Needle Sharing in The Netherlands: An Ethnographic Analysis

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ABSTRACT

Background. Needle sharing has been reported to be the main cause of the rapid spread of the human immunodeficiency virus (HIV) among injecting drug users. Risk behaviors such as needle sharing are, however, the end result of complicated interaction patterns in drug user networks, which have their specific rules and rituals, and larger social structures and official drug policy.

Methods. To study these interaction patterns we examined the drug administration rituals of heroin addicts in Rotterdam, The Netherlands. Intensive ethnographic descriptions were collected by participant observation.

Results. In less than 10% of the observed self-injections unsafe syringes were used. In 68% of the self-injections new, sterile syringes were used. Needle sharing as a planned sequence was not observed. Sharing was determined primarily by the availability of syringes, experience with the injecting ritual, and drug craving. In all observed needle-sharing events, subjects were aware of the risks involved and undertook efforts to clean the injection equipment.

Conclusions. In contrast to psychological approaches aimed at reducing individual "risk behavior," these findings suggest that HIV prevention can be made more effective if active drug injectors are organized to help themselves and their peers prevent high-risk exchange situations. (*Am J Public Health.* 1991;81:1602–1607)

Introduction

Injecting drug users (IDUs) are at risk for the human immunodeficiency virus (HIV) and other viral and microbacteriological infections through their use of contaminated syringes and needles,[1,2] generally termed "needle sharing." (Throughout the text, unless otherwise specified, the term needle sharing refers to the sharing of both needles and syringes.) In The Netherlands, only a minority of drug addicts inject. Most Dutch addicts smoke their heroin and cocaine from aluminum foil (chinesing or chasing the dragon).[3] Compared with neighboring countries and the United States, the availability and quality of heroin and cocaine on the Dutch illegal market have stabilized over the years at relatively high levels and these drugs may be purchased at moderate prices.[4] These economic factors were prerequisites for the diffusion[5,6] of the Asian practice of heroin smoking into the Dutch heroin-using population. However, the drug-injecting minority has not been overlooked by the Dutch government and helping organizations. Since the mid-1970s risk reduction and harm minimization strategies have been in place for all addicts.[7,8]

Few HIV seroprevalence studies have been conducted in The Netherlands. In a selected group that may not represent all drug users in Amsterdam, van den Hoek et al. found a HIV seroprevalence of 33% at entry into the study.[9] A seropositivity rate of 4.8% was found in a nonrepresentative sample from outside the large urban centers.[10] In a Rotterdam study on a sample of "extreme problematic drug users" in methadone maintenance, seropositivity was found to be 9.7% in 1986 and 6.5% in 1987.[8] As a comparison, among methadone clients in Rotterdam, self-reported lifetime prevalence for hepatitis is 19%, for gonorrhea 24%, and for syphillis 5%.[11]

Most of the current acquired immunodeficiency syndrome (AIDS) behavioral research consists of studies relating HIV/AIDS prevalence to HIV-risk factors, such as needle sharing. Few published studies describe what actually happens in such needle-sharing events. This article presents an ethnographic study of the patterns and circumstances of drug use and attempts to determine what variables are associated with risk behaviors such as needle sharing.

Methods

Data collected by self-report techniques may be highly biased if they reflect socially undesirable or criminalized behavior. Ethnographic field observations provide an opportunity to overcome the potential disadvantages of questionnaires or interviews by directly recording behaviors, thus reducing the biases of memory, self-perception, fear, and mistrust.[12] Nevertheless, the validity and generalizability of ethnographic study findings have been questioned.[13] The researcher's presence can alter the context and behaviors of the study group. However, the collective experience of the ethnography of socially undesirable behaviors indicates that with

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due care and time the researcher can become "part of the furniture."[13] Group members live within well-established traditions that structure and limit their actions. While the presence of the researcher may introduce a new constraint, the weight of tradition generally prevails.[14] The validity of ethnographic data can be further improved through appropriate controls on site and subject selection, observational strategies and protocols of data recording, and the development of trust between researchers and study subjects.[15]

The data to be presented were collected between February 1988 and April 1989 as part of an ongoing Rotterdam research project of the drug-taking rituals of heroin addicts. The principal methodology was "street" ethnography. Intense participant observation of addicts' self-administration of heroin and cocaine at dealing places, their homes, and public places was conducted. This observation was structured using an observational protocol of endogenous and exogenous cues pertaining to the heroin rituals of injecting and smoking.[16] The Appendix presents a summary table of the inventory of events indexed by the protocol.

