Stress and ways of dealing with it in Lausanne

Philippe Conus, Lorenza Mondada, Ola Söderström

Outline

1. Research hypotheses, questions and methods
2. Results so far
3. Conclusion: future research directions and possible therapeutic implications

Team

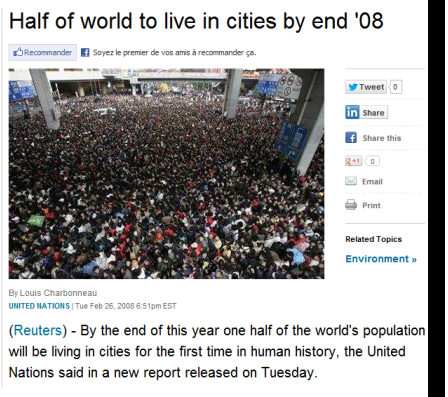
Understanding the relations between psychosis and urban milieus: an experience-based approach
(Swiss National Science Foundation – Interdisciplinary Commission – 2014-2018)

Ola Söderström, Institute of Geography, University of Neuchâtel (PI)
Philippe Conus, Service de Psychiatrie Générale, DP-CHUV-UNIL (Co-I)
Philipp Baumann, CHUV
Lilith Abrahamyan Empson, CHUV
Philippe Golay, CHUV
Dag Söderström, ISPS-CH
Zoé Codeluppi, University of Neuchâtel
Lorenza Mondada, University of Basel
Sara Merlino, University of Basel
Case managers TIPP

Advisory board:
Jim van Os, Maastricht University
Hester Parr and Chris Philo, Glasgow University

1.1. Why is a study of the city/psychosis nexus important?

- The speed of urbanisation is increasing (esp. in the Global South)
- The mechanisms relating urban living and psychosis are still poorly understood
- It is important to develop preventive strategies



Half of world to live in cities by end '08

Recommander Soyez le premier de vos amis à recommander ça.

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Environment »

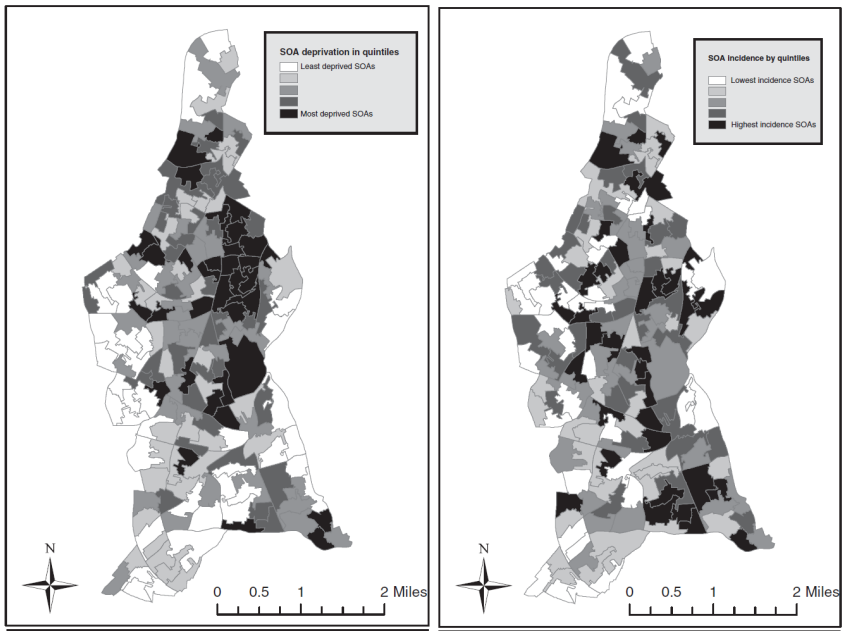
By Louis Charbonneau

UNITED NATIONS | Tue Feb 26, 2008 6:51pm EST

(Reuters) - By the end of this year one half of the world's population will be living in cities for the first time in human history, the United Nations said in a new report released on Tuesday.

