effective, the purity of the drug may not be too low at going market prices. Table 2 presents data on the black market heroin in the Netherlands in the period 1970-1990, based on seizures analyzed at the Section for Illicit Drugs of the Forensic Science Laboratory of the Ministry of Justice in Rijswijk, the Netherlands. Before 1980 most heroin on the Dutch black market was type no.3, which was

produced in the Golden Triangle in South East Asia (SEA), while from now on the market became dominated by South West Asian (SWA) heroin base. Table 2 gives an overview of average purity, the main region of production and frequently encountered diluents per year. Before 1980 the heroin contents of the analyzed samples were between 30 and 50% heroin hydrochloride. Between 1980 and 1984, the mean purity of the SWA heroin base increased to levels above and around 60%. In 1985, purity decreased markedly to 40-45% (Huizer 1988). Apart from the rise in 1979 due to the change in type of heroin (from SEA to SWA) and the 1985 decrease, overall the purity of heroin in the Netherlands has been relatively high and stable during the past two decades, compared to both American and European standards (Huizer 1992).

[About here Table 2]

An important consideration is that the opinion of heroin chasers may conflict with the laboratory assessment of actual heroin content. In a laboratory measurement heroin content can be reliably established. However, the 'bio-availability' (and thus the perceived effects) for chasers is dependent on many other factors, such as heroin form, processing impurities or diluents. Heroin is marketed either in the salt (usually the hydrochloride) form or as the base. The salt dissolves easily in water and can thus be injected without other additions, while the base does not. Yet when pure heroin hydrochloride is heated on aluminum foil, the major part does not volatilize but degrades, mostly by charring. When inhaled, the body actually absorbs only a small part of this heroin --ñ 15-20% when carefully inhaled. Rough heating (poor chasing technique) may result in even more charring. The percentage of heroin hydrochloride that volatilizes, and is thus ingested, is strongly dependent on the admixed compounds. A large increase in volatilization is observed when caffeine is added. Caffeine has been mixed in on a ñ 1+1 basis in SEA no.3 heroin --designed for inhalation-- from the beginning of this century (Huizer 1992; Anonymous: 1953a; Anonymous 1953b; Anonymous 1958). Until 1980 most illicit heroin in the Netherlands came from SEA and usually in the hydrochloride form (Huizer, Logtenberg & Steenstra 1977). From 1980 on SWA heroin dominated the Dutch illicit market. This product has seldom been found as the hydrochloride salt; the base form prevailed (Huizer 1987). For that reason, IDUs add an acidifier to make an injectable solution. In contrast with the salt, heroin base volatilizes much better --under laboratory conditions ñ60% is recovered (Huizer 1987). However, illegally processed SWA heroin base also contains many diluents and processing impurities (e.g. noscapine) which may decrease the volatilization of heroin to a great extent (Huizer 1987). At the other hand, the compounds most frequently encountered in seized heroin, such as caffeine, barbital and methaqualone generally enhance volatilization. Finally, the temperature and heating technique are of considerable influence. Experience with the chasing technique is important, as adding too much heat results in charring and degradation into weaker or inactive compounds (Huizer 1987). These effects indicate a complex relation between the heroin content and the effects as experienced by the chaser, whereas IDUs' experiences may show a more or less linear relation regarding the strength of the heroin (Huizer 1991).

Socio-Cultural Factors: Upcoming Heroin Use among Surinamese Immigrants

In the beginning of the 1970s, a situation had developed in the Netherlands which provided the necessary economic conditions for the primary diffusion of heroin chasing. The economic crisis resulted in massive (youth) unemployment, providing the soil for the emerging heroin epidemic, while the upcoming illicit heroin industry marketed a product designed for chasing. A significant minority of the young Surinamese immigrants quickly became involved in heroin use and dealing. Fabri, a Surinamese Community leader and street outreach worker in Rotterdam during the first half of the 1970s, witnessed the sudden boom in heroin use among the recently arrived wave of young Surinamese immigrants and described it as follows.

"It was ... November 1974. ... The immediate problems of the Suriname[se immigrants] had become so large ... Daily, 50 to 60 [newly arrived] people were in need of help. ... That was far from everything. On the West-Kruiskade, [in] the meeting centre for Surinamese youth came heroin.... It was something completely new to us. Marihuana and hash were known for a long time and gave few problems,

but with heroin, you really saw people slide down. We did not know how to cope with it." In September, heroin was already announced as Public enemy number 1. At that time, there were 400 to 500 users on the Kruiskade. A massive campaign was set up, but without result. In a rapid tempo the Kruiskade became the heroin centre of Rotterdam. Now, heroin is offered on the street over there. The Surinamese youth are in the hands of the white monster. We cried it out all the time. Continuously we pointed our fingers at the white monster." (Fabri 1976)

In a rapid tempo the use and trafficking of heroin became the pivotal point of the emerging (mainly in Amsterdam and Rotterdam) Surinamese street corner culture. These overt and distinctly localized areas were essential points in the networks of the young immigrants --highly isolated from the rest of Dutch society-- and became a supportive environment for the spread of heroin use by means of peer group contagion mechanisms. Many of the new immigrants were introduced to heroin in this environment, some on the night of their arrival in Holland. Many of the novice users, initially thought they were smoking some "strong kind of weed," were unaware of the habit-forming properties of heroin (Vos 1984). Only a limited number of the immigrants had some experience with cannabis in Suriname, while very few had experience with other drugs (Janssen & Swierstra 1982).

