Systemic approach of the links between urban dynamics, life environment and insecurity: *situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?*

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Abstract

Managing and controlling city whilst guaranteeing the social cohesion and the life quality is an objective of the urban sustainable development. Thus, the life environments and urban atmospheres that include a security dimension imply a geographical and town-planning thinking. These research activities concern the importance the city-dweller attributes to the security issues. Insecurity can sometimes explain some places repellentness and consequently the daily and residential mobilities. These displacements impact on the places economic and social functioning. Urban insecurity produces negative externalities that can be quantified. Aware of the differential attractiveness that some urban spaces have, the responsible of territory fitting usually agree on the need to rethink the city functional organization. They adopt a global approach that includes the idea of urban environment securing. One of its operational materializations is the method called "situational prevention". It aims at reducing at the same time the possibility to commit a crime and the anxiogene potential of some spatial layouts. The systemic approach, allows presenting the interrelations that link urban dynamics, life environment and insecurity feeling. The objective of this systemic analysis is to help understanding and, eventually decide, public authorities that require advice in the prospect of the urban spaces sustainable development.

Key-Words: Situational prevention; Feeling of insecurity; Urban planning; Systemic; Urban sustainability

In France, the end of the year 2005 was characterised by urban violences that attracted the media and public opinion attention on insecurity in the urban spaces. Indeed, security in an urban environment was often studied from the very factual declared delinquency point of view or from the "urban violence" point of view, the latter are the climax of violence within the city. Nevertheless, we should notice that these recurrent violence episodes remain punctual and spatially contained. On this moment, the issue of real violence, which was studied much since the economic crisis of the end of the 1970s, interests much again within the scientific interdisciplinary research activities.

This article will be based on the research activities led by our predecessors and will privilege the study of a broader research field: the insecurity feeling. It is defined as a fear that is focused on crime, in its broader meaning. It can be based on a material reality such as the damages of public goods, or on the fear linked to other individuals that share space with the concerned subject. Considering these three ideas, we postulate the spatial layout and the built structure impact not only on victimation, but also on the person who practices his/her district's representations regarding security.

In France, it does not seem neutral the concern for delinquency is maximal in the so-called "Sensitive Urban Zones", whereas the feeling of belonging to one's district,

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

1

represented as a projection of the family nest, is superior in the underprivileged districts than in the other ones [JACQUEMIN, 2005].

Thus, it appears the notion of insecurity feeling is located at the interface between three sets, which are the lived, the perceived and the represented ones. As regards the lived set, we should notice the authors do not agree on the existence of a possible correlation between victimation experience and insecurity feeling [MOSER, 1998 ; LE JEANNIC, 2006].

The international statistics would tend to show the absence of direct causality relation between these two notions. Thus, the crime level can be compared in France and in Germany and it is in the European Union average. Nevertheless, the estimation of the victimation risk is higher in France than in Germany [DITTMANN, 2005]. Here, the study of insecurity feeling, particularly in urban environment, is privileged because this spatial context is considered as more anxiogene than the rural life environment [LE TOCQUEUX, 2003]. According to a study made by the French National Institute for Statistic and Economical Studies published in 2001, the insecurity feeling level of the surveyed people was 8% in rural area whereas it was 17% in the agglomerations from 50 000 to 200 000 inhabitants and it reached 23% in Paris agglomeration [Permanent survey Life conditions 'districts life', Enquête permanente Conditions de vie 'vie de quartiers' INSEE, 2001]. We should add that the individuals' concern for security seems to increase in a corollary way with urban density [LE TOCQUEUX, 2003]. As far as the anxiety for delinquency is concerned, it is a variable that increases in parallel with district poverty [LE JEANNIC, 2007]. Lastly, the people fear is an increasing function of the incivilities frequency if they overcome an acceptability threshold, because in this case they give the impression the public order rules can be violated with impunity [ROCHE, 1998]. The security constraint generates a cost for the individual and impacts on the frequenting of places that receive public (commercial spaces, leisure spaces, open spaces) [LE JEANNIC, 2007; LE TOCQUEUX, 2003]. It is clear that renouncing to an activity for reasons linked to security at the same time generates objective and subjective cost for the individual; this cost can be quantified.

This restriction to the daily activities has spatial consequences. It is illustrated through daily mobilities, and at the end *via* the possible residential mobility that echos them. The societal cost of this perturbation of daily routines is important and should be taken into account. Indeed, the individual behaviours of daily mobility can make emerging spaces that can be qualified of "attractive" or "repellent" ones, what impacts on the district economical functioning. Beyond, the restriction of daily mobilities and the disaffection with the places which inhabitants belong to the same socio-economic group generate a diminution of the social interaction within the district. It finally provokes a general diminution of the social link, which is a major concern for the institutions. As a feedback, the reduction of the social link quality has a direct impact on the insecurity feeling, which then influences the social link, as we have previously seen it. Consequently, there is a vicious circle shaped feedback between these two phenomena, what poses the question of the public institutions interventions to curb the insecurity feeling in urban environment.

This article will firstly present the interest and need of an interdiscplinary approach of the relations between insecurity feeling and urban atmospheres in a "life environment" prospect. Then, we will emphasize a specific intervention method that allows reducing the insecurity feeling. Lastly, a synthesis proposal will be made on the basis of a systemic graphical model that illustrates a global approach of insecurity feeling and of the link of the latter with situational prevention. In a third time, a suggestion of systemic graphic model will be made and explained. It will pave the way for considerations about the future modelling directions.

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity: *situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?*

2

I. INTER-DISCIPLINARY APPROACH OF THE RELATIONS BETWEEN INSECURITY FEELING AND URBAN ATMOSPHERES IN THE « LIFE ENVIRONMENT » PROSPECT

1.1. Urban atmospheres and life environment: the insecurity feeling analysed through an interdisciplinary prism

The insecurity feeling is defined as « *a concern crystallised on an object (crime in its broad meaning) and on its designed authors. It is based on the individuals' lived world, whilst referring to a values system [...]. The words fear, concern, apprehension should not be understood according to the clinic definition of fear, but rather to the anxiety meaning, that is to say of a anxiety state stabilised apart from the events that could have provoked it* » [ROCHE, 1993]. According to ROCHE [1998], this feeling « *is not reduced to the victimation frequency [...] or to the environment pressure [...] of disorders, but it depends on them, insomuch socially their downward variation can make the concerns crumble*". We should add that for CRENNER [1998], the insecurity feeling can be « *based on destructions or damages of public goods or of common parts* [of the collective buildings] ». This definition, which is apparently precise, does not obtain unanimous agreement. Thus, for BODY-GENDROT [2007], « *the word « insecurity » [is imprecise] [...] [as] it spontaneously evokes the reality of urban life, delinquency and the dangerous otherness* ».

The study of the insecurity feeling requires the adoption of trans-disciplinary vision and contributions, which are the only ones which allow a global approach of this phenomenon, complex as it will be explained later. Indeed, the study of insecurity feeling is located at the combination of six disciplines.

Thus, the analysis of the insecurity feeling implies the recourse to geography that is much interested in the spatial layout issue. It has contributed, especially in the Anglo-saxon countries, to the management of the security issues at the urban scale, by the implementation of tools (geographical information systems [PEREZ, 2003]) that paves the way to what was qualified of « crime geography ». It is a "*sub-discipline focused around understanding the underplay between crime, space and society through analysis of offences, offenders and effects of crime*" [JOHNSON *et. al.*, 2000]. Besides, geography contributes to the understanding of the mobility behaviours.

The study of the insecurity feeling cannot avoid using the contribution of urbanism, especially as regards the sensorial descriptors that allow analyzing the insecurity feeling [AUGOYARD et LEROUX, 1992] and the processing of these ones in the urbanism projects. The latest ones are integrated in urbanism policies that control the urban development, guarantee the urban renovation and encourage the urban renewal.