Trust, acceptance, and credibility were developed by a field research team consisting of a community field worker (a respected ex-addict) and the principal investigator, both of whom were known to the participants prior to the study. During informal conversations with drug users, the project's goals were discussed. Other than providing an occasional sandwich or cup of coffee, participants received no fees. Enduring relationships have developed with some study participants who eventually became "key informants" and provided important supplemental information.

No structured interviews were held; when possible, additional information was collected from informal conversations. Detailed fieldnotes of 95 rituals were recorded. In 44 observations, subjects were smoking; in 2, subjects were snorting; and in 49, subjects were injecting.

The observations were recorded in the afternoon (94%) and early evening (6%) in two neighborhoods of Rotterdam characterized by high drug activity; 93% of the observations were recorded at 14 different houses where addicts live, deal drugs, or both. In 53% of the observations those houses were legally rented, in 9% they were subleased, and in 38% the house was squatted. The remaining observations were recorded in public places and abandoned buildings. All locations were initially selected through neighborhood exploration and key-informant information. At times, the research team accompanied participants on their daily rounds. In this way they were also introduced to new dealing places, using places, and private homes. During the fieldwork, some of the dealing places were closed down by the police. Although these "busts" caused some turmoil, they did not seem to have a significant impact on drug use. New places quickly opened up, sometimes on the same day at the same address. Often the researchers were introduced to the owner of a new address by a key informant. By following the dynamics of the drug scene, most of the neighborhood dealing sites could be observed.

Fieldnotes were produced independently by the researchers after each fieldwork session or the following morning, based on short notes taken during or immediately after the observations. The fieldnotes were processed using ETHNOGRAPH, a computer program for the analysis of qualitative data.[17] The data were coded in line with the observational protocol; the codes evolved constantly during the data collection and concurrent coding process. In order to complement this qualitative analysis, the data were quantified by counting significant events and by recording available demographic and background characteristics of the subjects. The numbers presented in this article were generated through these quantifications and are intended to support the qualitative analysis. Although this selected sample may not represent all drug users in Rotterdam, this is a common feature in most studies which examine "hidden" populations.

The total number of subjects contacted was 192 (168 males and 24 females). By comparing independent field-worker estimates, ages of 106 subjects could be specified: 30% were 25 years or younger, 50% were between 25 and 35, and 20% were over 35. This distribution resembles that found in the Rotterdam registration system of heroin addicts in methadone treatment (RODIS).[11] For 23% of the subjects injecting was the main mode of drug administration, while the remaining 77% smoked; 96% used both heroin and cocaine. The field work established that both heroin and cocaine were available at all dealing addresses. That cocaine has become increasingly important to Dutch heroin addicts is verified by the RODIS system, in which 72% of the treatment population uses cocaine.[11]

TABLE 1—Status and Origin of Syringes in Observed Self-Injections (N = 44)

Status and Origin	n	%
New		
In possession of subject	9	21
Received at place of injection	21	48
Used		
In possession of subject	10	23
Received/found at place of injection	2	5
Received from other intravenous drug user	2	5

Results

Sharing behaviors were found to be frequent and important events for the drug users observed in this study. The sharing of valued things such as housing, food, and clothing is an everyday occurrence tied to survival needs in extreme circumstances. The sharing of drugs fits into this wider pattern of daily interaction and exchange[18] and has been observed for both IDUs and non-IDUs. Among IDUs this interaction pattern may have important implications for HIV transmission.[19] The sharing of drug paraphernalia was also observed: at some addresses spoons, water containers, and lemon juice were available for common usage, and some drug users shared their knives or lighters upon request. However, needle sharing as a planned or stereotyped sequence in which two or more people share, one after the other, the only available syringe was never observed. Most drug users seemed aware of the risks and consequences of needle sharing.

In 68% of self-injection events, a new syringe was used. In 23% IDUs reused their own syringe. In less than 10% of the self-injections, a potentially unsafe syringe was reused (Table 1). Used syringes that were found or received from others were not adequately cleaned (i.e., cleaned with water only). The unsafe self-injections were recorded at addresses where injecting was permitted and in a public place. Because most houses don't allow injecting, IDUs used their drugs in private settings more often than smokers. These house rules may prevent needle sharing. However, some IDUs let their friends and acquaintances inject at their place, sometimes in return for a "taste" of the drug. At some of these using places and at some of the dealing places that allow people to inject, clean syringes supplied by an out-

reach and needle exchange program[20] were dispensed as illustrated in the following fieldnote.