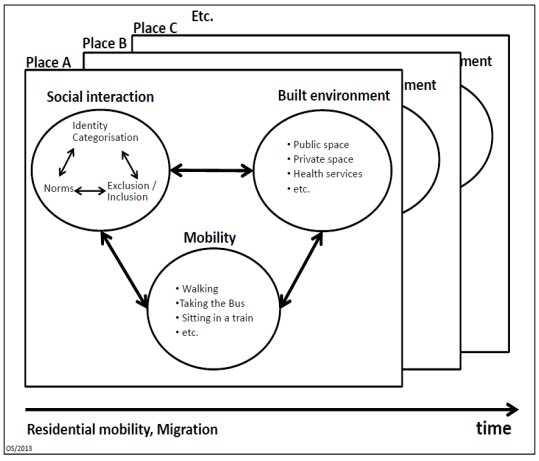
1.2. Positioning and hypotheses

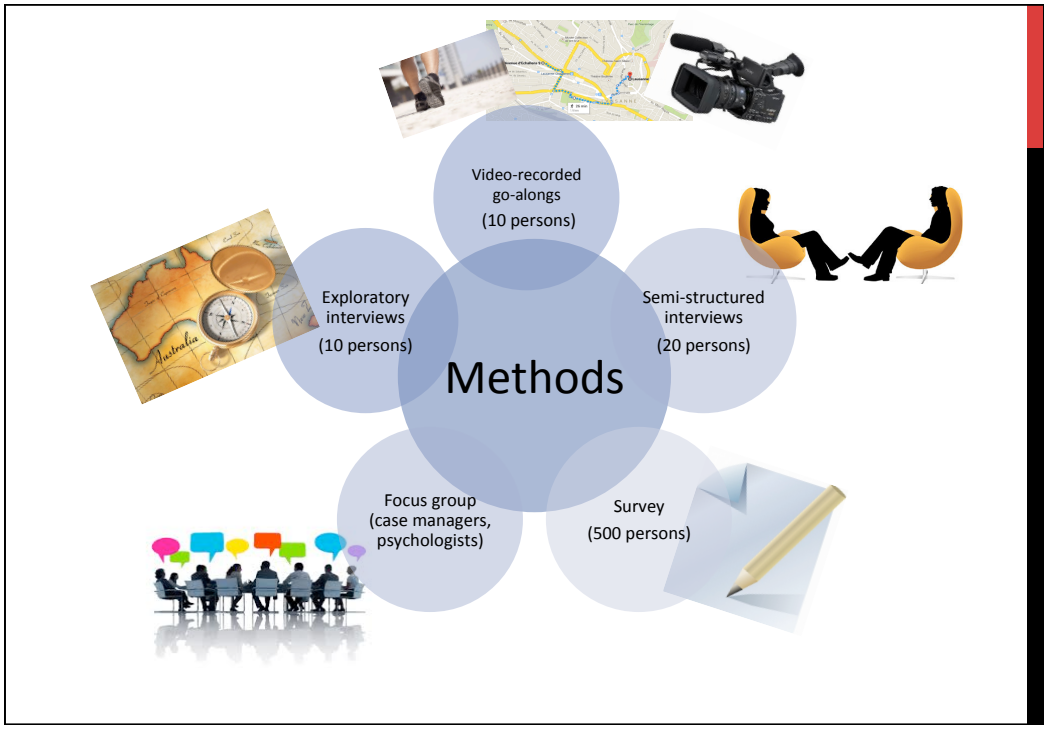
- Important body of studies on urban/rural difference (e.g. Vassos et al. 2012) and on neighbourhood factors (e.g. Kirkbride et al. 2007, 2014)
- New in situ (Myin-Germeys et al. 2009, Kimhy et al. 2009) and interdisciplinary (Söderström et al. 2016) approaches beyond epidemiology are needed
- An analysis of patients' residential biographies and experience of the city can provide a better understanding of the relations between urban living and schizophrenia
- Video-analysis is necessary to capture affective, pre-cognitive aspects of urban stress



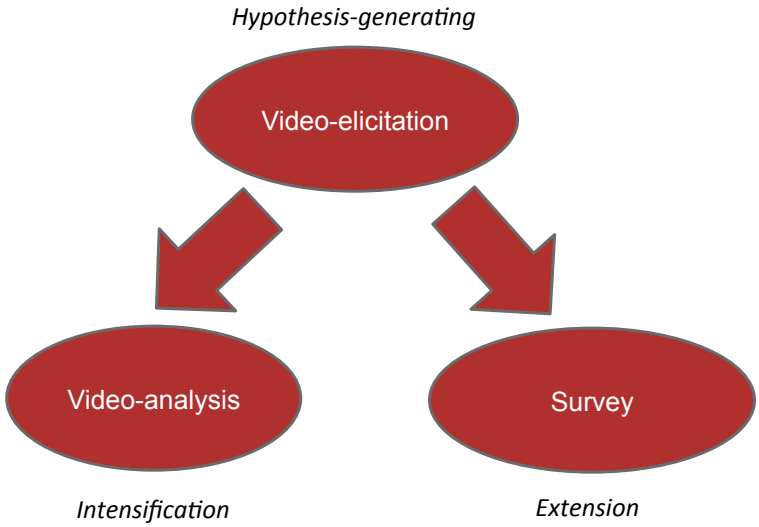
1.3. Research question and analytical framework

How, when and where is a sense of stress or protection occasioned in young psychotic patients' experience of urban milieus?





1.4. Methodological pathway



1.5 The TIPP programme

- Treatment and Early Intervention in Psychosis Programme (TIPP) launched in 2004 by the Department of Psychiatry at the University Hospital in Lausanne
- Case-management model: collaboration between nurses, social workers and psychiatrists
- Patients are routinely assessed every six months over a treatment period of 36 months
- Only patients with diagnoses of schizophrenia or non-affective psychoses participated to the go-alongs (N=20)

2.0. A VIDEO APPROACH

Video as a methodology spreading in the social sciences, within different paradigms and disciplines

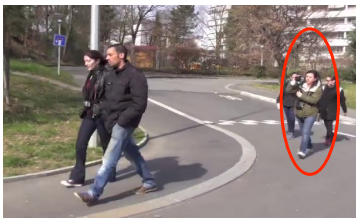
- Interest for moving images (film and then video) since the invention of film (Banks, 2012, Mondada, 2011), but recent spread thanks to miniaturization of cameras, sport cams, and new digital technologies
- In particular, video is massively used in conversation analysis, ethnomethodology and interactional linguistics (Goodwin 1994, 2017; Heath, Hindmarsh, Luff, 2010; Mondada, 2006, 2012) – video enhanced by fieldwork

Video can be used for different purposes:

- Circulating and popularizing scientific knowledge (documentary film)
- Archiving peoples' statements and answers to interviews
- Gathering data for analysis, documenting human actions in all situated details, and making a multimodal analysis possible (including language, gesture, gaze, body postures, movements, etc.)