Psycho-sociologists and psychologists bring understanding grids of the behaviours in urban environment and design evaluation methods of insecurity feeling at the individual scale. They also pay interest to the relations between behaviours and insecurity feeling. They can materialize, for example within the female population, by the implementation of avoidance strategies. Other women keep their previous mobility habits, but they accompany them with a continuous ego-centered fear, or they can also reduce or totally stop their displacements [CONDON *et al.*, 2005]. As regards MOSER [1998 and 2004], he specifies the importance of the insecurity causal attribution in the construction of the representations the individual have of it. Indeed, according to the fact the individual attributes to internal (for example his/her lack of vigilance), external (for example the lack of policemen) or risky causes (an unfortunate combination of circumstances) his/her past victimation, the latter will not have the same influence on the evolution of his/her insecurity feeling over the time. He also insists on the importance of the familiarity to environment and on the undeniable role of spatial

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Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

3

appropriation, of belonging feeling and of satisfaction level in the construction of the insecurity feeling. Thus, it prompts to take into account the relation of the individual to the place, that is to say his/her attachment to the latter.

As regards the sociologist, in particular the interactionnist one, look, he brings an aggregated vision of the mechanisms that associate social group and security representations. Thus, he gives major understanding keys on the consequences of the interrelations between the individuals and on the role of the latter in the construction of the insecurity feeling representations. Thus, according to the intensity of the social link among a district inhabitants, to the animation within the latter or to the, wanted or suffered from, social segregation there is in it, the residents have a different perception of insecurity in their life place. The sociologist also studies the mass-media impact and the security perception according to different people typologies [PAN KE SHON, 2005]. Lastly, he brings lights on the otherness paper in the individual opinion construction.

In the political science field, the main French reference is ROCHE, who defines the notion of insecurity feeling. He also explores the consequences of the exposition to a violent environment from the individual point of view, with the PREXVU model [ROCHE, 1998]. In this one, victimation refers to the acts the individual suffers from. As regards exposition, it is the period when the individual faces a certain victimation probability, or hazard. Vulnerability is defined as an individual's fragility regarding an event that generates insecurity feeling and his/her inability to anticipate it. As far as it is concerned, the « *risk acceptability*» « *belongs to the political culture of given places or groups* » [ROCHE, 1998]. According to us, the issue that emerges from his analysis concerns the link between risk acceptability and an individual's or an household's propensity to move. Besides, ROCHE studies the different methods of insecurity feeling management the institutions have and he thinks about their possible improvements.

Lastly, a study about the insecurity feeling requires economics contribution [FOUGERE *et al*., 2004]. They allow evaluating the costs generated by the insecurity feeling, which are at the same time objective (for example those linked to the damages suffered by urban furniture) and subjective (especially the psychological cost due to the implementation of avoidance strategies during the daily displacements or the compensation cost, when it is necessary to find alternative solutions to the use of a car that has been damaged). These costs exist at the *micro* level, referring to the individual, and at the *macro* one, referring to the district, but also the institutions and the society as a whole. Besides, economics is useful to evaluate the individuals' and households' propensity and ability to residential mobility. The agents' arbitration regarding a possible residence change depends on the level of the available income, on the land dynamics and lastly on the result of a cost/profit estimation of the advantages expected from this mobility.

1.2. The insecurity feeling as a result of the triptych: life environment, sensorial factors and sensorial atmospheres

A district inhabitants' insecurity feeling depends on their residential environment. The latter is composed on the one hand of material elements, such as the spatial layout, defined as the buildings fitting, its height and its front structuration. As far as the spatial structure is concerned, it is considered as « *the arrangement of the different elements that compose the city from a morphological point of view, for example the fact the urban fabric either compact or spread out, hierarchised or not, symmetric or not* » [TANNIER, 2000]. The articulation of these material elements is associated to the way the city-dwellers practice space and to the activities that are available within this one. The combination of these two dimensions

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

4

produces what we call "life environments". The urban life environment that is directly linked to this paper, associates: spatial layout, spatial practices and amenities or urban functions types. The destabilizing character of insecurity materialized in its concomitant impact on these three elements. The urban structure can suffer from damages or spotting that generate a cost. As regards the spatial practices, insecurity and insecurity feeling imply to implement avoidance strategies at the individual scale. These individual strategies can collectively create a differential attractiveness of places. As regards the attractiveness issue, it is posed because the insecurity feeling generates a frequenting reduction of the places perceived as insecure. With a constant supply, it implies a diminution of the demand of goods and services in these places. Simultaneously, there is a transfer from this one towards other places represented as secure ones. On the middle or long term, if this dynamic continues, the services suffering from this demand diminution reacts by implementing action strategies. They can consist in the security reinforcement (augmentation of the security guards…) or in the decision to locate their activities in another place, what generates a cost in both cases. The stakeholders make arbitration between the latter and the anticipated advantages they associate to the made decision.

Concerning the sensorial factors, all of them can be measurable. They include luminosity [AUGOYARD et LEROUX, 1992], cleanliness, « *the space openness degree* » pointed out by ROCHE [1998], noise [HOUOT, 1999], co-presence, places temporality and olfactory signals. These factors articulate objective and subjective dimensions and, associated to the life environment, base the definition of urban atmosphere. The latter is defined as a mise-en-scene of the urban space that impacts on the inhabitants' behaviour. The setting is composed of built structures and of their environment. This setting perception depends on the sensorial factors that influence any « urban-dweller-actor » in his/her practice of the urban space. The residential, secure or not, environment associates life environment and urban atmospheres. It implies thinking about the places evaluation and the satisfaction level the inhabitants have to live in their district regarding the security issues. Thus, PAN KE SHON [2005] gives a definition of contentment. It would intrinsically be heterogeneous (different according to the individuals) and « *linked to the district amenities, wood, park, fitting and leisure supply. This contentment also depends on the advantageous [or not] site, on the equipment [level] and on the services [quantity] […]. Lastly, it is correlated with the proximity of the inhabitants' relational network*. The interest paid in the issue of the satisfaction under security condition is based on a proof made by LE JEANNIC [2007].

He points out the security issue is only in sixth position among the critics inhabitants make to their district when they are globally satisfied by their residence place. On the contrary, among the persons unsatisfied by their district, insecurity is at the first rank of their critics. This remark reinforces the idea residential choices depend on the households' anticipated satisfaction level regarding their future life environment, especially in matters of security. The evaluation of the residential environment security by the inhabitants seems to result from their feeling regarding three kinds of fear, pointed out by ROCHE [1998]. It is firstly the ego-centered fear, considered as the individual's fear for himself/herself. The altruistic fear, as far as it is concerned, refers to the fears the individual has for his family circle (his/her children for example). Lastly, the concerns refer to more general anxieties that have a socio-economic nature, within this kind of fear there is insecurity.

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Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

5

1.3.   In which measure the insecurity feeling in urban environment is complex?

André DAUPHINE [2003] suggested a classification of the complex phenomena for geographers. It was then applied to risks [PROVITOLO, 2007]. We will develop the idea the concern associated to insecurity feeling is another kind of urban risk which implications are multiple and complex. It generates a socio-spatial disorganization of the spaces that are subject to it.