Socio-Cultural Factors: The connection between supply and demand

The Chinese heroin dealers initially sold the heroin themselves at the consumers level (anecdotal accounts claim, that in this 'marketing phase' of the new product the Chinese often gave heroin away free or that one could buy a dinner spoon full for 25.- to 50.-). Nevertheless, when the Dutch police seriously started paying attention to the heroin trade, the middle and low level positions in the hierarchy became vacant. Although young Surinamese males evidently soon filled these positions, it is less evident how this process actually worked. Kaplan et al. (1986) suggest that the Surinamese "began as customers of the Chinese and later became small and middle distributors." Janssen and Swierstra (1982) corroborate this suggestion. In addition, earlier immigrated Surinamese supposedly played an important role in the trafficking of reefer during the 1950s and 1960s (Cohen 1975; de Kort & Korf 1992). Nevertheless, the Dutch users were also customers of the Chinese and some of them did have experience in dealing a broad spectrum of drugs. Why did they not fill the vacant positions? This may partly be explained by their more uncontrolled (injecting) drug use and junkie lifestyle (they were probably on the average using drugs longer), displayed in their clothing and deteriorated physical appearance. Because of this, the Chinese may have perceived them as unreliable business partners. However, a more plausible explanation may be found in the ethnic, cultural and linguistic commonalities of the Chinese with the Surinamese. Although often treated as such (e.g. in research, statistics and services), the Surinamese are a heterogeneous population group, consisting of numerous ethnic subgroups and mixtures, such as Latin American Indians, African Blacks, the Hindustani from India and Pakistan, the Javanese from Indonesia, and the Chinese, who, for a large part, also came from this former Dutch colony. All these groups are represented in the Surinamese community in the Netherlands. The common ethnic, cultural and linguistic background of the Asian Chinese and the Surinamese Chinese may well have been of great importance in the Surinamese filling up the middle and lower dealing positions. Although from different regions in the world, the similarities in appearance and ethnic characteristics, the common cultural heritage, shared or overlapping language and (remote) family ties, presumably reinforced interaction and trust between the two groups (Ianni 1973; McBride 1984; Block & Chambliss 1981). Korf and de Kort (1990) suggested a similar linguistic link between Pakistani heroin wholesalers and Surinamese Hindustani middle level distributors based on the common knowledge of the Urdu language.

The geographical overlap of the Chinese and Surinamese community may furthermore have stimulated such contacts in Amsterdam. Around 1970 the Surinamese entertainment center was up and around the 'Zeedijk' and the 'Nieuwmarkt' --places where the Chinese opium traffickers, and from 1971 on the Chinese heroin traffickers, also loitered (van Gelder & Sijtsma 1988). In addition, the overt street corner culture of the Surinamese must have been an easy discernable and obvious target for Chinese marketing efforts. Because of increased police attention, the Chinese traffickers were retreating from consumption level

dealing and looking for other outlets. From an economic viewpoint, the Surinamese street corner culture was a ready for use distribution network.

Socio-Cultural Factors: Heroin Smoking: From Chasing the Dragon to Chinesing

As pointed out, the Surinamese did not have experience with heroin and were, thus, not familiar with the various administration rituals of the drug. It is assumed that the first Surinamese heroin users were taught to smoke and inhale the drug by their Chinese business partners. The argot term 'chinezen' (chinesing) and related terms 'chinezer' (s/he that chineses) and 'een chineesje' (a little chinese: a little dose of heroin) is compelling semantical testimony to the diffusion, transformation and adaptation of the originally Eastern administration ritual to the Dutch situation through Chinese user/dealers. The available data suggests that smoking preceded chasing (Janssen & Swierstra 1982; Fabri 1976). Anecdotal accounts point at sniffing as the administration route before smoking became fashionable (Korf 1991). When smoked, they mixed the drug with tobacco or marihuana. A smoking mode typical for these Surinamese users was in filter cigarettes, called a 'sigaretje' (a little cigarette). In Asia they know this technique as 'firing the ackack gun' (Hess 1965; Seng Hock 1983). Fabri observed this sequence in Rotterdam:

"After a few minutes he takes a pack of Pall Mall cigarettes from his breast pocket. In the pack sits a folded 10.- bill. He takes out the bill and half opens it. His friends see a knife; a slender, sharp and flat knife, with which he carefully strokes the bill. In the 'tientje' are brownish white grains which he rubs to powder with his knife. ... The boy takes a cigarette from the pack and over the ashtray he removes some of the tobacco. Then he puts the half empty cigarette in his mouth and keeps it closely above the white powder. Slowly he draws the 'pak-fang' into the cigarette, until all of the powder has disappeared. He always smokes down to the filter and the more pak-fang, the blacker the cigarette." (Fabri 1976).