Here: video of walk-alongs + video-elicitations

Data collected + how they are represented, annotated, transcribed



2.0.1. DATA I: VIDEOS OF GO-ALONG

2 mobile cameras (1 following, 1 lateral)
1 go-pro (frontal)
1 sound recording, 1 cordless mic connected w cam

10 dyads (patient + friend/parent/researcher)
Freely choosing their itinerary
Approx 30-40 min. per couple

DATA II: VIDEO-ELICITATION

1-2 weeks after the walk-along
The recording of the walk-along was submitted to the patient
PAT could comment on what he was seeing on the screen / RES could ask questions about

COMPARING VIDEO AND VIDEO-ELICITATION

An example

2.0.2. REPRESENTATIONS OF VIDEO DATA

- **Content-oriented retranscription**

Est-ce qu'il y a d'autres endroits où il y a ce phénomène désagréable d'échos pour vous ?

Ben dans la rue..les voitures..plus avions..oiseaux..vent..

Oiseaux ?

Ouais..tutututu.. il y a trop..

Quand il y a la circulation..je l'entends venir 10 ou 20 mètres avant..

Vous la sentez venir quoi ?

Je l'entends..

Et du coup qu'est-ce que vous faites ?..

Ben je m'arrête pour regarder devant..derrière ou dans le ciel..

10 :00

Je suis très peu patient aussi..j'aime pas attendre aux carrefour 5 ou 10 minutes. Les endroits comme ça c'est des endroits que j'essaye d'éviter..parce que quand je suis dedans et que j'ai pas mes écouteurs.. je suis un peu absorbé par tout ce qu'il y a autour et ben..dans ces cas-là.. je préfère aller m'isoler dans un coin tout seul où là il n'y a plus autant de bruit..

• Multimodal transcript

(3) (URBIS_F_3255)

```
9  SAN    mais est-ce que c'est l'été tout à coup que: xxx ou bien?
          but is that the summer suddenly that xxx or?
10        #+    (0.5)    ∞    (0.2) +   (0.2)   ∞
   san     +glances at car----------+
   car1   >>drives slowly∞stops at some distance∞
   fig    #fig.8
11 FLO    e:::h
12        + (0.5) + (0.2) º (0.2)
   san    +gz car+
   flo                  ºRh up->
13 FLO    mais +qu'tce soitº• le #weeºk-entd ±ou la+:†:#: ou la s'maine:
          but whether it is the weekend or the or the week
   flo                  ->ºRH down--º
   san             †LH up-----------------†LH down---†
   san          +gazes at the car-----------------+
   flo                  -->•crosses 1st part of the street--->
   san                                 ->±crosses 1st part--->
   fig                       #fig.9              #fig.10
```

Suspension of talk – orientation to incoming traffic


9


10

Gaze on the road
Initiation of crossing

Detailed way in which crossing is achieved, step by step, by coordinating with cars, other pedestrians, and within the couple

```
14        (2.2) • (0.2) ± (0.2) º(0.4)#(0.4)º (0.3)∞(0.8)•±∞ (1.0)
   flo       ->•walks in the middle---------------------•crosses 2d part->
   san              ->±walks in the middle--------------±crosses 2d part->
   flo                  ºRH up/downº
   car2                                          ∞stops at 2m∞
   fig                       #fig.11a/11b
```

Crossing in silence

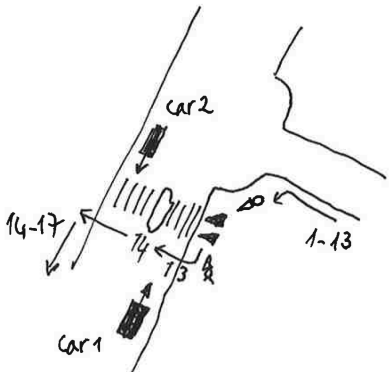
```
15 SAN    au Flon, [y a  moins  d'monde  que::=
          in the ((name of urban area)) [there is less people than=
16 FLO             [y a moins d'monde >oui oui<
                   [there is less people >yes yes<
```

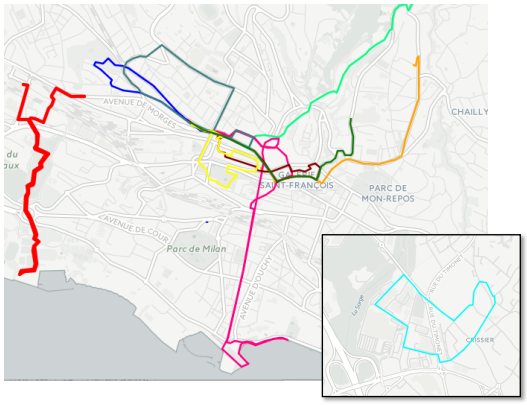
End of crossing – resuming talk

• Cartographic representations

2 types of maps (and granularity):

- Fragment (corresponding to transcript) – Entire itineraries





2.1. RESULTS BASED ON VIDEO-ELICITATION SESSIONS (experience of stress)

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Health & Place

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Unpacking 'the City': An experience-based approach to the role of urban living in psychosis

Ola Söderström[a,*], Lilith Abrahamyan Empson[b], Zoé Codeluppi[a], Dag Söderström[c], Philipp S. Baumann[b], Philippe Conus[b]

[a] Institute of Geography, University of Neuchâtel, Espace Louis-Agassiz, 2000 Neuchâtel, Switzerland
[b] Treatment and Early Intervention in Psychosis Program(TIPP), Service of General Psychiatry, Department of Psychiatry, Lausanne University Hospital (CHUV), Clinique de Cery, 1008 Prilly, Switzerland
[c] Psychiatrist, Avenue de la Gare 16, 1800 Vevey, Switzerland

