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Drawing and Handwriting on Mobile Phones:

Some Conversational Features of a pen-stroke IM client.

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Abstract

Mobile phone studies offer several opportunities to explore how interactional practices make sense of new communicational affordances. Beside asynchronous messaging systems that allow combining text and pictures in artful ways, new instant messaging services permit to merge drawings with handwritten texts and to send them in real time on touch sensitive mobile phone displays. I propose an applied conversation analysis of such handwritten exchanges and explain how drawings can be systematically and dynamically coupled with texts in the communicational environments they contribute to produce. The creation of endless new combinations between handwritten text and drawings, either to solicit attention, to open an exchange, to produce an evaluation or to initiate a new topic turns out to be an endogenous game-like practice.

Introduction

One commonsense definition of images, shared by professional analysts and lay persons, is that they are representations of something. As a consequence, a large amount of work has been devoted to characterize, from a general, theoretical standpoint, the different kind of relations between pictures and their referents. In this paper, I will take an ethnomethodological perspective on how some specific kind of images, mostly smiley-like drawings, are interactionally produced during Instant Messaging sessions on mobile phones. I will examine how the local senses of drawings is occasioned and established as a concerted practical accomplishment.

This study is based on the closed analysis of Orange Scribble uses, a pen-driven Instant-messaging application that allows to share every pen stroke, hand-made drawings, handwritten texts, etc between mobile phone users. Scribbles are not recognized by software and converted to text, but directly transmitted to the receiver. Orange Scribble offers a rich environment to study freeform handwriting chat, and to understand how participants to those exchanges establish the local sense of their drawings over the course of their chat. Therefore, studying Orange Scribble uses constitutes a "perspicuous setting" to examine features of the social organization of mobile handwritten Computer-Mediated-Communication, and to analyse a specific kind of representational work.

I will not analyse drawings as theoretically definite constructs, but as oriented-to objects, embedded into the temporal development of the activity of chatting through this application. This activity in interactional in the strong sense : drawings form textual actions addressed to the viewer as recipient because their production is almost visible and observable in real time by him, who is able to orient to the sense of it.

First, I will present the nature of the data corpus, the context of this study and discuss some general features of Orange Scribble exchanges. Then I will propose to analyse different sequential environments in which drawings are produced and understood.

1. Context of the Study

During a field experiment conducted at France Telecom Research and Development[1], we gave Sony Ericsson P800 to thirteen users for several weeks. Users have been instructed in general technical matters during a collective meeting about how to use Orange Scribble, an Instant-messaging client. Orange Scribble consists of two main parts: first, a pad devoted to communication with a buddy. Second, a BuddyBar, made with image icons of each buddy. When a participant is logged on into Orange Scribble, his image icon "flashes". To establish a contact, a participant clicks on an icon.
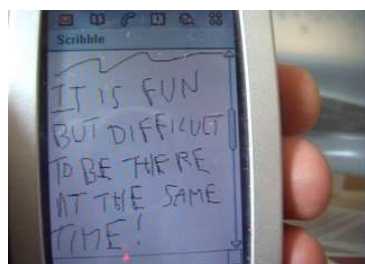

Figure 1 : Orange Scribble' pad[2]

Users write and draw with a pen, directly on the touch-sensitive screen (See. Fig.1). The "ink" is almost immediately shared on the distant buddy's screen and visible. Users can scroll up and

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[2] This image refers to a first experimental version of Orange Scribble, and not to the actual one.

down over the pad. Moreover, the ink is persistent: all scribbles shared with a buddy are stored on the network and users can begin exactly where they left off at the end of the last session. When the conversation is nearing the end of the paper, a participant clicks a 'more paper' icon to add some more space.

2. Synchronous and asynchrounous exchanges

Log files have been gathered. They provide all the transmitted "ink" with complementary information about the sender, the recipient, and the transmission time. At the moment of the experiment, Orange Scribble did not provide the possibility to use different colours. To make the analysis easier, we decided to differentiate them with two different colours (See Fig. 2).

Those "augmented" screen captures provide precious temporal information, in order to be able to preserve an access to the temporal organization of the activity.