The use of the term 'pak-fang' (a Chinese term for heroin) provides further linguistic support for the Chinese origin of heroin smoking. Smoking heroin in cigarettes soon became rare --it was too inefficient and thus too expensive-- and more Surinamese users switched to chasing. Thus, after introduction by the Chinese dealer/users, chasing the dragon, renamed chinesing, diffused into the Surinamese community along with heroin use.

Socio-Cultural Factors: The Consolidation of Chasing among the Surinamese Heroin Users

Why did the Surinamese users not go on to injecting --the most efficient route of administration? Several factors, which distinguish the Surinamese users from their Dutch counterparts, explain the widespread adoption and maintenance of the chasing ritual among the Surinamese. It has been suggested that the Surinamese users held a strong cultural taboo against penetrating the body with a foreign object --a needle taboo reinforcing non-injecting drug use. This taboo has been related to the 'Winti' belief (Kaplan et al. 1986; Janssen & Swierstra 1982; van Gelder & Sijtsma 1988). The Creole and multi ethnic Surinamese mainly practice this religion or healing cult. Creoles form a large proportion of the Surinamese drug users. [Needle taboos may also exist among Moroccan users, but seem however typical for the Netherlands. The prevalence of injecting among Moroccan heroin users in Belgium and France is not different of that of native drug users. French speaking North African users contacted by doctors of the Amsterdam Municipal Health Service (GG&GD) usually inject, while most of those in the Amsterdam methadone programs -- which are only open to residents-- chase (van Brussel 1992).] The low prevalence of injecting among Surinamese heroin users in the Netherlands may partly be determined by a needle taboo, but such a taboo can hardly account for the widespread practice of chasing. Most likely such cultural inhibitions can only be maintained by the grace of the favorable drug market factors.

The Surinamese were also believed to have a definite fear of (or respect for) the addictive quality of heroin. Although they acknowledged their habit, they often conceived it as less intense than that of the Dutch IDUs. Smoking and chasing were perceived to be less addictive than injecting and as a way to exercise control over the level of consumption (Janssen & Swierstra 1982). For most Surinamese users, the Dutch IDUs set a negative and deterring example. They were looked upon as "pitiful junkies without self respect and

fallen prey to self-neglect" (Janssen & Swierstra 1982), a state reinforced by injecting, which was characterized as dirty and vile. In contrast, most Surinamese users did not have such subcultural experiences and values when they started their heroin careers. In addition, the popular self image of many Surinamese users was that of a cool user, a wakaman, who was in control of his situation (van Gelder & Sijtsma 1988). Appearance, physical health, respect and presentation were important elements in their self-definition.

The Surinamese users furthermore exerted intense social control among each other to maintain non-injecting heroin use --those injecting were often ostracized (Janssen & Swierstra 1982). This mutual social control against injecting has been a key cultural factor in explaining the initial diffusion of the chasing ritual. Social control must, however, be put in the broader context of the social meaning of the chasing ritual for this group. On their arrival in the Netherlands, the Surinamese were placed in the position of immigrant without any structural or institutionalized ties to the new white world. Unemployment, boredom, alienation, feelings of discrimination and initial negative experiences led to a shared mistrust for this cold and unknown world. These collective acculturation problems were an important incentive for the reproduction or reconstruction of the familiar street corner culture, which provided a sense of belonging (Janssen & Swierstra 1982). The shared use of drugs not only acted as a subcultural social control, it reduced anxiety and uncertainty, provided these young men with necessary positive self-images, status, and feelings of warmth, sociability and mutual solidarity --feelings they were unable to get in the stress provoking new white world. Their shared drug use ritual acted as a strong binding force and was a symbolic expression of their common position in a strange and hostile world. It provided clarity in a confusing world.

Finally, the contacts of the Surinamese users with white Dutch IDUs were generally limited to superficial encounters in the context of dealing. Such limited contact without a shared background, ideology and symbols were by no way sufficient for the diffusion of injecting into the population of Surinamese heroin users. As Kaplan et al. (1986) argued, "mere contact is not enough to account for the diffusion of drug patterns. Economic and cultural conditions must exist to receive the new innovation." As explained above, the stable availability of high purity smoking heroin throughout the years and the continued involvement of the Surinamese in the distribution of these drugs prevented an economic need to initiate injecting drug use. Thus, not only the cultural conditions inhibited a move to injecting, the economic conditions remained supportive of the chasing culture. The 'white junkie injecting ritual' was no competition for the strong and meaningful chasing ritual.