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ABSTRACT

Primarily on the basis of epidemiological studies, recent research in psychiatry has established a robust link between urban living and psychosis. This paper argues first, that an experienced-based approach, moving beyond epidemiology, is needed in order to enable more fine-grained understandings of the city/psychosis nexus. The second part of the paper presents preliminary fieldwork results based on video-elicitation sessions with first-episode patients with psychotic disorders. These results lead to the generation of a series of hypotheses for further research on the role of density, sensory overload and social interaction as factors in the onset of non-affective psychoses. The conclusion discusses the insights gained from viewing the city as an experiential milieu rather than as a set of substances. We argue that such insights enable, on the one hand, observation of the role of specific places and situations - and thus to unpack 'the city'; and, on the other, to envisage the urban milieu as a nexus of possible sites of recovery.

Modes of relating to the city

- 3 types of participants: those who avoid the city-centre / those who don't / those who use the city only at certain times of day -> related to patient profiles / changes related to onset?
- Ambivalence in relation to urban space: *« It's perfect to live in the suburbs: there I have a bit of both» (Julien)*

Four main sources of stress

- **Density**, already documented (e.g. Vassos et al. 2012), but we show it is a situated phenomenon:
  - *«I can't stand having people around me. It's the quantity really» (Guy)*
  - *«There are too many buildings around here. I don't like to be in the middle of all this» (Benoît)*
  - *«I like to immerse myself like an ant in the crowd […] I like to hear the noise of the crowd, the musicians playing, hum… in fact I like feeling alone but surrounded. I feel I belong to society, but without being too exposed» (Laure)*

- **Sensory overload** (Mischara & Fusar-Poli 2013) re-specified and located :
  - *''I hear everything. In the city you need to be vigilant about everything: it's tiring. I have very clear perceptions of my environment. I am a super-analyst. I analyze whatever small thing close to me is not in its place.''* (Alex)
  - predominant role of noise: *«Noise perforates me and makes me unable to react»* (Jacques)
  - can be related to a specific signal (e.g. noise) or the combination of different stimulations (e.g. sight + hearing)
  - some places are described as particularly problematic in this respect: shopping malls, public transport

- **Social Interaction** (e.g. Freeman et al. 2014):
  - Having to talk about being ill: *«I don't like to be obliged to say how I am» (Laure)*
  - Feeling not up to the task: *«It's harder to have a conversation now compared to before (…) I avoid places where I know a debate will take place: the university for instance» (Florian)*

- **Hindrances to mobility :**
  - Having to wait at traffic lights, being slowed down by a crowd, not being able to choose your pace: *«I like walking alone, not having to worry about where the other is. When I'm alone I walk very quickly 'tak tak tak'» (Emilie)*
  - Not perceiving a way out of a square or a street, not being able to see far away

Conclusions of the study

- The city should be understood as a milieu we *encounter* rather than a series of elements to which we are *exposed* (urban living is not a sunbath…)
- Such a perspective allows us:
  - To observe the role of specific places and situations (to unpack 'the city') vs the generic concept of 'urbanicity'
  - To envisage urban living as a source of stress but also as a resource for recovery

2.2. RESULTS BASED ON VIDEO-ELICITATION SESSIONS (sources and tactics of comfort)

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Routledge
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Emplacing recovery: how persons diagnosed with psychosis handle stress in cities

Ola Söderström[a], Dag Söderström[b], Zoé Codeluppi[a], Lilith Abrahamyan Empson[c] and Philippe Conus[c]

[a]Institute of Geography, University of Neuchâtel, Neuchâtel, Switzerland; [b]ISPS-CH Switzerland, Psychiatre, Vevey, Switzerland; [c]Treatment and Early Intervention in Psychosis Program(TIPP), Service of General Psychiatry, Department of Psychiatry, Lausanne University Hospital (CHUV), Clinique de Cery, Prilly, Switzerland

ABSTRACT
The background of this study is recent work on the correlation between urban living and psychosis. It is part of a larger interdisciplinary research project using an experience-based approach to the city-psychosis nexus. The aim of this paper is to investigate how, soon after a first episode of psychosis, patients manage urban factors of stress. Methodologically, it is based on video-elicitation interviews of urban walks and ethnographic observations in a community care centre in the city of Lausanne, Switzerland. It shows that patients use three tactics: creating sensory bubbles; programming mobility; and creating places of comfort. On the basis of these findings, the paper discusses how the approach and results of our study can inform strategies of recovery that are both user-driven and take into consideration the importance of places and situations in the city in the phase following a first episode.

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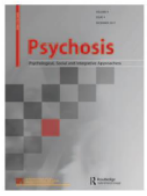
KEYWORDS
Urban living; schizophrenia; first episode; recovery



Sources / tactics of confort

- Creating sensory bubbles (through: thoughts, earphones, friends)
- Creating niches and breaks in the city (parks, churches)
- Carefully programming trajectories in the city

2.3. RESULTS BASED ON VIDEO ANALYSIS

- Lorenza Mondada and Sara Merlino, with the collaboration of Sofian Bouaouina (video recordings)
- Sub-team based at the University of Basel, in linguistics
- 2 studies
  - Crossing the street (Merlino & Mondada, 2018, forth.)
  - Orienting to sounds and noises (Merlino, Mondada, Söderström, subm.)