The fact that the scribbles have been kept as visual objects and timestamped permits us to distinguish two different uses of the application. Orange Scribble is rarely used as an asynchronous medium. But a few participants use it to leave a message, to send a letter (Figures 3) or to draw an occasional map. Handmade drawing and writing capabilities provide, jointly with the persistence of "ink", the possibility to use the application as easily as a paper sheet. Any writing or drawing remains on the contact page, and can be seen when the buddy will log in to Orange Scribble.
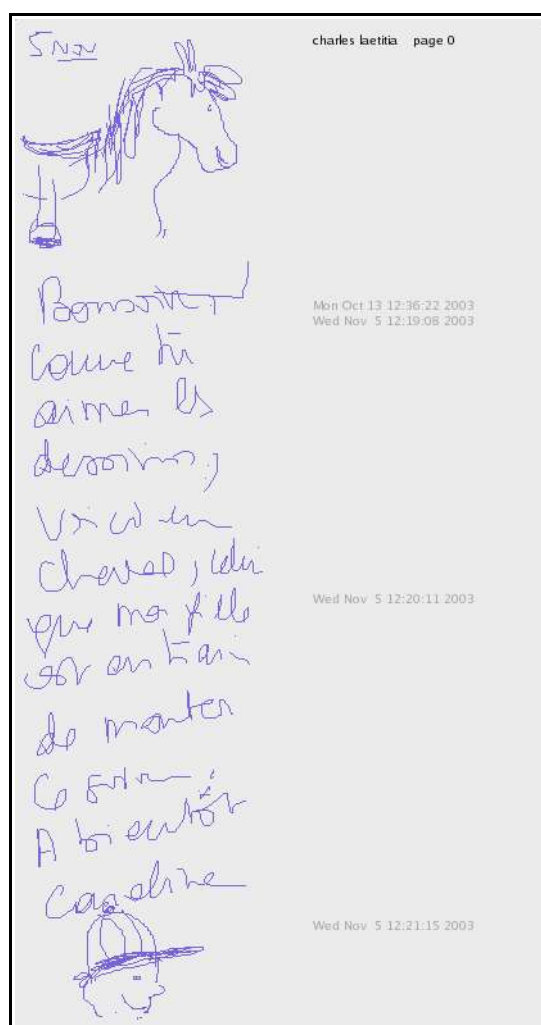
The absence of a page layout permits to write in a various formats, even if the size of the visible part of a page tends to limit the text.

Fragment 1 : A capture of an Orange Scribble Pad

| Participants |

| Date and time of transmission |

1 A : yes, right, uneasy to use everyday…

2 B : I totally agree.
    [
     (where)

3 A : after the WE I am on vacation and what about you?

4 B : where ?

5 A : I work tomorrow
      ((drawing))   Lol

6 A :Ough! Me in provinces far away from Paris and totally at rest

((drawing))

Table 1 : Translation Fig.2

2.1. Asynchronous messages

Table 2 : Translation Frag.2

Fragment 2 : leaving a message

All features of this letter-like scribble (See Frag.2 and table 2) are occasioned by drawing. Both drawings have been used in the preface of the letter and after the author has signed on. The drawings are the first and the last visible objects of the message. Because they visibly belong to a same category of horse-riding features and depict a horse and a rider, the drawings frame the letter as a personal narrative of a given sort. The introductory remark confirms this framing because it links the first drawing to the knowledge of the recipient's preferences. The drawing appears immediately not to be a mere illustration, divorced from the text, but a gift that occasions the letter. Moreover, the author depicts the drawing as a representation of a particular context, embedded in the circumstances of her family life.

As in a postcard or in some MMS, the text unpackages the drawings, while the later reflexively anchors the message into his specific circumstances and to the time of the writing and drawing. The representation force of drawings has been used to build a narrative link between what the writer, as a witness (of an event, or any visually accountable feature) and the receiver. Because they are handmade objects, drawings can be easily seen as personalized accounts of what their author saw.