The Secondary Diffusion of Heroin Chasing

In the previous paragraphs, the conditions for the emergence of the chasing ritual among the Surinamese in the first half of the 1970s were discussed. The following paragraphs discuss the subsequent spread to other ethnic groups. Several factors responsible for this secondary diffusion were equal or similar to those affecting the primary diffusion of chasing among the Surinamese. The general socio-economic conditions, for example, did certainly not improve during the second half of the 1970s and most of the 1980s. The enduring economic crisis resulted in continuing high unemployment rates, in particular among youth and ethnic minorities. New initiates to heroin use came largely from these segments of the population.

Socio-Cultural Factors: Surinamese Dealers as Role Models and Rule Makers

This change in the social ecology was crucial for the nourishment of social learning and peer pressure processes. The Surinamese dealers moved their former street-based operations inside. Throughout the years they maintained their dominant positions in the consumer level heroin distribution. Due to the police pressure on the streets, the "house address" became a place where one not only buys, but also consumes drugs and socializes with drug using friends. As a result, heroin users spent much more time together, often in a pub-like atmosphere. Chasing at house addresses is frequently a social activity --users sit around a table, talk, chase and often share drugs. In contrast, IDUs more often use drugs alone or in couples. They may frequent house addresses, but mostly to buy drugs to use elsewhere (Grund et al.,

1991). The contacts between Surinamese and Dutch users before the shift indoors were often limited to short interactions in street drug transactions. In the house address setting, these contacts became much more frequent and extensive. This situation facilitated mutual communication, the development of multifaceted relationships (beyond the economic utility of the dealing context) and cultural diffusion processes. Because the Surinamese generally occupied the more prestigious (dealing) positions, they could set the rules at the house addresses and provide models for appropriate behavior (especially for newcomers). As Surinamese heroin users generally feel a strong dislike of injecting, they often prohibited injecting. As a result, the norm at house addresses was (and still is) chasing. They generally pass on such norms, customs, rituals and other forms of appropriate behavior implicitly during the performance of relevant activities (social learning) (Zinberg 1984). Finally, when applying for treatment, many new users from cultural minorities were sent to programs designed to suit the Surinamese group. Dominated by Surinamese clients and only minimally frequented by IDUs, these programs were additional locales of microdiffusion, reinforcing chasing.

Finally, and equally important, the police approach changed during the 1980s as they reconsidered enforcement priorities. Interdiction efforts are nowadays primarily focused at the import and wholesale levels. At the consumer level, policies aim at the reduction of a nuisance and allow for possession of hard drugs for personal use (Engelsman 1991). Born out by experience, the police understood that if nuisances stayed within certain limits the house addresses could best be left alone. This had an unquestionable impact on the Dutch consumer level heroin markets. From a volatile, aggressive and anonymous street market, consumption level dealing developed into a steady premises-based market, with closer connections between dealer and consumer. Thus, the evolving Dutch drug policy of normalization, reinforced the stable Dutch drug market situation, which was important for the diffusion of the chasing ritual.

Geographical or Macrodiffusion

We generally assume that heroin use first emerged in the big cities in the west of the Netherlands, then gradually spreading throughout the country (Hoekstra 1987). The little data available supports the concept of macrodiffusion as presented above. A recent study into drug use in a rural area in the East of the Netherlands suggested that, although the first signs of illicit drug use stems from the late 1960s, heroin use increased in the second half of the 1970s and peaked around 1983/1984 (Korf et al. 1989). Another study in several medium sized and smaller towns (five thoUSnd to eighty-five thoUSnd residents) showed that in the mid 1970s, groups of adolescents and young adults started experimenting with several illicit drugs in the larger communities about ten years before drug use became viable in the smaller communities. Heroin entered this area at the end of that decennium, but with significant local differences in time and drug of preference (Korf et al. 1990). The pathways along which this macrodiffusion unfolded are unclear, although they have inferred both socio-cultural and socio-economic factors. It has been suggested that the squatters' movement --known for its high tolerance of deviant forms of expression-- and the rise of punk played a role in the geographical diffusion of heroin use (Korf et al. 1990; Swierstra, Janssen & Jansen 1986). Employment opportunities in the heroin market have also contributed to the spread of chasing (Swierstra, Janssen & Jansen 1986). Finally, the 'house addresses' were also of significance, as their patronage was not limited to city residents --visitors came from far outside the region.