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Language & Communication

journal homepage: www.elsevier.com/locate/langcom

Crossing the street: How pedestrians interact with cars

Sara Merlino, Lorenza Mondada*

University of Basel, Switzerland

Methodological approach

- **Video recordings** of naturalistic situations (vs. experimental set up)
  - non-constrained activities revealing how urban practices are accomplished in situ and in detail
- Detailed **multimodal transcription** of the participants' actions
  - what they say
  - Their gestures, gaze, body postures, movements, etc.

- Interesting discrepancies observed between
  - what is experienced on the street (video recorded in situ)
  - and what is told about it (video-elicitation, post-hoc)

Analytical assumptions

- **Video analysis** of patients and accompaying persons in interaction
- Relevant aspects :
  - **actions** produced — precisely circumscribed and defined
    - (e.g. crossing the streeet on a zebra crossing, noticing a sound)
  - **multimodal resources** used to realize them
    - (e.g. turn-at-talk characterized by hitches, discontinuities, and disfluencies, suddenly turning the head, eyebrows raising, modifications of the pace of the walk, etc.)
  - **sequential context**
    - (e.g. who initiates the action, is the action beginning a new sequence/what is the previous action, level of responsiveness, etc.),
  - **ecological setting**
    - (e.g. selection of relevant features of the spatial-material context, presence of specific other configurations of people, etc.)

• **situated actions** as the nexus between
• the **ecology of the city** (spatial-social-material environment) and
• the **lived experience and sensoriality** of the person who actively interprets and selects *relevant* features of the ecology for the organization of the action
➔ Understanding how actions get locally shaped in context (specific linguistic and embodied resources used) reveals how social actors reflexively *identify relevant features (e.g. urban stressors)* in their environment

General results

- Differentiated view of what urban life and urban factors are
  - Identification of **situated urban practices**
  - Relevance of **specific features** of the environment
- Differentiated view of what the social, collective, shared activities of patients are: **forms of social interaction** and consequences of doing the walk/other urban practices with somebody else
  - What matters is not just walking alone vs. walking together
  - What matters is much more the type of interaction the participants are engaged in (long story telling vs. punctual exchange, sequence initiated and lead by the patient vs. in which the patient is merely responding)
  - This gives interesting insights about the relevance of social interaction in the in situ ordinary management of stress factors by participants (e.g. social interaction as a protective factor)
- Differentiated view of the persons affected by psychosis
  - **Patients as a heterogeneous group**, some managing quite well the urban practices observed, others visibly not

From case study I: crossing the street

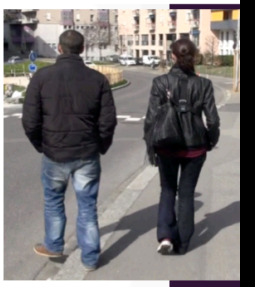
- Crossing the street as a possible indicator for how patients negotiate urban contexts + how they do *trust* unacquainted others (or not)
- **Ex. 1 — Aproblematic and convergent crossing**
  - Ongoing talk is suspended (by PAT) and resumed after the crossing
  - Both participants are coordinated

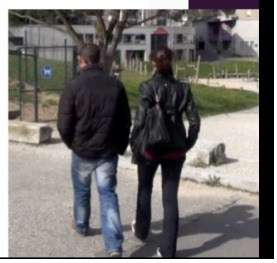
Minimal disruption of talk, at clear sequence boundaries, and clear resumption of previous talk

B_2227_2250 (« attends on traverse »)

```
1          (4.0)
   naBe    >>walk side-by-side on the trottoir---->
2  NAD     (  ) découvrir ça. tu t'rappelles?
           (  ) discover that. do your remember?
3          (0.9)
4  BEN     de quoi?
           of what?
5  NAD     europapar[k,
6  BEN                [ah >oua ouais ouais< bien sûr j'me rappelle
                      [oh >ye yeah yeah< of course I remember
7          (0.4)
8  NAD     [uh
9  BEN     [,ttends on traver*se?
           [wait we cross?
   ben                      ->*LF steps on the road-->
10         (0.4)
11 NAD     ou+a*is+
           yeah
   nad     ->+pivots+
   ben       ->*crosses the street-->
12         +(0.2)              +(0.5)              +
   nad     +1 step changes traj+1 step on the street+
13         (8.0)   +*# (0.2)
   nad     +crosses+
   ben       ->*
14 BEN     et ils ont mis une nouvelle attraction?
           and they have added a new attraction?
15         (0.9)
16 NAD     ouais y a arthu:r et les minimoys
           yeah there is arthur and the minimoys
```

BEN's attention to his friend
Coordination is explicitly achieved
Timely positioning of the crossing / completion of the crossing in relation to talk and sequence





crossing the street

- **Ex. 2 — Problematic and divergent crossing**
  - Abrupt crossing
  - PAT does not coordinate with Other
  - PAT disattends talk
- In other problematic casees, crossing generate anxieties, hesitations and repeated checks, even in absence of cars.