> **1. "Is that an old spike you want to use?"** Although it isn't stated directly, Karel agrees on Jerry taking a shot at his place. Jerry wants to shoot up pure cocaine. He puts his spike on the table and asks Karel for a spoon. Karel asks: "Is that an old spike you want to use?" Jerry: "Well, old, I've used it one time before, so it's still good to use." Karel: "I've got some new ones left from the exchange." He gives a syringe to Jerry asking "You want some more for tonight or the weekend?" Jerry: "If you can spare them I'll take some with me." Karel gives him four syringes.

For many IDUs a strong incentive exists to frequent those places where clean (and sharp) syringes are freely available. Nonetheless, despite the availability of syringes, there were times when we observed IDUs in situations of heightened needle-sharing risk. In those cases, traditional subcultural sharing norms conflict with the more recent norms regarding safe use. The following fieldnote recorded at the "shooting room" of a dealing address documents such a situation.

> **2. "Don't be afraid, I've got no AIDS."** From the corner where she's still busy with the needle in her hand Anja asks: "Do you have a new syringe for me?" Eric answers, "No, this is the only one I got. I was lucky, one minute before the pharmacy closed I bought it." Then Anja asks: "Can't I use it when you're finished. I can't use these anymore," pointing at the syringes laying around her on the floor. "They're all blunt, I can't hit a vein," she says as if she's crying or starting to cry. "Or let me only use the needle then. Please let me, I will clean it for you. Don't be afraid. I've got no AIDS. I've been tested recently at the methadone program." Eric still refuses: "I would like to help you but it's the only one I've got. I never lend out my spike to someone else, nobody, not when I have to use it myself again. When I'm not using it again it's their own risk."

Although needle sharing did not take place, the fieldnote illustrates the often emotional pressure to share a syringe. In this case, in spite of the pressure Eric decided in the interest of his personal health and against the norm of sharing. Nevertheless, the situation can often be tense.

When comparing fieldnotes 1 and 2 the functioning of a variable of perceived responsibility for safe use becomes apparent. In fieldnote 1, the perceived responsibility is given a collective quality. Because the needle exchange program dispenses supplies to IDUs, the possession of ample syringes allows users to reinforce the subcultural norm of sharing, yet in a safe way. In contrast, in fieldnote 2, the perceived responsibility is marked by a strong quality of the "rugged individual junkie" who resists the pressure of community sharing norms by adhering to a personal behavior code.

Although both collective and individual norms of responsibility operate to minimize and manage the risks of needle sharing, there are still situations in which unsafe needle behaviors can be observed. Fieldnote 3, for example, was recorded on the first floor of a house occupied by squatters. The first and third floors of the three-story house were in use. It did not have running water; water was carried to the house in containers from a garage next door. The house was inhabited by a group of older IDUs. At times the group offered shelter to other drug users. They also allowed other drug users to deal heroin, cocaine, or amphetamine in exchange for money or drugs. Occasionally they themselves dealt drugs as was the case in fieldnote 3. This house also was supplied with sterile syringes by the outreach program. However, at the time of observation it was unclear whether there were any new syringes left. Jack (the doorman) let in Billy and Dirk. They all knew one another. Meanwhile some other users went in and out.

> **3. "I don't give a shit about AIDS."** Billy asks Dirk what he wants. "Let's do coke first and then a cocktail," Dirk replies. Billy has a syringe wrapped in aluminum foil. He does not want to wait for a new syringe. Dirk does not have one with him and starts searching. He asks Jack if there are any new ones left. "I don't know," Jack replies. "Maybe upstairs. Ask Karel, he's there." They call Karel several times but he does not answer. Then Dirk finds a syringe in a cupboard. It is unclear who it belongs to. He rinses it with water. He pulls up water twice from a cup he has filled from the water container and squeezes it through the needle. Billy mumbles something about AIDS. Dirk says "Ik heb schijt aan AIDS." (I don't give a shit about AIDS).