Heroin Administration in the 1990s

Chasing has thus increasingly become the norm in the Dutch heroin culture as a whole. Twenty years after its introduction, it has pushed injection drug use into a marginal position. At the start of the 1990s only a minority of heroin users (ñ 30%) injected. Also, few new users initiated use by injecting drugs. In 1990 only 18% of the new clients of the Amsterdam methadone programs injected, whereas this percentage was 25.6% in 1987/88 (Buning 1990). Foreign users from (Western European) countries with established injecting cultures adapt to the chasing norm. In a longitudinal study of 'drug tourists' in Amsterdam injecting heroin use decreased from 84% to 74% and cocaine injection from 75% to 66% (Korf 1987).

Moreover, foreigners who first used heroin in Amsterdam did so by injection in only a quarter of cases, compared to Stwo thirds of those that started in their homeland. Lifetime injecting prevalence among those who started in Amsterdam was found five times lower (Korf 1986). Chasing is associated with higher status and provides access to explicit privileges and restricted areas, such as preparing and using drugs at house addresses. IDUs take a separate position from and are frequently looked down upon by chasers. IDUs and chasers generally engage in different networks, although these cross at house addresses and certain congregation sites. IDUs are becoming a doubly stigmatized minority, which is expressed in tension between the two groups and reduced access to important locales and resources. As one 'ex-IDU' expressed it painfully when he explained why he stopped injecting: "When you inject, you are not really welcome."

Britain: Repeating the Dutch Experience?

While in the Netherlands heroin smoking emerged in the early 1970s, at the start of the next decade the first signs of a similar development in Britain started to arouse public attention. During the "Thatcher Years" of the 1980, Britain experienced a large increase in the number of heroin users. In contrast with the older generation of users, who injected heroin, most newcomers preferred to inhale its curly fumes. One study, for example, showed that up to the late 1970, injection was the main route of initiation among London heroin users, but by 1979 there were as many initiations by chasing as by injecting. By 1981 over 50%, by 1985, more than three quarters, and since 1988 94% were by chasing (Strang et al. 1992). In a sample of 264 drug clinic attendants, chasing was the usual route in 48% of the cases. Injectors had first injected on average within 1.5 years of first heroin use and 90% of heroin injectors made this transition within four years. The average career of chasers, however, was five years (Griffiths et al. 1992), suggesting two different cohorts. In some areas heroin smoking spread very rapidly. By 1985, in the Wirral (Mersey, Northern England) around 95% of the ñ 5000 new heroin users were taking the drug by inhalation (Parker et al. 1987). This sudden boom in heroin use coincided with the availability of Iranian heroin which in 1978/79 began flooding the British market (Lewis 1985). Compared to the still available SEA white heroin, which previously dominated the (much smaller) market, this brown heroin base was cheaper and of considerably higher purity, and thus particularly suitable for smoking. While the changing drug market provided the economic condition for the diffusion of chasing, geographical differences in acceptance of the technique indicate the importance of socio-cultural factors. A study in Northern England, for example, found major differences in heroin administration patterns from one town to another, which was related to whether the pre-existing local drug subcultures favored injecting or snorting amphetamine (Pearson et al. 1987).

The US: From Opium Smoking to Heroin Injecting

In the US, from the 1920s on, a different development took place. Chinese contract laborers introduced opium smoking in the mid-nineteenth century and during this period the drug was also an indispensable ingredient of a variety of widely used 'patent medicines'. After they passed a federal law against importation of prepared smoking opium in 1909, the availability of smoking opium decreased significantly and many opium smokers turned to morphine and heroin, which they could legally obtain until the Harrison Narcotic Act was passed in 1914 (Brecher 1972; Musto 1973; Courtwright 1982). American opium smokers did not initiate heroin smoking, but, instead, gradually but massively, turned to injecting. Until the 1920s parenteral drug use was largely contained to iatrogenic users, who generally injected subcutaneously or intramuscularly, while recreational heroin users were, even until 1925, mostly sniffing. Intravenous (IV) injecting seems to have started around 1925 in the US, spread quite slowly until the early 1930s and by 1945 had become widespread (O'Donnell and Jones 1968). Before 1925, hitting a vein was often considered a (sometimes fatal) accident and viewed as dangerous.

Des Jarlais et al. (1991) suggested that heroin smoking has not developed in the US due to three factors. First, the mechanics of smoking, which requires a purer drug preparation --smoking is less effective than injecting. Second, criminalization and the resulting illicit distribution system resulted in a consumption

level heroin purity insufficient for smoking. As a result of stricter international controls, World War II, and the shift in illicit heroin distribution from Jewish-dominated criminal organizations to a monopoly of their Italian counterparts, heroin became increasingly adulterated. This development was further stimulated by the law enforcement tactics employed against heroin use and distribution, which focussed on the users and low-level distributors. "The practice of vigorously enforcing laws against the low-level dealers helped to maintain the monopoly of the Italian-dominated criminal organizations and created an incentive for multiple levels of distribution at the lower end of the system" (Des Jarlais et al. 1991). Finally, lack of drug treatment during the transition from opium smoking to heroin injection and onwards guaranteed an inelastic market, forcing users to accept low drug purity (Des Jarlais et al. 1991).