In DAUPHINE's approach, there are five ways to perceive complexity: a structure complexity, a spatial scale complexity, an organization level complexity, an overlapping of temporal levels complexity and lastly a complexity linked to the non-linear systems. Here, the stake is the articulation of the *micro* to the *macro* and all the interaction and feedback links of the one on the other one. As regards the structural complexity, it « *is got from the interactions of many components* » [DAUPHINE, 2003]. As regards insecurity, the structural complexity is articulated around different components, (*diagramme 1*) which constitute sub-systems that have their own functioning rules. They have at the same time a material, anthropogenic, socio-cultural and economic nature. Indeed, they articulate different levels that interact the ones with the other ones. Consequently, they produce a pluri-dimensional study object with interdependent and strongly overlapped dynamics. The set of these components in interaction produces structural complexity.
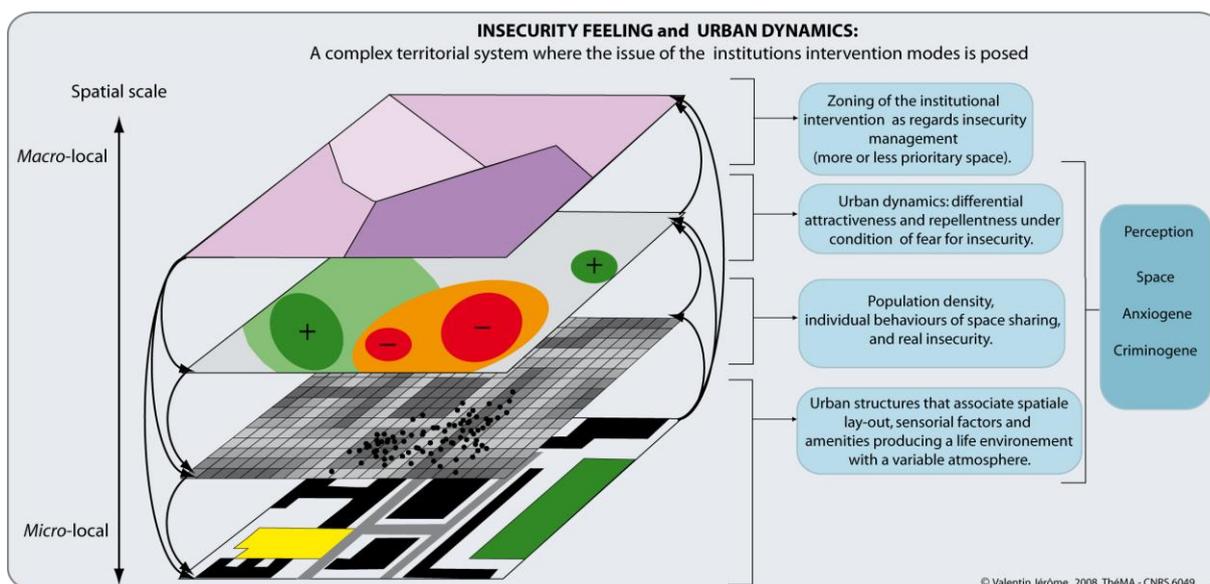

Diagramme 1: Insecurity feeling and urban dynamics: a complex territorial system where the issue of the institutions intervention modes is posed

The structure complexity is articulated between three components: physical, anthropogenic and economic. It induces the coexistence of different components in the same system. It subtends the idea the different components of the "insecurity feeling" system interact the ones with the other ones through interdependence relations which hierarchy depends on their pregnancy. In the case of the system we are presently studying, we should notice the presence of a multi-dimensional physical component of insecurity; it is constituted by urban structures and spatial layout. There is also an anthropogenic component that is multi-dimensional too. It articulates around the individual's, the household's and the community's relation to security. At the *macro* scale, the social component of this problematic complicates whilst integrating sociological data that are for example: the kind of individuals suffering from the real or perceived insecurity, the social representations linked to

Valentin J., Bichet-Miñaro A. : **Systemic approach of the links between urban dynamics, life environment and insecurity:**
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

6

this one and the "stigma figures" that echo back. Besides, the individuals' political culture and their relation to ethics also condition their acceptability level in the "insecurity feeling" system.

An important part of the system seems to be associated to the economic component that is also multi-dimensional. Indeed, for the individual the relation to insecurity is an objective and a subjective cost, that can be associated to the strategies implemented to try to reduce the insecurity feeling (use of the car rather than common carriers or housing change decision). At another scale, the supposed cost for the commercial services is important, as we already saw, especially regarding some places frequenting and other ones repellentness. The insecurity feeling has also consequences on the long term on the commercial structures. Indeed, it generates an additional cost that impacts on the profits, either directly (petty thefts, security guards cost) or indirectly (reduction of the frequenting and of the customers number). At a *macro* level, the management and regulation cost of the behaviours that generate insecurity feeling is an important parameter for the institutions. As the budgets are limited, the possible actions require a cost/profit evaluation that also integrates the evaluation of the efficiency that is anticipated from the policy that is implemented on the shorter or longer term. Thus, the secure cost associated to the setting up of additional policemen manpower in a space recognized as insecure is inferior to the one of an urban renovation policy that lasts several years and that integrates large scale urbanism projects. Even if these costs cannot be compared, we postulate the first one acts in a temporary way whereas the other one has a structural action. Indeed, the policies of social housing building modify the districts appearance in a perennial way, whereas the manpower of youth workers can be redeployed if necessary. Consequently, the propensity to act of the institution is conditioned by budgetary considerations that act as control parameters from a systemic point of view.

Complexity cannot be reduced to structural aspects. Indeed, there is also a complexity of spatial scale that is defined as an « *overlapping of the spatial levels* » [DAUPHINE, 2003].

In the security case, there is a levels overlapping from the *micro*-local, which refers to the level of the act that generates insecurity feeling and of the individual strategy, until the national one, which is the level of legal norms drafting. Between these two extreme levels, there are intermediate levels that integrate two action levels. On the one hand, it is composed by territorial authorities (implementation of urbanism policies) and on the other hand it is made up of non-institutional structures, such as associations and lobbies that intervene in the public debate and on the actors' game. The juxtaposition or the proximity of two territories types that have competition, differential attractiveness or collaboration relations creates complexity.

There is also a complexity of organization level. Indeed, all the elements that were previously described do not have the same pregnancy on the described system. Thus, the expression "organization level" underlines a differential ability to decide and implement action policies or strategies that aim to fight against the insecurity feeling. These strategies depend on the stakeholders' political culture. The latter will imply preferences regarding the solutions adopted concerning the fight against insecurity feeling, in which the respective parts of the preventive and coercive dimensions can fluctuate. Thus, the chosen model used to apprehend the security issues in the state of New-York in the United-States in the 1980s was very coercive; it was the so-called "tolerance zero" [BODY-GENDROT, LE GUENNEC, 1998]. On the contrary, the choices regarding the fight against delinquency favored the preventive approach in the Scandinavian countries. The strategies of all the components are not always led in a concerted way. It implies actors' games where the action synergy remains genuinely theoretical, what reduces the measures efficiency all the more.

The temporal level overlapping adds a new complexity degree because the reactivity of each of the system components is not the same. Indeed, the individual instantaneously makes the decision of avoidance, whereas he/she makes the decision to move in a longer time. In the same way, the institutional decision to deploy police forces can be made very quickly whereas the policies of urban renewal need years to be materialized. These differential temporal considerations attract the attention on three temporality levels: the short term, the middle term and the long term. They introduce a "three-tier" dynamic that illustrates different temporalities, inherent to each sub-system.

A last complexity level superimposes on the other ones. It consists in the complexity of the sub-systems behaviors. To understand it, we should apprehend the fact all the described sub-systems act according to own differentiated strategies. Thus, the objectives are different between the strategies implemented by the individuals suffering from insecurity feeling and those inherent to the economic agents or to the management institutions. Consequently, the implemented methods and strategies are also different. Because of the interrelation of all the sub-systems, it is very difficult to predict the global behavior of the "insecurity feeling" system. Besides, it is important to notice adaptation behaviors are visible between all the sub-systems; they increase the complexity level. Let's take the example of the closed-circuit television implementation. It directly impacts on the delinquents' strategies and consequently on insecurity feeling, by transferring delinquency towards spaces there is not closed-circuit television. Indeed, it has consequences on the insecurity feeling spatialisation, and eventually on the places differential attractiveness. The revealed new dynamic requires a readjustment of the closed-circuit television system or an extension of the latter, so as to secure the space that has become insecure.