Dirk used this syringe two times. First he shared a dose of cocaine with Billy and within 30 minutes he shared a "cocktail" (heroin–cocaine mixture) with Billy and Jack.

In fieldnote 4, two IDUs (Eric and Anja) were in the "shooting room" of a dealing address where injecting is allowed when Leo entered the room. Leo did not come to the address to buy drugs. Eric owed him money and he had heard that Eric was at the address.

> **4. "You have to clean it well."** "I wanted to ask you if you can pay back or otherwise if you could help me with a shot." Leo said. Eric was not able to pay Leo back but offered a cocktail. Leo gladly accepted: "Great man, you don't know how wonderful that is. I'm so glad I didn't miss you here." However, Leo was not in possession of a syringe. Leo asks Eric for a syringe: "I couldn't get a new one. The needle exchange at the Central Station had closed already." Eric tells Leo he only has his own, which he is not willing to share. Then Leo asks Anja if he can take one of her used syringes that are lying in front of her. Anja: "That's useless, they're all blunt, but if you want to try that's okay with me." She picks up several syringes from the floor and looks closely at the needle, comparing one with the other. Finally she makes her decision which one to give to Leo and gives it saying: "You have to clean it well." Leo goes with the syringe toward the sink and cleans it seven or eight times with cold water. To clean the plastic part of the needle, he moves it in such a way that there is some space between syringe and needle. He presses the plunger strongly so the plastic is cleaned under pressure. The water now does not come through the needle but shoots away through the little space between syringe and the plastic needle holder. Leo states: "It must be clean now." Anja tells him: "Don't worry, I'm checked for AIDS recently. I told Eric too."

In fieldnote 5 Mohammed and Abdul had obtained new syringes from the exchange program near the Central Railroad Station before they went to an address to buy cocaine and heroin. They were not allowed to inject at the address, so they went to a small greenhouse in a park. Mohammed prepared the jointly bought drugs. He then divided them by "front-loading," a process in which the solution is first drawn from the spoon into one syringe and then half of the solution is inserted into the hub of the second syringe.[19] Abdul wanted to check to see if the solution was equally divided between both syringes.

> **5. "Don't you trust me?"** Mohammed gives both syringes to Abdul and asks him: "Don't you trust me?" Abdul doesn't answer. He holds the syringes next to each other and stares at them. While doing this he accidentally drops a syringe. The needle falls straight into the ground. Abdul curses and so does Mohammed. Mohammed says, "Now you see what happens. Why don't you believe me?" Abdul picks up the syringe and looks closely at the needle. He asks Mohammed if he still can use it. Mohammed takes the syringe and runs the needle tip over his thumbnail. "No," he says, "there is a burr on it. It's not sharp anymore and it's dirty. You've got to get a new one." Abdul:

"No, I don't go back. Give me yours." Mohammed: "Then you have to wait until I'm ready." After Mohammed has taken his shot he starts cleaning his syringe with the water from the bottle. He puts some lemon juice in the cooker again, pulls it into his syringe, and shakes it so that it mixes with the water. He puts the needle back on it, holds it with two fingers, and presses the water–lemon solution through it as hard as possible. Mohammed explains: "The lemon bites and cleans the needle better." When he's ready, he puts the needle on Abdul's syringe.

Examination of fieldnotes 3, 4, and 5 indicates that needle sharing often is the result of complex and multiple factors. In all the fieldnotes, use of another's syringe was not planned. Rather, an unexpected situation occurred. In fieldnote 3, Billy and Dirk select the particular address because injection is allowed and new syringes are available. However, when they were ready to inject, new syringes were not available. In fieldnote 4, Leo did not have the money to buy drugs but learned by coincidence that Eric, who owed him money, was at the address. He did not have a syringe because the needle exchange had closed for the day. In fieldnote 5, although sufficient prevention measures were taken in advance, an unfortunate accident put one of the users at risk.

In these three fieldnotes an unanticipated change in the situation put the IDUs in the uncomfortable position of choosing between postponing or abstaining from a shot and an unsafe injection. They all chose the unsafe injection although they were well aware of the potential risks of their behavior as evidenced by their rather intensive efforts to clean the used syringes. In fieldnotes 3 and 4, AIDS is associatively mentioned while cleaning the syringes; in fieldnote 5, the use of lemon juice is presented as a cleaning method superior to using water only. However, the effectiveness of AIDS-related knowledge as a protective factor seems to depend on certain specific situational factors.