Again, while these economic factors were important, they do not present the complete picture. Using the diffusion concept, O'Donnell and Jones (1968) distinguished both economic and cultural factors accounting for the rapid dissemination of injecting. In their analysis, the economic pressure of rising prices and decreasing supply and purity of black market heroin dictated a move to a more efficient administration mode. Hedonistic users started shifting to intramuscular or subcutaneous injection during the early 1920, but IV use began when the heroin began to be diluted. As one subject of O'Donnell and Jones explained, "you didn't need no vein until they cut it" (O'Donnell and Jones 1968). A deviant subculture around the non-medical use reinforced this shift to injecting of opiates that developed a distinctive set of values, language and norms around drug use (Becker 1973). IV injecting was particularly favored, and far more frequent among drug users who had used heroin, who took the drug for 'kicks' --as opposed to those who had started drug use while in medical treatment-- and had become addicted before age 30. O'Donnell and Jones suggest that accidental IV injections by 'kicks users' were at the start of the diffusion of this technique in the US --either from one central place or from several or many places. After recovery from the fright (and, presumably, near overdose) the IV injectors decided that there was some pleasure in the experience and deliberately repeated it, using a smaller dose. If this resulted in a positive experience, they communicated this to using friends, upon which they would try it. Once they adopted IV injecting, it continued, with only a few users shifting away from this most efficient route.

Discussion

While the preceding analysis may not be exhaustive (some relevant information was never recorded and thus lost for all eternity), it adds to our understanding of the structural determinants of heroin administration patterns. What can we learn from the presented examples? First, despite geographical and time differences these examples share several clear similarities. An obvious parallel between the Netherlands and Britain can be found in the general economic situation of both countries and its experience by the new user groups. Mass (youth) unemployment was a main characteristic among the Surinamese, but also among the other people that started using during the 1970s and 1980s. According to several British authors, unemployment played a significant role in the 1980s heroin epidemic (Parker et al. 1987; Pearson et al. 1987). The parallel in the development in the drug markets of Netherlands and Great Britain presents the most significant feature. In both countries the large scale introduction of the smoking ritual coincided with the introduction of abundant supplies of (in the British case a new type of) heroin to new user groups and a rapid increase of heroin use prevalence. These increased supplies resulted from adaptations of the international drug market due to geopolitical upheaval. The increase in the Netherlands in the early 1970s was associated with the end of the Vietnam war (McCoy 1972), while in the late 1970s the importation of Iranian and Pakistany heroin was associated with the Islamic revolution in Iran and the resulting escape and reinvestment of capital (Lewis 1985).

While crack is often conceived of, and treated as a drug different from cocaine (both in popular and scientific media), the so called crack epidemic in the United States in the second half of the 1980s was actually more about the diffusion of a new mode of administering a known drug, cocaine, than about the spread of a new drug (Hamid 1992; Inciardi 1987). Again, changes in the international market stimulated changes in the local consumer market, as the crack epidemic emerged when the Colombian drug cartels

pumped out increasingly large cocaine productions, while their perfected distribution system flooded the American market.

An opposite movement occured in the United States during the first half of this century. Worldwide criminalization of the opium trade and national tightening of drug laws resulted in decreased supplies of legal opium and the replacement of this comparably mild opiate with less benign derivates, such as (black market) morphine and heroin. The same phenomenon was also apparent during alcohol prohibition, when gentler modes of alcohol (beer, wine) got replaced with heavier products (hard liquor) (Morgan 1991). Likewise, within months after the establishment of anti opium laws in Hong Kong, Laos and Thailand, injection heroin use appeared suddenly (Westermeyer 1976).

When we apply the diffusion model to the the current heroin situation in the US, we can observe comparable economic and geopolitical developments. Again, the international heroin market is subject to change, that is, production is expanding and proliferating to an unprecedented level, despite ever increasing law enforcement efforts. Simultaneously, traffic routes diversify and the drug is increasingly transported through politically unstable regions. As a result, not only is high potency heroin becoming increasingly available on the American market but the drug is also diffusing into new regions (Stimson 1992).

Socio-Cultural Factors

Socio-cultural factors in the popularization of chasing seem also comparable to a certain degree. In both the diffusion of IV injecting in the US and the diffusion of heroin chasing in the Netherlands and Britain, involvement in a drug subculture was evident. Griffiths suggested a role of the Chinese community in London's China Town in the introduction of chasing (Griffiths n.d.). In a study from London, the prevalence of injecting among West Indian/Afro-Caribbeans was significantly lower than among whites, while --just as the Surinamese in the Netherlands-- these groups were also associated with (consumption level) drug trafficking (Griffith et al 1992). Likewise, the introduction of cocaine smoking in the US has been associated with the Caribbean immigrants (Hamid 1992; Inciardi 1987). Thus, in each example we can distinguish specific subcultural channels which communicated the new technique.