2.2. Intermittent persistent conversation

The second instance (Frag.3) displays a conversational-like organization. Something like a minimal, two turns interaction is recognizable, with a first turn composed with two first-pair parts (a greeting + an address term; an "how are you" sequence), and a short second-pair part which finally gives a minimal answer.
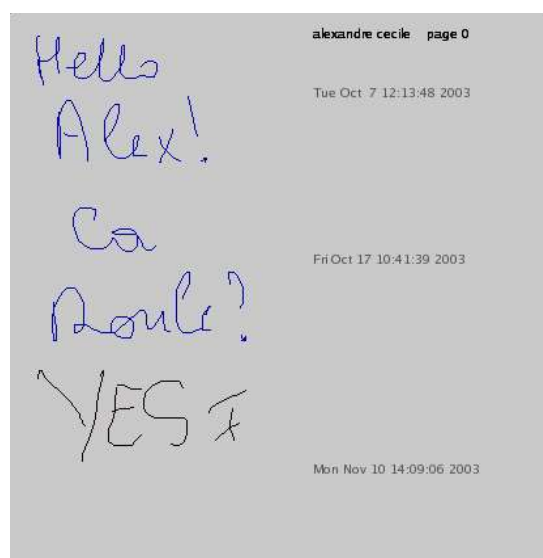
At first glance, this capture is readable as a transcript of a single passing interaction, enclosed between the first and the last turn. But if we take into consideration the time stamps we discover that this interaction took place into different moments: the first attempt to obtain a response has been produced the 7th of October, while the second attempt was written ten days later. Then the final answer was produced almost one month after the last attempt. Thus this fragment illustrates a kind of persistent passing exchange, which looks like a transcript of a single short interaction moment. However more than one month separats the first try to get in touch and the final, minimal answer.

This possible (and productive) confusion is possible because the persistent ink displays turns in a serial order, without making explicit the time features of their production time. The pad juxtaposes contributions within an adjacent order that seems to correspond to a single message, even if this conversation-like exchange took place into different, delayed moments. Ink persistence leaves open the possibility to keep a conversational format without being in virtual co-presence. It is sufficient for participants to pursue the exchange from time to time, leaving the floor opened for a next contribution. The persistent asynchronous exchange is possible because each contribution seems to give an immediate interpretation of the precedent one, due to the spatial proximity between them. However spatial contiguity is not a good indicator of the producing time of the turns, which appears to be necessary to understand the internal logic of the exchange.

Asynchronous conversations solve a classical problem in IM chat. To begin an exchange on Orange Scribble, a click has to be done on the displayed name of a buddy. Before being included in the list of contacts, an authorization has to be delivered. Then interactants are supposed to know who they are and are recognizable to each other. But they are not always connected or available at the moment of the contact. Persistent ink permits to keep a conversational style while interacting at different times.

Nevertheless if spatial adjacency and persistency are necessary to build this conversational style, they are not enough. To conceive the long-term exchange as if it was a single conversation, both participants have produced their new contribution as if they were produced in the same exchange. They could have marked a new beginning at each new connexion, or build recognizably separate, "new" beginnings. But they have chosen to keep a "same" conversation format and to go on in the same sequential order. That is the reason why the second contribution is readable as a second attempt and not as a completely new one. And the final turn has been produced as an answer to the last visible question. Thus persistency, a "continuing state of incipient talk"[3], is a practical accomplishment of both participants, not a property of a given application

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[3] Schegloff, E.A. and Sacks, H., 1973. "Opening Up Closings," *Semiotica 8*(4) (1973), 289-327.

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Tue Oct 7 12:13:48 2003

Fri Oct 17 10:41:39 2003

Mon Nov 10 14:09:06 2003

1 A : Hello Alex!
2 A : are you fine ?
3 B : yes

Fragment 3 : A quasi-conversational   **Table 3: translation frag.3**
asynchronous exchange

2.3. "Synchronous" written conversation ?

In this section, I will introduce a few remarks on the organisation of focused quasi-conversations that took place between Orange Scribble Users.