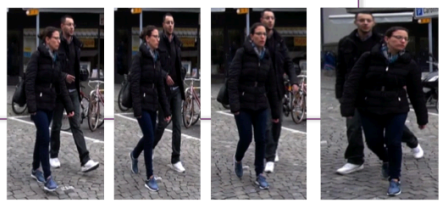
Disruption of talk, in the middle of the sequence, no resumption

CROSSING

CYR changes abruptly the trajectory while SOP is talking
- He overlaps her turn
- He formulates a normative "rule"
- He points twd the sidewalk

C- 2322_2423

```
1  SOP   °.h:: mais >c'est vrai que °c'e:st°< °c'est assez SYMPAthique
         but >it's true that it's< it's rather pleasant
   cyr   °looks fwd-->              °glances to L°looks fwd-->
   cyr                                *steps to the R(close to S)-->
2        hein? vous avez [plein de p'tits bars et tou:t]
         right? there are [many cute bars and everything]
3  CYR                   [oui mai:s on va pas#°marcher °°#sur] °#la route=
                         [yes but we're not gonna walk on] the street=
   cyr                                      *step R,geste main*chg traj-->
   cyr                                            °looks R-->
   fig                                      #1          #2     #3
4  SOP   °+†#=.H::
   sop   +chg traj-->
   sop   †turn, looks to the L-->
   cyr   *behind SOP, crosses-->
   fig   #4
5        †(0.4)
   sop   †crosses-->
6  SOP   ouais.
         yes.
7        †(0.5)
   sop   †turn,looks to the R-->
```



SOP adjusts to this initiative but looks at the L side (body torque) -> searching for the accountability/reason of CYR's initiative

```
8  SOP   °(on va peut-être †passer pa:r)° (0.2) euh euh:: (0.3)
         (maybe we're gonna pass through)
   sop                  -->†turns, looks to the L→
9        xx xx <xx .eh.he ((laughing))> *.h:
   cyr                                 *steps on sidew-->
10       †(3.4)
   sop   †steps on sidew-->
11 CYR   je serais tout seul [euh:: (0.3) il n'y a pas d' pro[blèmes
         if I was alone euh (0.3) there's no problem
12 SOP                        [.h:                          [.eh.eh [h.
13 CYR                                                                [mais
                                                                      [but
14       là: euh:=
         here euh
15 SOP   =OUAIS:: non mais:: bon à part ça ça c:'es- °(juste)° [ça va quoi&
         YES no but well a part from this this is (just) it's okay
16 CYR                                                        [xx xx xx&&
17 SOP   &le::s] (.) ils vont pas trop vite ici encore
         the (.) they still don't go that fast here
18 CYR   &&xx]
```

AFTER CROSSING

• CYR's account normalizes what could be treated as pathological? (cf. Goffman) => orients to their possible divergence in treating crossing as relevant here

• SOP normalizes not at the level of the relationship (walking alone vs. as a dyad) but at the level of the risky character of the situation

Case study II: orienting to noises

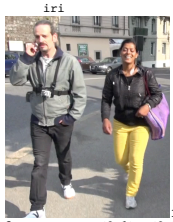
- **Sounds and noises as potential aggravating factors for patients**
- In some cases, **patients do not orient at all to noises**
  - E.g. when they are talking to Other, they are fully engaged in the ongoing activity
- In other cases, **patients orient to noises**
  - E.g. when the walk is silent, or when Other is talking
  - When the patient orients to noises s/he progressively disengages from talk
  - The patient orientation to noises produces accounts and assessments that are different than the ones of Other: for Patient, noise as nuisance, as blamable whereas Other's comments always minimize the importance of the noise and banalizes issues of responsabilities and aggressivity

```
1            (11) [(0.2)#(0.5)] (3.0)£          (2.2)      £
     both    >>walk along a road-----£turn to a pedestr str£cont on it->>
     car  →       [ ((horns)) ]
2    CHR     xx tous les gens i klaxonnennt
             xx all the people are horning
3    SAN     ouai:s, c'est euh (0.6) c'est [l'trafic j'pen]se
             yeah    it's eh  (0.6) it's [the traffic I think
4    CHR                                  [xxx  xx]
5            (0.5)
6    SAN     HHeh
7            (1.3)
8    SAN     c'est les bus eh
             it's the bus eh
9            (6.5)
```

Orienting to noises

- Different orientations to car horns in Pat vs. Other
- Pat abruptly changes from a happy face to a angry face (negative emotions)
- Different accounts
  - Other normalizes
  - Pat reacts with negative emotions

```
1    RAM     (c'est sympathi±que)
             (it's pleasant)
     iri                 ±smiles->
2    IRI     oué- ou#ais °c'est [(°sy±+mp°)+±
             yeah   yeah  it's  [(pleas-
     eve →                     [((horn))
     fig         #fig.1
     iri                          +gazes to road+
     iri                          ->±,,,,,±irritated face->>
```



```
3            (0.1) [(0.25)] (0.3)
     eve →       [((horn))]
4    IRI     HE#
     fig       #fig.2
5            (0.2) + (0.2) *(0.4)#(0.3)*+ (1.0)
     iri         ->+body turns to road--+
     ram                 *greets-----*
     fig                          #fig.3
```

```
6    RAM     (peut-être) des amis? he he h
             (maybe) some friends  he he h
7            (0.2)±(0.5)
     iri       ->tgz at RAM->>
8    IRI     j'connais pas.
             I don't recognize
```

Orienting to noises: Conclusions

- Sounds and noises as an indicator of the patient's condition, well recognized in the literature (Collip et al. 2008, Micoulaud-Franchi & Vion-Dury 2013). But this generic claim can be corrected into a more nuanced view:
- Not all the noises are identified as such and oriented to.
- The orientation to noise depends on the patient's engagement in the current conversation and joint action:
  - if s/he is speaking, engaged in talk, s/he orients less to noises than
  - if s/he is listening, positioned as a hearer
- When the patient formulates noise as problematic, the way s/he treats it differs from non-patients:
  - the patient provides for accounts blaming the sources of noise and attributing intentions and responsibilities,
  - whereas non-patients provide for normalizing comments
- Types of noises seem to have a role too, as well as the local ecology (strident, sudden sounds vs. more expectable and continuous ones)
- These results are interesting both for a) diagnosis, b) treatment