The diffusion of chasing has progressed further in the Netherlands than in Britain. Those differences may in part be explained by the shorter British development, but Dutch drug policy, and in particular its low law enforcement priority on users and terminal distribution, have resulted in a rather relaxed indoors heroin scene. These house addresses have become the hubs of the heroin scene. Heroin users not only go there to purchase their drugs, but also to socialize with friends. At the large majority of these addresses chasing is a strong rule (Grund 1993) and the setting allowed for effective social learning and peer pressure in favor of chasing. The house address setting acted as a reinforcer for many of the beliefs that kept Dutch chasers from injecting.

It is interesting that many similar beliefs may also be present among the new heroin users in the US. According to Ouellet et al. (1993) many of the new snorters they investigated are abhorred by the idea of using needles. Just like the Surinamese in the Netherlands, they reject the idea of puncturing the skin and feel that injecting is a "real sign" of losing control, personal weakness and ruination. They look down on injecting and are well aware of its role in spreading diseases, such as HIV (Ouellet in press). They believe they will avoid needle use and see snorting as less addictive and adding to a cool and controlled image. Attachment to the paraphernalia and the rituals involved in snorting the drug seems to further add to the rejection of injecting. Another parallel with the Dutch and British situations is that many of the new heroin snorters seem to have little contact with the older generations of injecting heroin users, while they also have little knowledge of the rituals and techniques involved in injecting heroin. Finally, gang membership may play a role in shaping the emerging use patterns. While some gangs prohibit heroin use at all, others do not prohibit any drug in particular, but maintain strict rules regarding modes of administration. These

allow members to snort cocaine and heroin, but are strictly opposed to injecting either drug or smoking of cocaine (Ouellet 1993).

Assessing future developments

At this time it is not altogether clear if and how substantial increases in heroin use will emerge in the US. There are, nevertheless, several indications that should make us alert and follow the developments carefully. The increased availability of cheap, high purity heroin provides the economic condition for such a development. While this increased supply is partly consumed by veteran heroin injectors --some of them returning to their drug of choice after (extended) periods of methadone maintenance or abstinence-- there are strong indications that part of the supply is increasingly consumed by new user groups. These new users may be (long-time heavy) cocaine users (Hunt & Rhodes 1993), or new to powder drugs altogether. The high purity of the current black market heroin has not only attracted new groups of users to the drug, but also contributed to the rise of non-injecting consumption patterns, such as snorting and chasing.

It is not clear how the heroin market will develop, or how it will adapt to the new consumer profiles. While young middle class European-Americans may be eager to use the drug, the current structure of the consumer market (mostly minority entrepreneurs in inner-city neighborhoods) is not really equipped to serve their demand. Will this result in changes in distribution channels? Anecdotal indications may suggest so. For example, I observed a white, ñ 25 years old snorter buying two "bundles" (20 bags) of heroin on the Lower Eastside in New York. He explained that he sold the bags to his friends and to other middle class clients in New Jersey, where he lived. He claimed that his clientele included "lawyer and doctor types" and other professionals living in nice neighborhoods, who would not dare to buy on the streets of New York. Selling the bags for $15 (he paid $8 a bag), he financed his own use and was left with a small profit. Likewise, young white users in Los Angeles apparently acquire the drug through rather informal contacts in their friendship networks and from delivery services (Gabriel 1994). Nevertheless, current street dealers in New York may also be flexible enough to cater to the new user profiles, as I observed several transactions with young, new users. One sale I observed on the Lower Eastside involved two well dressed men of about 18 to 20 years old; one was Caucasian, the other Chinese. Another sale involved four adolescent white men, ages ranging from ñ 17 to 21 years. They were part of a larger group of Punks, who had come down from Connecticut in a van to play at the local Punk club. While the rest of the group started unloading instruments, these four started walking down the street looking for a dealer. They were clearly new to the copping scene and looked very conspicuous and ill at ease. They had problems connecting until they were assisted by two somewhat older (ñ 25 years) and visibly deteriorated white heroin using Punks, who copped from the same dealer.

The market may also respond to the new consumers by offering new products. Ouellet (1993) reported on users cooking heroin and cocaine into a "Speedball Rock" and then smoking it. Also known as "Space Base", anecdotal accounts of the availability of this product have been surfacing since 1990 (Treaster 1990). The comparison with the cocaine smoking epidemic forces itself upon us. Indeed, from a entrepreneurial point of view, distributing smokable heroin-cocaine mixtures or (smokable) heroin along with cocaine or crack does not seem an unrealistic marketing strategy. According to the DEA, Colombian wholesalers are using similar strategies in trying to create a market for their new product line. When selling quantities of cocaine, they force the buyer to accept a few kilos of heroin (Sabbag, 1994). This heroin may be transferred to established heroin distribution channels at higher trafficking levels. However, it is perhaps just as likely that it trickles down the cocaine distribution chain and reaches consumers of both powder cocaine and crack. For example, Dominican-owned cornerstores and groceries in New York increasingly offer both powder cocaine and heroin.