The significance of one of these situational factors, the intensity of drug craving, deserves special attention. Shortly before an injection, IDUs often become highly aroused. This arousal leads to preoccupation with the sequence that relieves craving. For some IDUs, this sequence begins when the drugs are obtained. For others, the preparation of the injection is the starting point. As one IDU states: "As soon as I put it on the spoon my stomach turns around and I know it's gonna happen, I'm gonna feel that intense rush." In all of the cases presented, postponing the injection would have caused noticeable stress. In fieldnote 3, Billy and Dirk were in high anticipation of an injection. They had already visited the address 30 minutes earlier, expecting to find a dealer working. However, the dealer had just left, so they went to another to buy. When they returned, Billy complained about the trouble they had finding a dealer. Dirk did not bother to see if there were any new syringes upstairs. By this time, the drug craving had become too intense for further deferral. In fieldnote 4, Leo explicitly expressed relief when he was offered an injection. In fieldnote 5, the accident happened only seconds before actual injection. Obviously, Abdul's craving had become so intense that he ignored Mohammed's advice to get another syringe. Furthermore, in all cases cocaine or a mixture of cocaine and heroin was injected. The addition of cocaine to the daily drug-using rituals has been observed in the field to be associated with an intensification of craving and a disruption of stabilized heroin-methadone patterns.

While situational factors play the most important role in needle sharing, certain structural factors can also be seen. One such factor is that of socially learned experience with the injecting ritual, internalized during the IDU career. This experience includes, among other things, protective skills that support safe needle use. The interaction between Billy and Dirk in fieldnote 3 provides an illustration of this factor. Billy, an experienced IDU, went to inject at a place where clean syringes are normally available. Nevertheless, he carried his own used syringe anticipating the absence of new ones. In contrast, Dirk, a novice IDU with no visible needle marks, did not bring a syringe. Immediately after injecting cocaine, he began smoking heroin. He identified himself, not as an injector, but as a smoker, stating: "I'm only shooting now and then, strictly speaking I am a chineser." Irrespective of his AIDS knowledge, Dirk's particular self-deception works against taking the appropriate precautions. His self-perception as a chineser provides a false sense of security that, in turn, leads to blasé attitudes such as "I don't give a shit about AIDS." In fieldnote 5, another case of inadequate socialization is found. Both users were still at an early point in their injecting careers. Mohammed, who reported he had been injecting for about half a year, is instructing the even less experienced Abdul, who was about to take his 10th lifetime injection.

Discussion

Increased availability of drugs is thought to affect consumption by increasing the prevalence of use.[21] Less attention has been given to the harmful effect of decreased availability of drugs. Availability-related variables, such as rising prices, decreasing purity, and unstable supplies can be seen as factors determining the onset of injecting.[22–24] The Dutch experience shows that if availability variables are relatively stable over time, minimizing economic pressure to initiate and maintain injecting, a predominant smoking pattern can develop.[4,25] Thus, injecting can be seen as adaptation to the conditions of decreased drug availability.

The availability of needles also plays a major role in needle sharing.[23,26] Syringes have traditionally been easy to obtain in The Netherlands. Since the AIDS epidemic began, the availability of syringes has increased even more due to the needle exchange programs. Furthermore, in The Netherlands, in contrast to other countries, the possession of injecting equipment has never been illegal.[23,26–28] Risk of arrest discourages IDUs from carrying their personal injection equipment, which limits on-the-spot availability and increases the frequency of sharing drug paraphernalia.

The results of this field study support the hypothesis that when drug and syringe availability is stable and possession of injection equipment is legal, needle sharing decreases markedly. Nevertheless, research in Europe and the United States documents that IDUs are indeed changing their behavior to less risky injecting practices, despite the absence of "Dutch" conditions.[29–31] There seems to be a growing awareness of health risks and a willingness to use drugs in safer, more responsible ways. Our field research found only limited incidence of irresponsible behavior in inexperienced IDUs or those experiencing craving intensified by cocaine. Several recent studies have shown a relationship between cocaine use, risk behaviors, and HIV-serostatus.[32,33] Paralleling other studies, our results show that, even under optimal conditions, IDUs can and do get into situations in which sterile injection equipment is not available. In contrast with novice IDUs, experienced injectors are likely to be more competent in managing such situations.[29,34]