Orienting to noises – wider methodological consequences

- **Video recording vs. video-elicitation**: In the video-elicitation, the patient can comment on noises that s/he has ignored in the video recording
  - the ecological conditions of these two contexts are not the same (in the video-elicitation the noises are particularly audible, whereas talk and other conducts are less audible-visible)
  - The video-elicitation –also because the researchers' questions– is more favorable to generalizations and abstractions (e.g. patient talks about the city as noisy in general) VS the video recording is more relevant to understand local specific relevances
- **In short, video recordings enable**
  - A more detailed and precise view on relevant urban practices and their challenges
  - A more differentiated view of urban relevant features
  - A more differentiated view of the population of patients

2.4. RESULTS BASED ON THE SURVEY

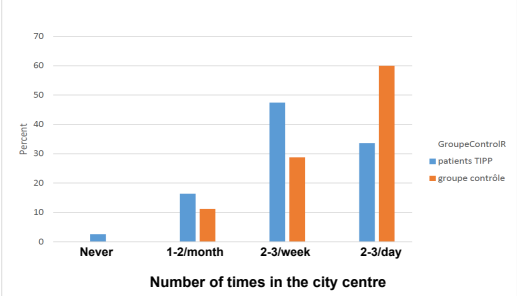
Sent to 400 patients and proposed to 220 controls (medical students): Response from 117 patients and 205 controls

- **Biographic trajectories:** age, gender, place of birth, migration, residential mobility, number of years in cities (urban score)
- **«Practice of the city»:** relations to others, to places, to density
- **Sensitivity to sensory stimulations:** noise, environment, crowd
- **Impact of illness onset (comparison before and after psychosis onset):** on «practice of the city» and sensitivity to stimulations
- **Comparison with control group**

Patients' profile

	Patients N=117	Controls N=205
Age (mean)	29.6	24.5
Gender (male)	69%	59%
Migrant status	41%	12%
Activity		
• Full or part time or studies	28%	100%
• Medical leave	4%	
• Unemployed, disability pension	68%	
Living status		
• With family	37%	-
• Independent	63%	-
Diagnosis		
• Non affective psychosis (schizophrenia)	76%	-
• Affective psychosis	15%	-

Frequency of visits to the city centre



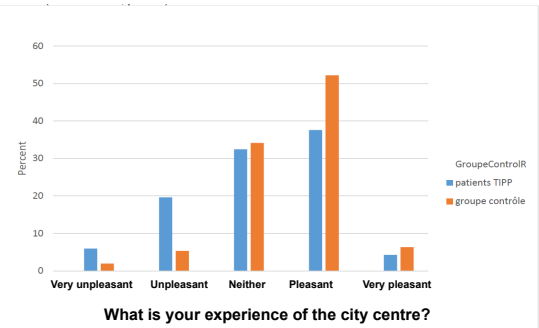
Evolution since onset of psychosis

47%:	**Less often** (p<.001)
46%	No change
7%	More often

Patients go significantly less to the city centre

- than controls (p<.001)
- after illness onset compared to before (p<.001)

Experience of the city centre



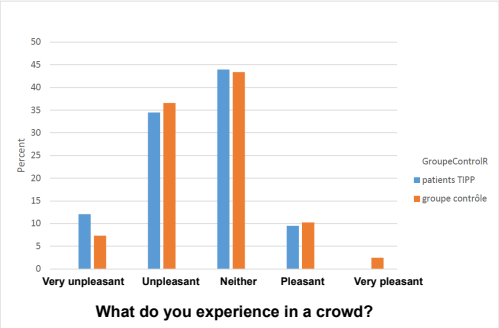
Evolution since onset of psychosis

45%	**Worse** (p<.001)
50%	No change
5%	Better

Patients are more likely to dislike the city centre

- than controls (p<.001)
- after illness onset compared to before (p<.001)

Perception of the crowd



Evolution since onset of psychosis

42%:	**Dislike it more** (p<.001)
48%	No change
9.8%	Like it better

Perception of the crowd:

- More often negative than positive
- BUT, is **similar to controls** (p=.320)
- Is worse after illness onset (p<.001)

- Negative perception of crowd **correlates** with avoidance of city centre (p=.001)

Interaction with others

How do you feel towards others in the city?

Open to contact	**37%**	
Sensitive to ambiance	**40%**	
Indifferent to others	**17%**	*[controls 28% (p=.023)]*
Disturbed by proximity	**20%**	
Ill at ease with eye contact	**27%**	*[controls 8% (p<.001)]*

Evolution of openness to contact since onset of psychosis

38%:	**Less open (p<.001)**
48%	No change
14.4%	More open

In patients, significant correlations between city avoidance and:

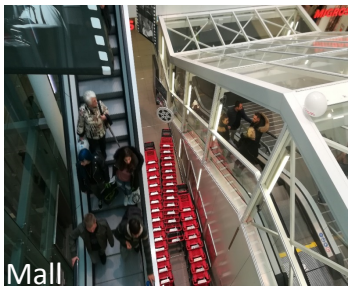
- Absence of openness to contact (p=.002)
- Disturbance by proximity of others (p=.025)
- Uneasiness with eye contact (p=.001)

The gaze of others

	Patients (%)	Controls (%)	P value
Eye contact is stressful	17	3	<.001
The gaze of others is bothering	19	11	.061
I feel judged by others	21	11	.015
I feel observed by others	17	13	.284
I feel that the others analyse me	19	10	.021
I feel threatened	6	0.5	.004
I feel inferior	15	2	<.001
I feel vulnerable	15	4	.001
I am indifferent to the gaze of others	28	37	.118

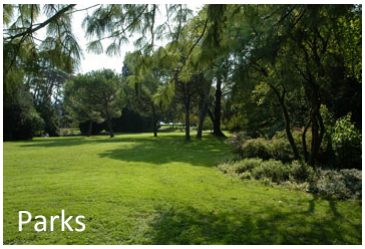
A link to self stigma or paranoid symptoms?