CONCLUSION

Whether or not the increase in heroin use will materialize into a new heroin epidemic, we ought to prepare to deal with the new users. While the available information suggests that they may substantially differ

from former generations of users, little is still known about the new heroin consumers. There is a definite need for research and the preceding analysis based on the diffusion model offers many topics and questions to explore. Such research need to deliver information quickly, as there may be little time to lose. One factor that may have been underexposed in the preceding analysis is the role of both the mainstream and underground media. While the effects of the media in the earlier examples may perhaps have been less far-reaching, in the current information age they play an increasingly important role. The internationalization and unification of culture that characterizes our era has not only resulted in the exchange --and thus increased availability-- of intoxicants from different cultures around the world, increased mobility and faster mass communication media also resulted in increased awareness of those prior unknown options (Entzinger 1989) resulting in easier acceptance. Thus, it has been argued that the multimedia, in all its variegated mass and underground forms, has been the central mechanism in the recent rapid spread of MDMA use in many urban centers around the world (Kaplan et al. 1989).

As stated before, I am very pessimistic about the potential success of a primary prevention approach. However, as both the experience with alcohol prohibition (Morgan 1991) and this analysis show, users of psychoactive substances tend to prefer and, given a sufficient availability, practice less dangerous or safer modes of administration. Safer drug use implies that drugs can be used safely. (That is, to a certain extent, as use of any drug may entail certain risks.) To some this may be a disturbing and hard to accept reality. But there is an abundance of research showing that even people whose drug use is mostly considered highly problematic (heroin users, addicts, IDUs) have changed their behavior towards safer drug taking patterns in response to changing circumstances. People who use drugs may do so for a multitude of reasons, but almost all are interested in ways to use them safely and in ways that do not negatively affect their life structures.

Thus, when we acknowledge our inability to prevent substantial increases in heroin use, what would be the most sensible (second best) policy? Given the harms discussed above, what is the crucial issue to address in interventions aimed at new heroin users? A sensible and, in my opinion viable, drug policy goal for the coming decade would be the prevention of a new wave of drug use-related HIV infections through prevention of injecting drug use. We need to find ways to help people who insist on using this drug to do so as safely as possible and to prevent the onset of injecting. Such prevention efforts should build upon the reluctance of the new users to inject drugs (Ouellet 1993). Several studies point at AIDS as an increasingly significant deterrent (Ghodse et al. 1987; de Loor 1991), but as is indicated by the present study it is only one among many arguments.

The prevention of injecting will require a harm reduction approach, conducted by, or in cooperation with, organizations that are trusted and respected by the new user groups and that are willing and able to utilize innovative and unorthodox methodologies, both in reaching the target groups and in designing the message. Such interventions should innovatively utilize the tools and communication channels of popular culture. Both in the United Kingdom and the Netherlands, as well as in the US, promising examples of interventions can be found that do so in getting out information on safer drug use and safer sex (Bennett 1994; Pappas 1994; Wittenberg & de Loor, 1994; Grund 1993). These projects aim at and cooperate, for example, with popular youth clubs, party organizers, bars, clothing and record stores, and music and lifestyle magazines which cater to the targeted communities. The aim of such interventions should be to provide balanced objective health information, engage new heroin users in a dialogue and to support non-injecting norms. To ensure real dialogue and cultural sensitivity, it is crucial to enlist active participants from the different user populations (Clatts 1994; McBride et al. 1993; Trautmann 1994; Trautmann 1995 JDI; Broadhead et al. 1995, Cavelieri 1994; Friedman, de Jong & Wodak 1992) and to bring them together with researchers, health education specialists, and media and marketing experts.

Still, Necessity Knows No Laws. When repressive law enforcement practices are not addressed simultaneously, the effects of education efforts may well be nullified. In the Netherlands, law enforcement has played a critical role in the diffusion of the safer heroin smoking ritual by allowing users and

consumption level drug transactions at "house addresses." By doing so, they not only limited "location availability" and visibility to non-users, they also tolerated the existence of the main incubator of a culture of heroin administration which prevents the most direct and effective mode of HIV infection. From a public health perspective, this is perhaps the most important accomplishment of Dutch drug policy. When American law enforcement maintains it 'war on drugs' focus and succeeds, if only temporarily, to decrease heroin purity to early 1980s levels, many new heroin snorters and chasers may turn to injecting, with the almost inevitable consequence of a new drug-related wave of HIV. Not only the new heroin users are in need of education, an important share of our education effort should (again) be directed at law enforcement and politics.

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