II. SITUATIONAL PREVENTION AS A MEANS TO REACH MORE URBAN SAFETY

2.1. Definition and history

Definition of the situational prevention concept

Situational prevention is based on the general idea that urbanism can be an efficient means to improve the urban atmospheres [BODY-GENDROT, 2006] and to reduce insecurity and insecurity feeling, what increases the inhabitants' well-being. Consequently, it is composed of a set of measures aiming at reducing the fear of crime and at preventing the delinquent acting out, in other words at making the urban spaces less criminogene and less anxiogene. To do so, any superfluous element is eliminated from urban spaces; it is especially the case of the urban furniture that is easy to come apart. Situational prevention also aims at banishing from public space its uses that are considered as "deviant" (here, we can think about the benches that prevent from lying down) and at avoiding hostile meetings (a good illustration is the Terreaux square in Lyon, France). This method application implies, on the one hand the modification of the context in which the offences could be made [CHALUMEAU, 1999], and on the other hand the management, design and action on the built environment.

Situational prevention should be distinguished from other two types of approaches that are *a priori* quite similar and that also intend to reduce the offence occasions. It is on the one hand the "defensible space" defined by NEWMAN in 1972 in *Defensible space. People and design in the violent city*, and on the other hand a « police policy destined to remove the problems" defined by GOLDSTEIN in 1979 in *Improving policing: a problem oriented*

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

8

approach. The first theory was designed by an architect, Oscar NEWMAN. He defined the conceptual principles that allow the inhabitants watching the public places located near their residence place. The second approach was created by Herman GOLDSTEIN, a jurist. It is based on the idea the police should manage removing the occasions that lead to the more usual offences, rather than reacting to particular and isolated facts.

Evolution of situational prevention

Situational prevention was born in the 1960s in the United States, where it was firstly theorized by Jane JACOBS [1961] in *Death and life of great American cities.* This urbanist based her works on those of the School of Chicago regarding the conditions of a crime commission. Nevertheless, the article that actually consecrated situational prevention was published in 1982. Written by WILSON and KELLING, it is entitled *Brocken windows: the police and neighbourhood safety*. Then, in 1985 the geographer Alice COLEMAN led research activities on the correlations between maintenance failing, spaces characteristics and criminality levels. Since the middle of the 1990s, the press has given a broad diffusion to the situational prevention concept. At the same period, its operational implementation has started, especially in New-York since 1994, year on which Rodolphe GIULIANI became mayor, but also in Europe.

Situational prevention is progressively applied on this continent, starting with the United-Kingdom, the Netherlands and Sweden. Thus, in England a label, *Secured by Design*, appears. It is produced by the numbers of police and the security experts. It refers to a methodology that links an analysis of misdemeanour risks and technical measures of construction and fitting. Contrary to neighbour countries, France is firstly reluctant to assume the situational prevention use. It affirms not to be inspired by space-determinism in the adoption of its town-planning decisions, despite the fact putting gas street lamps in the French streets at the beginning of the Nineteenth century can already be considered as a "situational prevention" measure. The officialisation of this method implementation in France occurs in 1995. On this year, the law of Orientation and Programming linked to Security (or LOPS, also know as "law PASQUA") is voted. Its object is the articulation between private security and private one, on a canvass of opposition between social prevention and situational prevention. The article 11 of the LOPS indicates that "*public security studies*" should be made within construction programmes framework. Since the arrival of the situational prevention method in France, the main town-planning evolution in this field is the introduction of the so-called "residentialisation". This approach implies to give a private vocation to the buildings entrances, what reduces the public space surface (LANDAUER, 2006).

2.2. Principles and methods of situational prevention

The environment conception influences the morphological and social characteristics of the built environment. They impact on the delinquents' behaviour and on the inhabitants' ability to watch their district in an informal way and finally on a crime occurrence probability. NEWMAN [1972] makes a severe critic of urbanism over the latest twenty-five years. According to him, they produce "*anonymous cities which size and density made us vulnerable*". He concludes that a certain type of construction, fitted in a specific way and located in a specific urban environment can favour misdemeanour activities. To ward off this risk, there are three prevention types: situational prevention, individual prevention and mixed or community prevention. The situational approach concerns the pre-criminal situations and the occasions, whereas the individual approach is composed of two parts which temporalities

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

9

are different. On the one hand, there is a part oriented towards the acting out on the short term and on the other hand the developmental prevention, which acts on the factors of the delinquency development on the long term. As regards the mixed or "community" prevention, it combines measures that belong to situational and individual approaches.

The techniques of situational prevention, central subject of our study, belong to four main axles: increasing the effort necessary to the delinquent, increasing the risks, reducing the offences profits and lastly preventing any delinquent's justification. Regarding the augmentation of the effort necessary to the delinquent to commit the act, it implies the implementation of a maximum of obstacles, especially the distanciation between the delinquent and its possible target. To manage a risks augmentation for the delinquent, it is possible to settle intercoms or caretakers in the buildings. As regards the offence benefits reduction, it is materialised by the targets elimination or the temptation reduction. Here, the idea is to lead the potential author of a delinquent act to consider it as more painful and less beneficial: it is what Ron CLARKE calls *provocations reduction* [CLARKE, 2003]. Lastly, the impossibility for the delinquent to justify his/her deviant act can for example imply the display of rules addressed to the public.
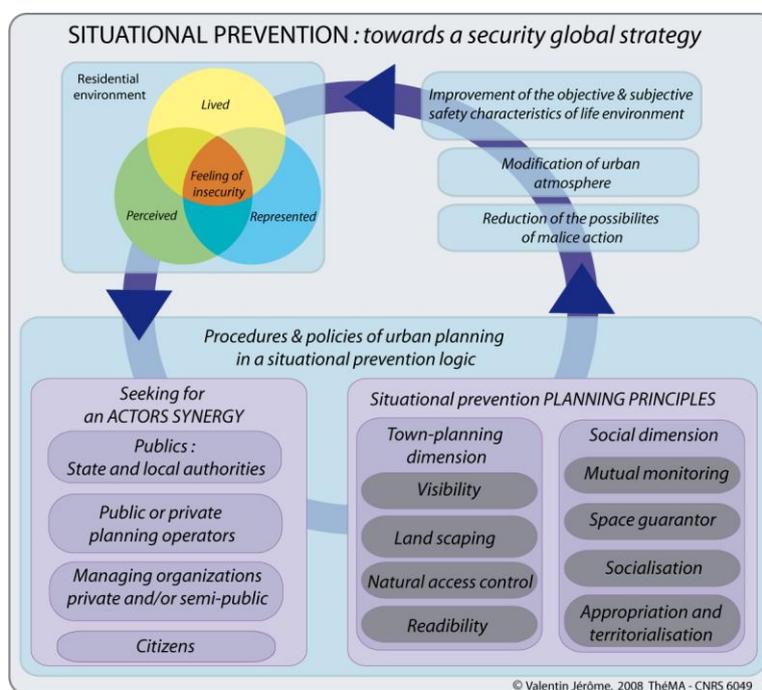
Diagramme 2: Situational prevention: towards a security global strategy