2.3.1. Sequentiality : beginning in the next line

Unlike other chat clients (Herring,1999) which present participants' contributions as next turns serially linked, Scribble users are able to write anywhere on the screen page. But they still write in a serially manner, and position each new contribution just in the next line after the last. While doing this, they preserve, through a spatial positioning of their writing and drawing, not only the seriality, but also the sequentiality of their exchange. Sequentiality has been shown to be a stable and constitutive feature of many forms of talk-in-interaction because it preserves the very possibility of a shared and mutually controlled understanding of talk: later contributions can be used to inspect some members' analysis of previous contributions[4]. Because a speaker is expected to react to previous utterances, subsequent utterances display overt understandings of previous utterances[5]. In this way, participants can coordinate their written turns into sequences through which particular activities are accomplished: an invitation, an evaluation, etc.

When participants are involved in a focused interaction (Goffman, 1963), sequentiality feeds a turn-taking organization. Most Orange Scribble exchanges take place when coparticipants are

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[4] Sacks et al. (1978) have noted that turns at talk manifest a three-part organization : "one which addresses the relation of a turn to a prior, one involved with what is occupying the turn, and one which addresses the relation of the turn to a succeeding one".

[5] As Sacks, Schegloff, & Jefferson have noticed, "The display of those understandings in the talk in subsequent turns affords a resource for the analysis of prior turns, and a proof procedure for professional analyses of prior turns, resources intrinsic to the data themselves." (p.35)

connected at the same time. Once a given interaction has begun, members adopt a rhythm of responsive contributions, which characterize a kind of focused interaction (Goffman, 1963). Those exchanges have definite beginning and closing sections. In doing beginnings and closings, participants recognize that they are involve in a definite activity, temporally-bound event. During it, they accept to pay attention to any directed action of the other and to take their turn.

2.3.2. Turn taking organization and written handmade "conversations"

Turn-taking organization guarantees "stable trajectories of action and responsive action…" (Schegloff, 2000, p.1). It recovers a family of "practices designed to allow routine achievement of what appears to be overwhelmingly the most common default "numerical" value of speakership in talk-in-interaction: one party at a time" (Idem).
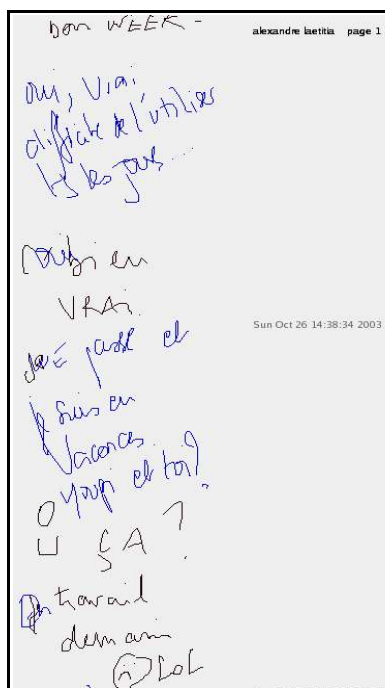
Two general sets of principles have been discovered by CA (Sacks et *ali*., 1974).

The first set points to practices design to organize the possible transfer of speakership. When a speaker begins to talk, he has the right to go on until the fist possible turn completion point, which opens a possible transition place.

Then a second set of organized practices becomes relevant: if he has selected by a technique (like a question) a next speaker, he must take the floor. If nobody has been selected, then any other speaker can begin to speak. If nobody self-selects, then the current speaker can introduce a second Turn Constructional Unit. This organization is based on the possibility to have at one's disposal a communicative medium that assures a good transmission of sound, in order to be able to speak and to be heard in real-time. A written conversation, produced in a focused conversation has similar, but distinctive features:

The Orange Scribble user's eyes do not see an already formatted text, but discovers the writing in the timing of its processing. This structuration of reading has important consequences: the reader can not go ahead through the current text in order to build a specific reading. He discovers what he reads progressively. There is not, however a strict analogy between the temporality of the reading and the timing of the writing[6]. First, reading is faster than writing. Consequently, there is a risk that the reader would rush into "next turn" and begin to write at the first possible place. Second, Orange Scribble carries out the sharing of the writing in *almost* real time. Sometimes the text appears as chunks of words or lines which are not strictly homologous to the process of their writing. Because of this slight delay between the producing time and the arrival time, writers can discover retrospectively that their writing overlaps the contribution of their addressee. See what happens in the next fragment :

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[6] This feature has important consequences on projectability (See Sacks & *alii*, 1978). Unfortunately, I have no time to develop this topic here.