Perception of various urban spaces



Active, crowded… and «not very enjoyable» spaces

Perception of various urban spaces



«Relaxing» spaces

Perception of various urban spaces

	Patients % enjoying
Downtown	49
Mall	30
Metro station	17
Ouchy (lakeshore)	72
Parks	69
Old city	54

Perception of various urban spaces

	Patients % enjoying	Controls % enjoying	P value
Downtown centre	49	50	.156
Mall	30	20	.368
Metro station	17	8	.238
Ouchy (lake shore)	72	98	<.001
Parks	69	90	<.001
Old city	54	83	<.001

Patients:

- dislike crowded places as much as controls,
- Prefer relaxing places
- Are less likely to enjoy them than controls: ahnedonia?

Sensitivity to external stimulations

	Patients %
Feeling flooded by sensory stimulations	27%
Sensory stimuli perceived as unpleasant	
• Noise	54
• Physical contact	38
• Smell	32
• Visual elements	22
Change since illness onset	
• Decrease	7
• No change	55
• Increase	38

Sensitivity to external stimulations

	Patients %	Controls %	P value
Feeling flooded by sensory stimulations	27%	-	-
Sensory stimulations perceived as unpleasant			
• Noise	54	66	.038
• Physical contact	38	44	.002
• Smell	32	69	<.001
• Visual elements	22	9	.002
Change since illness onset			
• Decrease	7	-	-
• No change	55	-	-
• Increase	38	-	-

- 1/4 patients feel flooded by stimuli
- 1/3 patients feel this is worse since illness onset
- but controls are more likely than patients to consider noise, smell and physical contact unpleasant …
- A different type of uneasiness?

Sensorial sensitivity and city avoidance

	Stimuli perceived as unpleasant (p value of difference)				
	Noise	Contact	Smell	Visual	No
Avoid city centre	.206	.001	.252	.817	
Enjoy city centre					.009
Avoid metro	.007	.020		<.001	
Avoid dowtown centre	.030				
Avoid old town	.032	.017			
Avoid mall	.046				
Avoid lake			.033		
Enjoy all places					.001

Sensitivity to noise and physical contact has an impact on likelihood to go in the city
Absence of stimuli perceived as unpleasant is linked to higer likelihood to go in the city

In summary

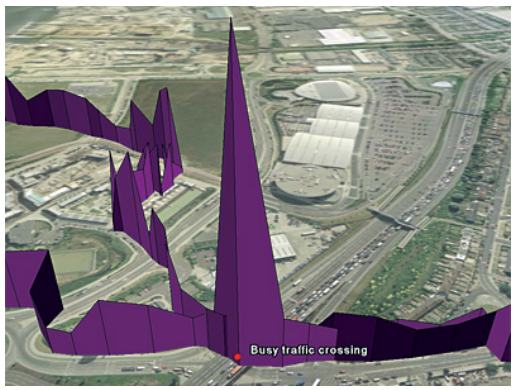
- THE DEVELOPMENT OF PSYCHOSIS:
  - ***Increases*** *city avoidance, unease with crowds and with eye contact, and sensitivity to stimuli*
  - ***Decreases*** *time spent outside of home, openness to others*
- CITY AVOIDANCE CORRELATES WITH:
  - ***Problematic social interaction:*** *Absence of openness to others, uneasiness with eye contact and proximity: SELF STIGMA?*
  - ***Stimuli perceived as unpleasant:*** *noise: SALIENCE?*
- COMPARING PATIENTS AND CONTROLS REVEALS THAT:
  - *PATIENTS:*
    - *Are more avoidant of the city and more disturbed by eye contact*
    - *Are similarly disturbed by crowded places and pleased by relaxing places but to a lesser extent: ANHEDONIA?*
  - *CONTROLS:*
    - *Are more likely to consider stimuli as unpleasant: DIFFERENT NATURE OF DISTURBANCE*

3. CONCLUSION

Perspectives for future research (general to particular):

- Conduct similar studies based on prospective follow-up of prodromal patients in order to explore the unfolding of « city avoidance »
- Conduct comparative research including cities of the Global South

- Combine direct observations with measures of stress (electrodermal activity)
- Produce affective maps of city walks
- Use such maps as tools for diagnosis of level city stress and marker of response to treatment



Source: Christian Nold, UCL, www.biomapping.net/new.htm

Contribution to therapeutic strategies:

- 'Environmental coaching' (prevention and recovery)
  - Choosing atmospheres of comfort
  - Managing the geographical and social reconquest of the city after first episode
  - Managing complex urban situations (social interactions, sensory stimulations)
- Contribution to mental health planning
  - Location of mental health services
  - Location of public housing for patients
  - Public space planning

Thank you for your attention!