The situational prevention method (*diagramme 2*) includes three parts: firstly, the insecurity feeling diagnosis, then the definition of strategies and measures that aim at preventing the acting out, and lastly these measures follow-up. Indeed, any "situational prevention" action is efficient only if it is accompanied and followed by a balance, some evaluations and some feedbacks. Situational prevention has three main action modes, that is to say the integration of fitting principles in the urbanism projects, the drafting of fitting guides [Ville de Lyon, 2002] and the implementation of incitation tools. Within this step framework, the fitting guides include a referential that includes securing fitting principles, as well as thinking elements about the good practices. In France, the normative rules of architectural prescription are scarce and in this country the training and the sensitisation of the urban, public and private, fitting actors is privileged. From then on, they are intermediaries and they

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity: *situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?*

10

are able to accompany the implementation of public policies that include a "situational prevention" part. The incentive tools can be implemented by the municipalities, which have a decision-making power in this field. Thus, the urbanism documents, but also the specifications of the invitations to tender they draft, allow the direct application or prompt the taking into account of safety in the urban fitting. One of the first French municipalities that implemented this method is Lyon, since the signature of its so-called "Contrat Local de Sécurité" (Security Local Contract) on Novembre, 28th 1998. It applies its town-planning and architectural proactive recommendations, as well as those concerning communication, sensitization and training, in the projects it is contractor of. Here too, the objective is to reduce the delinquent acting out, and consequently the inhabitants' insecurity feeling. Besides, in 2002, the city implemented a consultative commission of situational prevention to estimate the implications of the city different building and fitting projects on the inhabitants' security and peace, so as to guarantee the Lyon public spaces quality. As regards the public and private operators, their fitting operations are the concrete framework of the taking into account of the situational prevention principles. As far as the inter-communal structures, they can integrate the "security" dimension in their programmes, especially through protocols and conventions.

Generally, situational prevention implies the taking into account of eight elementary principles of fitting and architectural urban design, able to reinforce security. They are visibility, and especially improvement of urban lighting [DITTON *et al.*, 1993], measures of neighbourhood and district watch [BENNETT, 1992] (here, we should especially think about closed-circuit television [FYFE et BANNISTER, 1996]), socialisation and activities, territoriality, readability, access natural control, landscaping and space guarantor [IAURIF, 2002]. These fitting principles are applied in a global safety strategy that influences the urban fitting procedures and policies.

In the security field, the instrumented step allows creating tools to help decision-making. From a spatial point of view, they throw light on the necessary arbitrations in this field. The instrumented step developed in different directions, especially towards the constitution of databases management systems (DBMS), the use of the geographical information system (GIS) tool and the combination of these two tools in what we can call 'territorial observatories'. The GIS use allows tuning the knowledge of the insecurity problems and of insecurity feeling on the territory, especially to reveal the spatial dynamics that are underlying to the crime statistics and the socio-demographic characteristics of the areas that have high criminal activity levels [HIRCHFIELD *et al.*, 1995]. It allows coordinating the actions of the actors who are involved in the criminogene or anxiogene areas and orienting the actions in terms of fitting and management of urban spaces.

The second generation of situational prevention, which appears at the beginning of the 2000s, refers to the participative urbanism idea. It includes an important social component, accompanied by a cooperation requirement on the urbanism projects. It aims at building or restoring a district local identity, recreating inter-generation social link thanks to social mediation and reintegrating the district within the urban and economic weft, by diversifying the service supply [CLEVELAND and SAVILLE, 2003]. Indeed, the situational prevention method allows confronting the security problems, and jointly tackling the issues of space management and "live together" without reaching securitarian climate and practices.

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Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

11

2.3. Situational prevention actors: towards the seeking for a synergy

Public actors: State and territorial authorities

The dysfunction generated by suffering from insecurity feeling is taken into account by the public authorities, as at the national as at the local or *micro*-local level. Because of their number and diversity, the different actors who intervene in this field should lead synergetic thinking. Indeed, the decision-making in the situational prevention framework should result from a consultation work, which allows encouraging proactive and volunteer dynamics. Within the situational prevention framework, the State creates control, order maintaining and public security guarantee measures, social measures and it designs a town-planning policy.

The respect of all the state measures imposes to the territorial authorities. Then, they implement actions that aim at pulling the lever on the main variables that explain insecurity feeling. They act through actions of social prevention, educational and cultural measures, and by drafting the urbanism documents in coherence with the legal norms in this field.

More recently, with the development of participative democracy, consultation structures were integrated in the decision-making. They are made up of associations and thinking groups about security issues.

As regards the lobbies, they are less institutionalised and often constitute to compensate for the failings and/or counter to the institutional decision-making. For example, a lobby can adopt an individualist position of the NIMBY, Not In My Back Yard, kind concerning the French law called Solidarité et Renouvellement Urbain (Solidarity and Urban Renewal) (also called « SRU law ») n°2000-1208 of December, 13th 2000. It indicates that among the renting flats of each town with more than 5000 inhabitants, there should at least 20% of social housing. Violating this rule is punished by fines.

The State implements measures to fight against insecurity feeling because it generates a cost. Besides, because of the differential attractiveness, it is likely to question the territories virtuous dynamics and the territorial equity and diversity principles. The inferred risk that is associated to insecurity feeling is the creation of urban spaces that are segregated and negatively connoted. They can become genuine substrates for the different urban pathologies. In this systemic approach, it is materialised by a positive feedback, which consequences are negative.

The public or private fitting operators

The public or private fitting operators are an important link of the life environments production chain. Indeed, the lawmaker creates the legal framework of the urban territories fitting, then the public or private operators design and produce the urban structures and spatial layout. Consequently, they are the real city conceptualizers from a town-planning and architectural point of view. In this prospect, they should arbitrate between, on the one hand diversity and architectural originality requirements, and on the other hand imperatives linked to maintaining order and securing public spaces. Contrary to the State ones, the actions implemented by these operators do not aim at the general interest, but at individual ones, in a competition context. The latter especially materialised at the time of public or private invitations to tenders, in which there are references to public security. These actors individualism hinders the creation of synergies in this field.

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

12

The private or semi-private management organizations

The private or semi-private management organizations do not content themselves with render accounts to the territorial authorities and to the State. They also participate to the insecurity feeling management. Indeed, the latter directly impacts on the place fame, and consequently on its attractiveness or repellentness. Eventually, it has effects on the housing supply reduction and on the residential mobility and turnover. Then, the latter ones generate a positive feedback on the rental and/or land value of the estate goods that are located in this place.

The citizens, urban security actors

A priori, the security issue belongs to the State, the citizen would have the right to be protected without having any duty in terms of securing. First actor on the insecurity front, he/she is nevertheless in a paradoxical position, because he/she is at the same time a security victim and a producer vis-à-vis of his/her fellow-citizens. Yet, Jane JACOBS shown "*the link there is between security in a city and watch that is made by its own inhabitants* » [JACOBS, 1961]. She considers three conditions should be assembled so as there is security in the much frequented streets. They should be busy in a continuous way, the separation between public and private spaces should be clear and the natural watch should be favoured by an important visibility in the different spaces. According to this town-planner, urban security depends more on the inhabitants than on forces of law and order, which can only exercise their mission insofar « *the city-dwellers consider themselves as responsibles for what happens in the street* » or in any other public space.