Fragment 4 : Co-starts

1 A : good WEEK
2 B : yes, true, hard to use it
3   everyday…
4 B : ye
5   [   ]
6 A : it' s really true.
7 B : I come through and I am=
8   [
9 A : I
10 =B: on vacation. Great and
11   you ?
12 A :   Where ?
13 A : I work tomorrow
14   [
15 B :   we
14 A :   ((drawing)) LOL

Tab. 4 : Translation Frag.4

In lines 3-4, A displays that his writing turn is ending with suspension points. But he still goes on at next line while B quasi-simultaneously takes the floor, showing that he has recognized a completion point. This co-departure creates a brief overlap, but A stops writing and B wins the turn. In lines 7-9 we observe a similar phenomena: after the last B turn, marked with a final point, A begins to write but this item overlaps a new turn beginning introduced by B.

Note that in the next turn beginning we find what seems to be an interesting avoidance of an overlap: while B adds a new constructional unit to her last announcement ("I am on vacation"), A begins a turn in which she introduces a sequential contribution linked to this announcement ("where?"). As she wrote a first letter, she discovers that B adds something to his own turn. Then she stops writing horizontally in the same line than B and finishes her turn in the vertical order. This artful, graphical achievement permits to avoid the production of an unreadable overlap while it provides the possibility to pursue both turns. But both turn are questions; their sequential implicativeness provokes a last new short overlap at the next line.

Written exchanges are serially organized and can be responded to immediately. But written turns are still visually organized on a specific medium and can be made not only with words but with drawings too. Users of Scribble have no general interest in the analytic distinction between Orality and Literacy : they discover those features in the same time they find their way of "doing" written turns, adding drawings and compete for next turn, pointing to a precedent turn with an arrow, etc. In the next section, I will analyse Scribble smiley-like drawings as temporally organized objects, and focus my interest on how participants order their exchanges from the practicality of their doings.
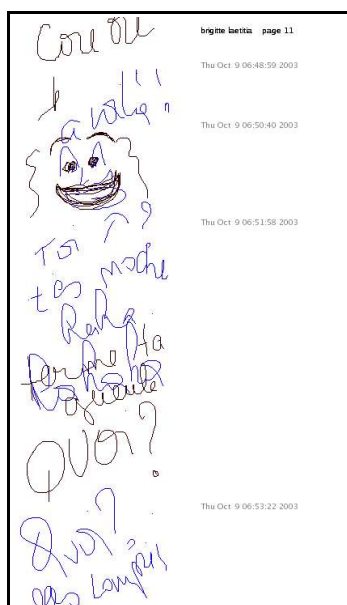
3. "Smiley-like" drawings and Sequentiality in Orange Scribble conversations

Images have been characterized as essentially ambiguously polysemic (Barthes, 1977; Goffman, 1979). However this so-called 'heterogeneity' of images appears to be linked to a specific theoretical gaze, divorced from what people ordinary do with concrete images. Ethnomethodological studies of domestic pictures viewing (Crabtree et alii, 2004), uses of directional signs in hospitals (Sharrock and Anderson, 1979) , mobile images (Koskinen et ali, 2002) or various sorts of visual documents in scientific practice (M.Lynch,1990 ; Goodwin, C. 1995) and the workplace (Goodwin, C. and Goodwin, M.H., 1996) focus on how visual materials feature have been studied not as mere exemplars of theoretical objects, but as objects embedded in courses of practical action : exchanging mutually dependant multimodal visual messages, following instructions, talking about family events. As Sharrock and Anderson (1979, p.81) have noted, « When we think of people using signs it becomes obvious that the use they make of them is practical. They are not interested in the meaning of the sign but are interested in using the sign for some purpose. They are not interested in what signs in general mean, but in the use they can make of THIS sign HERE and NOW. Their reasoning is not theoretical and general but practical". To understand how participants make sense of their drawings imply to catch the images in the very site of their production. Most drawings found in the corpus were produced during shared, real time conversations. So the analytical problem we face to is to examine what they are doing in conversation.