In numerous studies, the social organization of the drug subculture has also been associated with needle sharing. Drug users are often organized in small friendship groups.[35,36] These friendship groups

are often linked in networks whose main activity is to obtain and distribute money and drugs,[35,36] which are often shared and used along with other necessities of life. Sharing and the reciprocal aid it promotes provide a practical and emotional balance to the daily hardship of addict life. In the pre-AIDS era, needle sharing fitted snugly into this pattern. Helping a fellow addict with a syringe was an expression of the almost universal subcultural code of "share what you have."[37] These sharing behaviors functioned not only to satisfy individual craving, but also to support the maintenance of the network through the expression of community solidarity and the instrument of economic exchange.[35] In the AIDS era, needle sharing no longer serves this purpose. Rather, it has been transformed into a threat to the individual drug user, the friendship groups and networks, and the drug subculture as a whole. As with most cultural shifts, the process is gradual and never complete. Residues of the traditional code still remain and can be observed in emotional appeals and convenient lapses in newly acquired knowledge.

In conclusion, our findings suggest that needle sharing often is the outcome of structurally or situationally determined social interaction. Knowledge alone is not enough to counter the pressure of social interaction and drug craving. In these stressful situations, if clean syringes are not available, the strength of addiction will ultimately lead IDUs to unsafe injection practices. While easy access and a sufficient supply of clean syringes are effective in reducing unsafe practices, as van den Hoek et al. conclude,[9] they are not enough. They recommend intensive counseling in future preventive education efforts. Our findings support their suggestion by identifying a number of factors that determine needle sharing. These factors should be addressed in counseling that focuses on the practical skills of safe drug use. Furthermore, our results indicate that changes in the social environment may be more important than changes in individual risk behaviors. Prevention efforts may be made more effective by mobilizing social resources directed at preventing risk situations. IDUs and their networks should have a prominent role in such approaches, an idea that is getting more attention.[38–40] In Rotterdam our findings have shown that outreach programs working with IDUs to reinforce positive protective factors such as rules of safe use, while also distributing syringes to unknown IDUs via known ones can be effective in changing the environment.[20] Utilizing the knowledge of drug users and their information and exchange networks to promote risk reduction through peer education and peer support might offer more perspective on a lasting behavior change than any other prevention effort. □

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APPENDIX[16]

The observational protocol used in this investigation provides an instrument to guide field research of heroin routes of administration in naturalistic settings. For theoretical purposes, we have termed the routes of administration for heroin observed in naturalistic settings as heroin rituals. The concept of ritual has been used in previous studies of drug use.[41] Our operational definition of ritual has been adopted from M. H. Agar[42]: "For an event to be a ritual event, it must prescribe a sequence of psychomotor acts . . . [and] the prescribed psychomotor sequence must be invested with a special meaning for the person performing that sequence." (p. 141). The instrument is partitioned across two dimensions. The first dimension, heroin rituals, consists of two categories; spuiten (injecting) and chinezen ("chasing the dragon," smoking). The second dimension refers to observational cues, classified as exogenous and endogenous. Exogenous cues index external ecological events that correspond to the "prescribed psychomotor sequence." In addition, participant background characteristics, paraphernalia, and environmental features partly compose this category. Endogenous cues index internal psychosocial events that correspond to the "special meanings" of the rituals. Internal experience is routinely expressed and displayed through language or gesture thereby available for direct observation in naturalistic settings.

Table A provides an overview of endogenous and exogenous cues cross-classified by the rituals. The table has the character of "fuzzy (sub)sets" with overlap of the formal items assigned to its four cells. In addition, this classification may not be exhaustive: future research may add new dimensions, categories, or items to the instrument.

TABLE A—Summary Inventory of Observational Cues by Heroin Rituals

Cues	Rituals	
	Smoking	Injecting
Exogenous	Background characteristics	Background characteristics
	Argot	Argot
	Tools	Tools
	Drug-taking actions	Drug-taking actions
	Order	Order
	Prices	Prices
	Places	Places
	Time	Time
	Behavior	Behavior
	Rules	Rules
	Sanctions	Sanctions
	Relations	Relations
	Hierarchy	Hierarchy
	Hygiene	Hygiene
		External circumstances
Endogenous	Argot (jargon)	Argot (jargon)
	Glosses (idiom)	Glosses (idiom)
	Drug effects	Drug effects
	Emotions	Emotions