The concept of « security co-production », introduced in 1997 in Europe, and the institutionalisation of the neighbourhood police that followed, seem close to the American *community policing*. In both cases, the same main idea appears: security is every one's business, and not only the authorities' one. Traditionally, the Europeans' participation to the security production was much inferior to the Americans' one. Nevertheless, presently it is important and it is even reinforcing, because of the increasing concern for securitarian stakes. Thus, some of the inhabitants actively participate to their environment creation. They work in partnership with the stakeholders, but by appealing to differentiated methods. Thus, they can make night watching in the cities that are particularly exposed to insecurity. This participation can also express in local democracy places that directly appeal to the inhabitants' expression, such as the districts councils. The community policing is a way to keep order with the community. It is based on the idea insecurity feeling in a district is based on its inhabitants' negligence. When they do not intervene in case of problem, they send an implicit message about their little influence on their life place. *The community policing* also refers to the rapprochement between police and people. Besides, it appears « *the substance of the police role in maintaining order consists in the reinforcement of the collectivity autocontrol mechanisms*» [DONZELOT and WYVEKENS, 2002]. Thus, the community policing aims at fighting against disorders that can appear and residential mobilities they can generate. There is also prevention through the inhabitants' mobilization and the force they implement to fight against delinquents. Thus, Boston (United States) equipped itself with an alert system that allows soliciting the citizens' help by email, so as they identify and locate delinquents. In the same way, in England a single phone number was created after the attacks of London in July 2005, to allow the citizens transmitting to the police force the information they had. On the contrary, the French model does not aim at the people supporting the police, but at « *restor*[ing] *social link* ». Consequently, it appears the Anglo-saxon models have a very

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity: *situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?*

13

different approach of the fight against crime. In France, the security co-production corresponds to the creation of a partnership between institutions and much less to the inhabitants' daily involvement. Nevertheless, some French cities implemented a participative step in the design of the security local contracts. Some other ones, especially Carrières-sous-Poissy and Saint-Denis (France), organised the inhabitants' participation to the local security and delinquency prevention councils. It is the local coordination authority in charge of security issues.

The inhabitants' participation to the security co-production is not only indirect. It is not limited to information and consultation practices organised by the elected representatives. Generally, there are four citizens' direct involvement modes, they compose a model called "SSPP" [HASSID, 2006]. Its first component is the citizens' participation to the co-watch of their environment. It implies « *considering themselves at the same time as community members and as co-responsibles for their neighbours' interests* ». Almost 300 watch districts projects were implemented in England and in Netherlands. In Bade-Wurtemberg (Germany) more than 3000 volunteers, recluted and trained by the police, work in association with them to guarantee security. Among the other citizens' involvement modes in the security production there is the notification of illegal behaviours to the police, that is to say the denunciation of an act that belongs to the punishable or criminal field. In addition, the individuals can participate to the "protection" part of the SSPP model with three different ways: autoprotection, autodefense and appeal to the "situational prevention" means. The latter ones allow making more risky or uninteresting possible offences, for example thanks to alarms [CUSSON, *et al.*, 1994]. Lastly, the citizens can express themselves in the public debate in different ways, especially with lobbying to the public authorities or with expressing their opinion during surveys or forums organised by the media.

The citizens' participation to security allows the State making budgetary saving. Indeed, the community watch decreases the manpower costs in terms of police manpower and favours the links between inhabitants and police, what constitutes an important synergy source. This citizens' involvement also allows developing social link, what has a direct impact on the inhabitants' life quality and on their residential satisfaction. This inhabitants' involvement allows diffusing a "security culture" and reducing the malice risks. Eventually, the security co-construction by the citizens seems important and it appears it could keep developing with the new technologies development. They allow putting at the citizens' disposal a website bound to notify punishable behaviours. This kind of tools is already used in Boston (United States) and it is possible to diffuse it to other cities. Lastly, the present threatens have a polymorphous character, among them there are urban violences and terrorism. That is why State is unable to manage all the security issues alone and needs the citizens' involvement in the security production.

2.4. The critical / ethical dimension in the situational prevention issue

The security emergence as an urban stake generates violent critics among town-planners and architects. They go from the ostracism or exclusion fear of the populations that are considered as undesirable, until the fear of privatisation of the public space. Thus, some people fear situational prevention lead to a privatisation of the public space and of the city [LEMONIER, 1998] and to the abandonment of the public space by the citizens. In this case, the public space is defined between the lines; it is the space that is not located in the secured enclosures. Nevertheless, the multiplication of the *gated communities* does not seem only to meet securitarian concerns. It is also generated by the will to recreate a friendly space with people belonging to the same socio-economic group that is nevertheless based on affinities.

Thus, it is often reproached to situational prevention with having a strictly town-planning approach of social issues, but also with transforming security in a commercial good. Indeed, a specific and developing market is associated to the individuals' and households' increasing demand as regards security. Here, we should think about the development of private safekeeping and security guards societies. This market apparition underlined the individuals' and households' unequal access to the supplied services; it depends on their propensity to pay.

Situational prevention would hold up the live together in a harmonious way that can favour the individual's development. Some opponents to this method even reproach it with being liberty killer and securitarian. This thinking is based on the idea the situational strategies condition and channel the individuals' behaviour in the city. These critics especially appear about the French law of 1995 known as "law PASQUA" and the normative texts drafted by the European Committee of normalisation about "malicy prevention through urbanism and buildings design". They are reproached with being able to produce « *securitarian* [drifts on the] *American* [model] » [BERGER, 2003].

Situational prevention critics are also possible from the strictly architectural point of view. Thus, it is able to generate a normalisation of the urban space, especially through the generalisation of the same layouts and the exclusion of fragile materials, such as glass. It produces a landscaping monotony and a reduction of the places specificities. They become similar, as regards their functioning mode and their atmosphere. It is especially the case of the downtown squares that are more and more often singularised by their mineral aspect. Moreover, their function of square as a social interaction place is questioned, in favour of a mere passage function. Sometimes, the will to make urban spaces homogenisation is reinforced by the idea there is « *a strong causality, univocal and well established link between urban lines and security problems* » [BERGER, 2003].

Besides, situational prevention is reproached much with one of its inferred effect. It is the risk of displacement of offences and crimes from the area where it is implemented towards areas that are not concerned by this method. Thus, situational prevention would be able to « *reduce crime in a zone, [whilst generating] the possibility to displace crime towards another zone, that is not protected* » [JOHNSON *et al.*, 2000].

On the contrary, for some years we have spoken about « *benefits extension* » of the situational prevention measures. The method allows reducing the number of offences in fields it does not directly aims at [DONZELOT, WYVEKENS, 2002]. In addition, situational prevention is sometimes considered as a means that allows designing measures to fight against insecurity in a more concerted way. It would also allow guaranteeing security, a fundamental urban value according to Jane JACOBS [JACOBS, 1961], whilst reducing the visibility of the safety devices, what improves the citizens' life quality.

III. TOWARDS A GLOBAL SYSTEMIC APPROACH OF INSECURITY FEELING

We previously explained our study field is complex. To understand it, we should use the systemic tool and thinking. The latter one allows defining and illustrating what we call a system. It is conceived as an abstract intellectual construction made up of "*an elements set in dynamical interactions*" [DE ROSNAY, 1975] that evolves in the course of time. The system aims at identifying the elements, the relations and the overlapped hierarchic levels, so as to represent reality. Indeed, the objective is to "*draw invariants, that is to say general, structural and functional principles*" [*Ibid*, 1975] but also "*components organised in internal hierarchic levels [...] and connected by a great variety of links*" [*Ibid*, 1975]. The system is also, and

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Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity: *situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?*

15

above all, characterised by its limits that allow the researcher not loosing time in the real complexity.

In this approach, four steps can be distinguished. Firstly, we should define the studied system; this step can be assimilated to the elements selection (system and sub-systems) and to the seeking for the system limits. Then, the analysis requires a disaggregation and decomposition work. It aims at emphasizing the hierarchical overlappings that compose the complex system, in a very precise way. The following step consists in designing the causal graph that introduces the links that are « *flows [...] and feedbacks (also called « information feedbacks*») [*Ibid*, 1975]. To finish, the flows qualification finalizes the system representation. Nevertheless, when a too important complexity characterised a sub-system, it is possible not to disaggregate it as we should do. This "black box" would itself constitute the subject of a specific study.