Most drawings share a family resemblance with conventional smileys used on webchat or classical computing Instant Messaging applications. They depict human faces in various states: happiness, sadness, surprise, tiredness, etc. But they manifest some important distinctive features. First, they are less standardized and more particularized than smileys. By drawing smiling faces, an author is able to singularize an expression and to adjust the draw to the particular context it contributes to constitute.
Now I will turn to a few sequential environments in which drawings have been located by Orange Scribble' users.
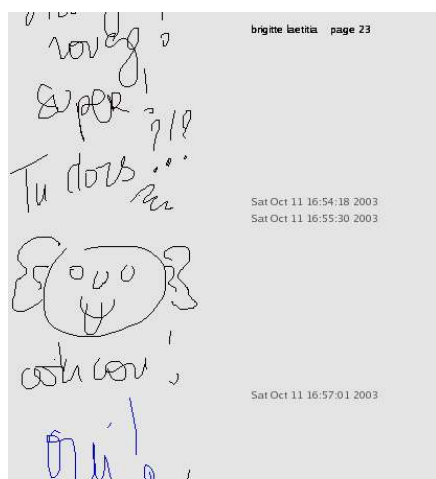
3.1. Smiley-like drawing and openings

Fragment 5 : transformation

```
1 A : Hello
2 A : je
3 B : here you are !
4  ((drawings))
5 B : you ((arrow)) you are
6      ugly ha ha
7        ha ha ha
8        [
9 B :     shut up
9 A : WHAT ?`
10 B : what ? not understood
```

Table 5 : translation Frag.5

This first drawing in Fragment 5 occurs in a beginning section. After the contact has been made with a summon/answer sequence, which establishes the two participant's readiness to scribble[7] together, B completes her contribution with a smiley-face drawing.

Unlike speech, persistent ink provides the opportunity to retrospectively transform and rearrange the other's production (a drawing, but also a word)? Here A takes the first drawing as an occasion to transform it and to draw over it. But she keeps the same face-like orientation and adds long hairs. This transformation gives B the opportunity to comment the last transformed drawing with a teasing remark. Note that the teasing plays with the general representational feature of images: the written turn proposes to see the drawing under a particular aspect, i.e. as a portrait of her author. Of course, this representational game is based on the handmade production of those drawings, which are not conventionalized, already formatted objects like smileys and therefore can be possibly understood as self-portraits.

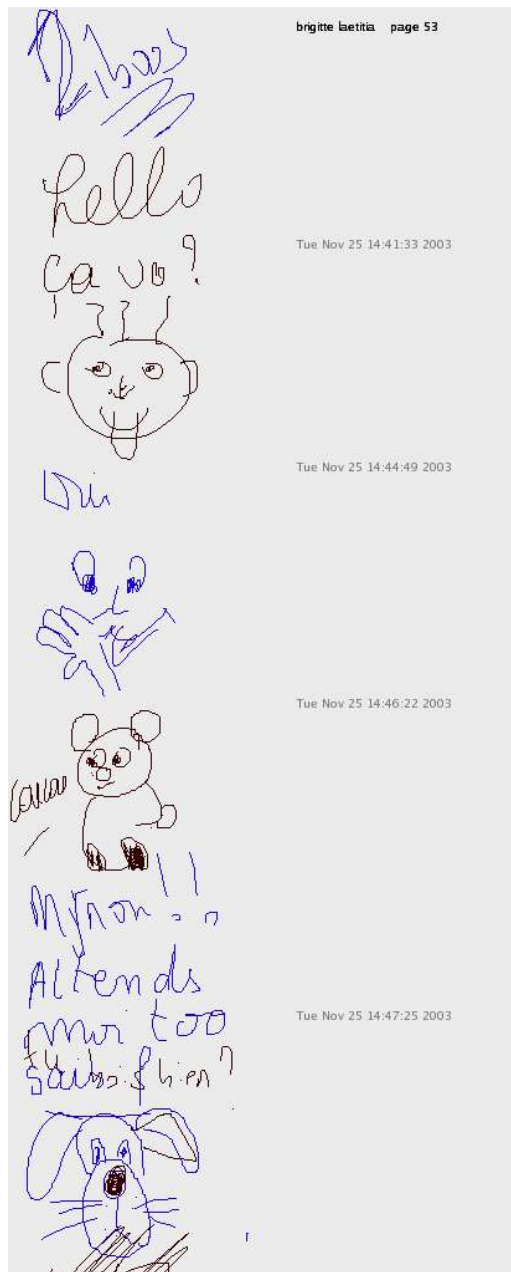| |
|---|
| 1 A : super ! |
| 2   Are you sleeping ?!? |
| 3 A : ((drawing)) |
| 4 : hello ! |
| 5 : yes ! |

Table 6 : Translation Frag.6

Fragment 6 : Drawing as an attention-getting device

Fragment 6 extends the use of drawings in openings or re-involving sequences. In the course of a focused interaction, Brigitte summons her recipient, who does not produce a next turn at the same tempo as usual, in order to check her availability. She first uses a written provocative and exaggerated question ("are you sleeping?"), but receives no more answer. To treat the absence she repeats graphically her summon and adds a large drawing of a funny face, putting a tongue out. In this given, summoning context, the drawing constitutes a graphical, highlighted, repeat of the summons, designed to arouse a response. After a new textual attempt, she obtains a response and a new involvement in the exchange.

Transformations are not the only way to interact through drawings in beginning or re-involvment sequences. In fragment (8), which is a beginning section, a provocative drawing has been added to a how are you question. The response is divided into two components. The first written turn offers a standard, minimal positive response to the question. A drawing, build in the same, teasingly manner, composes the second part of the response. This contribution treats separately the completion of the adjacency pair (the how are you sequence)

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[7] Note that the answer shows that B was already in line, waiting for A's arrival. The pad figures a place where to be and wait for the other.

and the completion of what is considered as a first-pair drawing part of a teasing sequence. This gives drawings a special autonomous role in the exchange, which is extended by the next contributions. Yet, a new drawing is produced, representing a familiar animal. The recipient offers a positive evaluation of it, and adds a second drawing, which goes together with the precedent. Then the beginning section has been contaminated with the activity of drawing, which becomes the foreground activity.
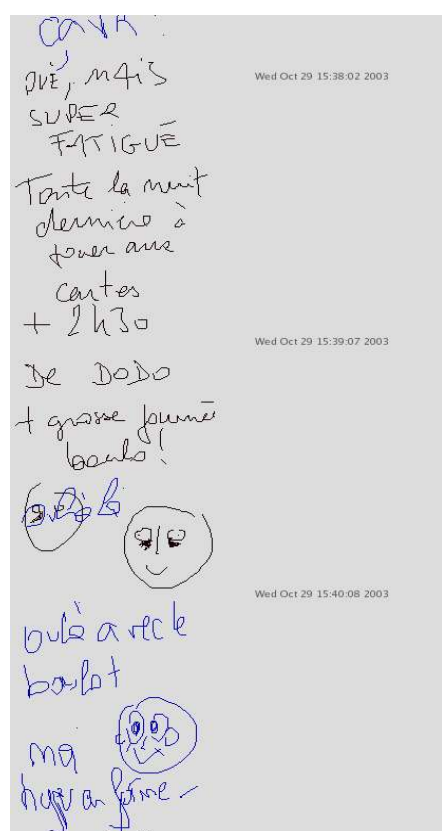

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Tue Nov 25 14:41:33 2003

Tue Nov 25 14:44:49 2003

Tue Nov 25 14:46:22 2003

Tue Nov 25 14:47:25 2003

```
1 B : kisses
2 A : hello
3       how are you ?
4       ((drawing))
5 B : yes
6      ((drawing))
7 A : hello ((drawing))
8 B : Cute!!
9      Wait me too
10        know
11        [
12 A :  do you see well?
          ((drawing))
```