We should notify the process is made by successive iterations. Indeed, it is necessary to regularly go back working on the research activity, when we make new discoveries and progresses. Very progressively, the perceptions are tuned and lead to a general structure. It illustrates what can be called a "model", if we work on the basis of the postulate: "*any geographic piece results from an abstraction. Each geographer who studies a territory plot [...] designs a model* » [DAUPHINE, 2003].

3.1. The global system, an emerging structure based on the sub-systems interaction

The insecurity feeling is in the system heart and, through its impacts, radiates on all the system, what the *diagramme 3* illustrates (page 17). The latter allows giving a precise idea of the links between the sub-systems and of the influence each of them has in return on the global system balance. On this diagramme, there are seven, more or less simple, sub-systems. Each of them presents own characteristics, what allows studying them in a differentiated and individual way. There are the sub-systems: insecurity feeling, institutions, residential environment, situational prevention, individuals and propensity to move, spatial practices and economic territory dynamics. It is interesting to notice each of them is interconnected and influences on links that have a more or less lineal and retroactive character. Here, the idea is not to precisely present again the internal functioning of each sub-system, as it will be the subject of future publications. Indeed, our objective is to understand how the sub-systems are inter-linked and what their links nature is

We will not insist on the "residential environment", "situational prevention", "insecurity feeling" and "spatial practices" sub-systems because we have already presented long developments about them in this article. We will only remind residential environment is structured around urban atmospheres as the result of life environment and sensorial factors combination. We recall life environment takes into account the spatial structures and layout, as well as the individual and collective practices and space amenities. Regarding the sensorial factors, they are elements that participate to the urban atmospheres constitution. As far as situational prevention is concerned, it articulates the seeking for a necessary actors' synergy and a set of fitting principles that associate a town-planning dimension and a social one. Concerning insecurity feeling, it articulates lived, perceived and represented insecurity. Lastly, regarding the spatial practices, we decided to focus on two of them: daily and residential mobilities.

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Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

16
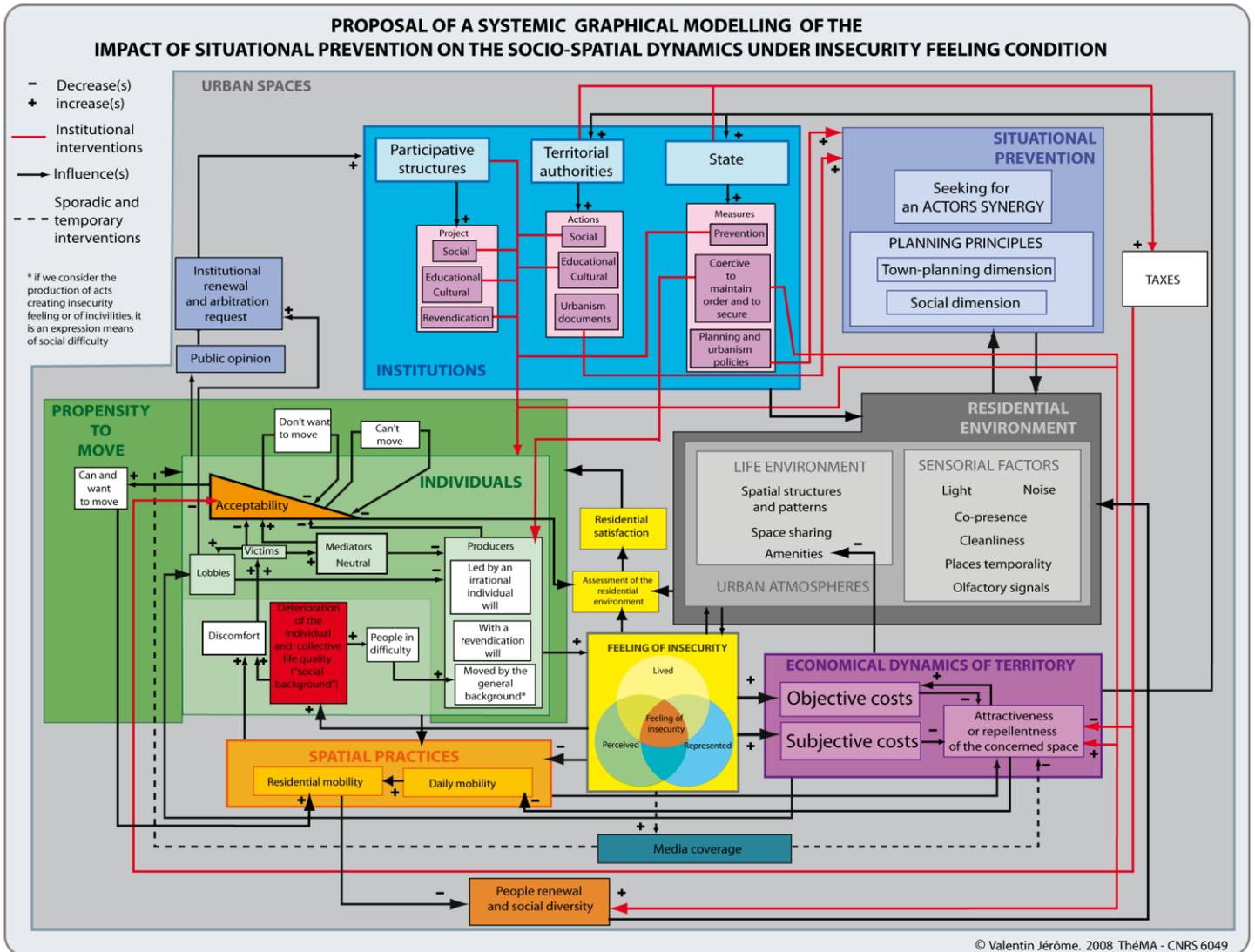
Diagramme 3: Proposal of a systemic graphical modelling of the impact of situational prevention on the socio-spatial dynamics under insecurity feeling condition

The "institution" sub-system is made up of three components kinds: the State, territorial authorities and structures that participate to the public debate. In this sub-system, the State has an action ability that is illustrated by the legal measures that are adopted and that concern three research fields: the preventive one, the coercive one and the fitting and urbanism policies. Through this idea, appears another one: the need to make political choices that arbitrate between a preventive approach of insecurity feeling based on social measures and a coercive approach, based on the reduction of the victimation risks and on the order maintenance. As regards the territorial authorities, they have more or less autonomy according to the countries. Nevertheless, they usually have the ability to intervene in the social and educational fields, but also to draft town-planning documents and to manage urbanism projects. We should notice political alternation, which characterises the democratic regimes, complicates the collaboration of the State and territorial authorities. Indeed, they can contemplate the insecurity issue according to contrary approaches: preventive or coercive. The choice of one of these approaches also depends on the political culture, the institutions history and the countries where they intervene. The "institutions" sub-system gathers the participative structures, mainly made up of the associative fabric that can steers socio-educational projects. Sometimes, these structures can compensate for the institutions failures.

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

17

In the public debate, they can also present demands or become a proposition force (for example in the case of the associations which public utility is legally recognized). The institutions action ability is not only based on voluntarism. Indeed, even if it is necessary, it is not sufficient when the allocated budgets are low. Any policy has a cost, the spaces securing that echos back to the security right any individual can claim requires the public authorities invest, what also impacts on the taxes.