Fragment 7 : Drawing as a foreground activity   Table 7 : Translation Frag.7

3.2 Smiley-like drawing and story construction

This exchange (See Frag.8) corresponds to a re-opening of a persistent conversation, which quickly closed 20 minutes before. To re-engage in the activity, a simple "how are you" question is produced. In a delayed answer, B writes a long answer in which he introduces a first topic and develops a narrative on what he did last night. When A recognizes a possible ending of B's story, she produces an evaluation. But this sequential move overlaps the design of a new drawing, which A adds to his narrative. This drawing, a face with marked rings under one's eyes, looks like a smiley. But a logic of expression ("he draws this smiley to express his tiredness feeling") would be clearly insufficient to catch the indexical features of the drawing. In effect, its placement at the end of the self-narrative and after the upgrading list of exhausting events provides for its intelligibility as a self-depiction of the common sense physical consequences of this tiring night. The final drawing directly links the list of related events with the story preface ("I am super-tired").

Fragment 8 : Drawing and Story-construction

```
1 B : are you ok ?
2 A : YES BUT SUPER TIRED
3ALL LAST NIGHT
4PLAYING CARDS?
4+ 2H30 SNAP
5+ Hard work day
6((drawing))
5       [
6 B :      ouah
6 A :           ((drawing))
7 B : Yeah this is work
8 B : Me  ((drawing))
9     I am very well
```

Table 8 : Drawing and Story-construction

Moreover, the drawing highlights the consequence to be drawn from the narrative. As a final component of the story, the drawing occupies a single line. The recipient aligns herself with a positive receipt of the narrative and then she introduces a new turn constructional unit, build as an announcement, that stresses on her opposite, positive state of mind. To highlight the contrast between her state of mind and the tiredness displayed by her addressee, she draws an another face, and stresses on opposite, positive features: a big smile and large fresh eyes are drawn. Positioned exactly at the same place than the first drawing, this "second" manifests an interpretation of the former. But the local senses of both drawings are profoundly embedded into the language exchange and its sequential features.

4. Conclusion

4.1 The practical reading of those writings is informed by the dynamic construction of conversation. Drawings are not objects to be inspected but objects to be glanced at[8]. Reading in conversation is based on a prospective visual orientation sufficient enough to making sense of written turns and to pursue the exchange. Moreover this reading involves to actively 'see' the organization of the 'meaning-gestalt' of the text. The drawing and the text are seeing-able in mutual conjunction or disjunction.

4.2 Drawing upon these discussions and the findings presented in this paper, handmade images appear to be embedded in the trajectories of written chat. Rather than expressing private states of mind, they are public displays, which can be artfully merged in various kind of turns and sequences. When they appear as secondary objects, reflexively linked to the written conversation, drawings highlight specific features.

4.3 However drawings sometime are built as sequential objects of their own, used to perform social activities of drawing together, teasing, etc. Because a "first" drawing can be transformed, interpreted, or evaluated, it is a pervasive resource for the construction of subsequent written turns and sequences or new "second" drawings, which offer an interpretation of the formers. Then drawings are implicative, interactionally designed objects, which enrich written, handmade conversations. At the same time, drawing together is an activity that constitutes intimacy and closeness. Sharing the same space for drawing, transforming the other drawing, and challenging a partner's representation of his state of mind serves in the accomplishment of informal relationship and reaffirms intimacy.

4.4 Drawings of facial expressions are not direct readout of internal emotions, but conventionalized displays that are attended to in social contexts. Once produced, they contribute to reflexively constitute this context. For instance, a smiling face drawn after an attention-getting device or a greeting can be read as displaying friendliness and trying to establish an informal and playful interactional setting, or as an invitation to draw competitively, to tease, and so on. Second, because they are individually made, drawings can be inspected in order to read them as representations of their authors. The local sense of images is not construed by their representational content. On the contrary, the representational work, which is a practical contingent achievement of participants, constitutes a specific use of drawings. Members play a representational game and evaluate the correctness of the correspondence between the drawing and its referent. As argued by Lynch and Woolgar,

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[8] As David Sudnow (1972) has argued, a glance can be sufficient for making sense of the relevant features of a setting.

'Instead of asking "what do we mean, in various contexts, by 'representation'?" ehnomethodological studies begin by asking "What do the participants, *in this case*, treat as representation?" (1990:11). Iconicity is a social and conversational accomplishment, reflexively elaborated. Matching the image and its referent is not a theoretical question, but a practical concern for users.

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