Regarding the « individuals and propensity to move » sub-system, it includes two levels: the "individuals" sub-systems which is integrated in a meso-system called "propensity to move". Within this modelling framework, we chose to focus on three individuals types: the victims, the insecurity producers and the mediators/neutral. As regards the individuals that feel like victims, their acceptability decreases in parallel to the discomfort augmentation and to the constraints the insecurity feeling generates on their spatial practices. We should notice that, if the individual cannot afford leaving his/her residential environment, he/she becomes captive and consequently his/her acceptability keeps decreasing in a positive feedback of vicious circle kind. The acceptability reduction impacts on the residential environment evaluation and the latter influences the residential satisfaction. Thus, a new feedback appears; it increases the propensity to move. The individual satisfaction and life quality deteriorate and impact on social cohesion, what damages the social background. Consequently, we can wonder whether it does not lead individuals to become delinquents or to make incivilities, against their wishes. The motor system can be assimilated to what we called "the producer individuals" who are linked to insecurity feeling. Indeed, even if the insecurity feeling is built around representations and perceptions, it is undeniable that real and lived insecurity feeds the urban mystification associated to representations and perceptions. Thus, the producer is considered as a person whose behaviour can concern incivility, vulgarity or the lack of courtesy but also offence or violent behaviours. These behaviours prompt the dynamic that creates insecurity feeling, which generates inferred undesirable effects on all the system.

The last individuals' type is made up of the mediators/neutral. Both individuals' profiles are associated in the presentation because of the fact their behaviour less impacts on the system than the previous two ones. The mediators gather the individuals who moderate the insecurity producers and who act, through their otherness function, on the acceptability augmentation, by moderating the victims' opinion. As regards the neutral individuals, they are characterised by their absence of commitment and their indifference to insecurity feeling.

Lastly, the « territorial economical dynamics » sub-system takes into account the objective and subjective costs, and their impact on the territories differential attractiveness/repellentness. In this prospect, the inferred effects of insecurity feeling are perceived in a monetarised way. Here, the idea is the material and immaterial (the psychological ones for example) damages can be estimated in an econometrical way, either by a direct damages monetarisation, or by the use of the substitution markets, or also by contingent evaluation (it consists in making a survey to evaluate a hypothetical market).

3.2. llustration of the inferred effects of insecurity feeling: interrelations and feedbacks

We decided to focus on two ways of perceiving interrelations and to qualify them. Thus, the established links show the influence relations there are between the components. More than that, the diagramme also presents the targets of the institutional interventions.

Insecurity feeling increases in a concomitant way with real insecurity, which is its motor. Besides, there is an amplification effect associated to perceptions and representations. As we already explained, insecurity feeling has an influence on the daily mobilities and on the

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity:
situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?

18

territorial economical dynamics, what can materialise in terms of discomfort and social background deterioration. Consequently, the situation acceptability of the city-dwellers who are victims decreases whilst their will to move increases. Nevertheless, so as this desire can materialise, it is necessary the household's financial situation allow it. If it is not the case, the acceptability decreases all the more, as the residential situation is not chosen any more but suffered from. The process that is illustrated here subtends the emergence of two people kinds, the one can pay to accede to a more satisfying residential environment as regards security, and a captive one who cannot get out of its environment despite the fact it is unsatisfactory. As a consequence, a dangerous spatial dynamic is implementing with regard to social cohesion and diversity, as only the wealthiest households can leave. It impacts on the district social composition, as its inhabitants' sociological profiles diversity reduces.

Concerning the economic dynamics, they are conditioned by insecurity feeling, through objective and subjective costs that generate a process of spatial attractiveness/repellentness. Because of the place disaffection, the latter leads to a frequenting reduction and to the implementation of avoidance strategies that have major economical consequences on the local economic fabric. Eventually, the commercial services, which objective is their benefits maximisation, expatriate to spaces where the potential customer, reassured concerning his/her security, can act without any constraint. The activities expatriation process generates a reduction of the amenities supply and a diminution of the amenities diversity. This criteria is taken into account in the individuals' residential environmental evaluation. The diminution of the amenities number eventually leads to a reduction of residential satisfaction.

The insecurity background and the set of inferred effects it creates crystallise in the public opinion and in the arbitration demand that is made to the institutions, as by the individuals, as by the lobbies as by the commercial services. We should notice that the institutions interest to act focuses on their renewal risk (electoral system), in the case they would not meet the plaintiffs' expectations. Consequently, a set of measures and actions is implemented; it influences the different sub-systems. Indeed, the coercion actions impact on the insecurity producers, and the preventive, social, educational and cultural measures influence all the individuals and the district sociological composition (sociological diversity). The situational prevention strategies act on the residential environment and on the reduction of real insecurity and of insecurity feeling.

All the institutional actions impact on the places attractiveness in a positive way, by reducing the tendency to repellentness. Nevertheless, the implementation of insecurity management policies has a cost the institutions should deal with; consequently it is reflected in taxes. Their augmentation has two important inferred effects: the reduction of spatial attractiveness (local taxation) that prompts the economical actors to locate in another place and an impact on the population's acceptability because they do not want their taxes to increase. The taxes augmentation can eventually impact on the public opinion, which is in the centre of the institutions renewal process as we previously explained.

3.3. From the tool to help understanding to the tool to help decision-making: research prospects

As we could previously see, insecurity feeling as a socio-geographical object can only be understood from the complexity prism. The suggested model is an expression of this fact. It is now possible to envisage the thinking directions of future developments. The model that is presented here is an understanding one. It aims at apprehending the socio-spatial dynamics that are connate to insecurity feeling and at illustrating the inferred effects of first, second and third level the latter has on the system as a whole. We should notice that without this kind of

Valentin J., Bichet-Miñaro A. : Systemic approach of the links between urban dynamics, life environment and insecurity: *situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?*

19

approach, it is relatively difficult to manage representing a phenomenon complexity, and especially to have a global and pluri-disciplinary vision of it. The spatial materialisation of the dynamics that were emphasized with this means could complete the knowledge we have on daily and residential mobility phenomena [VALENTIN, to be published]. From a strictly methodological point of view, the construction of a graphical model is interesting as it represents the knowledge state and/or the research thinking one concerning a problematic, for example here it is applied to insecurity feeling. It becomes a pedagogy tool destined to stakeholders, and could in the future become a tool to help decision-making. It could be destined to territory managers, who are more and more eager to get advice on more and more specific issues.

On this model basis, the first development step could be a comparison and a security institutional strategies efficiency measure model. Indeed, if we observe the diagramme 3, the integration of situational prevention in the systemic schema illustrates the inferred effects of this method and allows envisaging the system state if there was not this method. Thus, we have a thinking basis that allows evaluating effectiveness, efficiency and the inferred effects of the situational prevention method. In this step, the "situational prevention" sub-system acts as an additional model to which we could substitute any other method and technique to fight against insecurity feeling. This way, it would be possible to suggest compared prospective *scenario*. Thus, the choice of one or another method would be enlightened by the possible impacts of the latter. The eco-socio-spatial fabrics balance is fragile, that is why it is interesting to evaluate the probable impact of a policy implementation before it becomes real.

If we continue our reasoning, it is possible to envisage the model computerization. Thus, it would be possible to implement impact simulations and/or costs simulations associated to the *scenario* we initially chose. This work requires building a mathematical logical frame. These works, which are presently in progress, are made thanks to the use of the "system dynamic" tool. Then, we will model the presented works with the Stella© software.

CONCLUSION

Insecurity feeling generates spatial dynamics that materialise as at the *micro*-scale as at the *macro* one. From this observation, we led a modelling thinking that aims at apprehending the problematic of territorial impacts associated to insecurity feeling in a global way. To do so, we used systemic that is as an understanding as an analysis tool. It allows initiating an econometric and data-processed modelling step. Consequently, it is in the heart of the thinking that allows producing tools to help territorial decision-making. They take into account the situations complexity and the dynamics present in the urban spaces. This step objective is to manage contemplating a method that allows guaranteeing all the individuals' security in the city, whilst reinforcing social cohesion, that is to say making the city more secure, and not securitarian.

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Valentin J., Bichet-Miñaro A. : **Systemic approach of the links between urban dynamics, life environment and insecurity:** *situational prevention as a tool and stake of urban sustainable planning and social cohesion policies?*

20

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21

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22