Talk, Time, and Creativity: Developing Ideas and Identities During a Start-up Weekend

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Abstract: This study explores the temporal dynamics of language use, collaboration, and creativity in the case of a start-up weekend. The organisation of interaction in time and the use of temporal indexes and semiotic resources vary over time, not simply because of changing contextual conditions, but rather because of dynamic developments in the flow of time. Interacting in time, the participants appropriate temporal frames and contextualise their actions in and across time. The start-up weekend as a chronotopic frame has a semiotic impact on all local actions. Simultaneously, small, individual actions emerging in the flow of time have a collective impact, which leads to unpredictable, creative developments. The relations between these perspectives are mutually dynamic.

1. Introduction

Time in language use, though omnipresent, has called relatively little attention yet. One aim of this article is to demonstrate the importance of incorporating time in the analysis of language use: Communication and interaction unfold in the flow of time. Simultaneously, while interacting in time, speakers index and appropriate different time frames to structure the interaction and their mutual relationships and to achieve interactional goals. These two perspectives on time as a flow and a contextual frame are related in a mutually dynamic way in language use.

I analyse the linguistic interactions and creative collaboration of the participants at a start-up weekend in Norway. A start-up weekend is an event for young entrepreneurs (and those who want to be ones) to work creatively in a low-risk, high-energy atmosphere and develop ideas into small businesses. The study follows a team of six participants and their linguistic interactions while they work on their project and compete with other teams for the best business concept. A clear temporal frame, time pressure, and high intensity are characteristic of the setting. In the unfolding process, the time frame, initially given as a duration of fifty hours with a clearly defined end-point and goal, gets filled with actions and gradually turns into experiences, which the participants draw on in any new interaction and in their evaluations of what is still to come. The structure of the start-up weekend and the limited timespan allow for a longitudinal and at the same time detailed analysis of language use and contextualisation during the creative, emergent process. It provides empirical access to the complexity of creative, collaborative, linguistic interaction over time.

In the team's linguistic practices and creative collaboration, time is pervasive as a contextual frame. Furthermore, in its permanent flow, time both structures and complexifies interactions and the production of creative outcomes. Viewing time as both frame and flow, I explore: how the flow of time enables creativity and shapes order while things are going on; how the participants navigate in time, organise, and appropriate temporal contexts; how time is used as a semiotic resource; and how semiotic resources emerge over time. In detail, we will look at the temporal organisation of the interaction, the use of temporal indexes over time, and the alternation between Norwegian and English in the flow of time. These phenomena vary over time, not simply because of different contextual conditions at different points of time, but rather because of the dynamic development of events, semiotic resources, indexicalities, and personal relations over time.

In linguistic research, the timescale of fifty hours (i.e. the weekend), in which the coherent, collaborative project development takes place, has remained a grey area between speech events and short sequences of interactions (lasting from seconds to minutes) on the one hand and long-term

historical developments on the other. The case of the start-up weekend differs in many respects from interactions in everyday life and other organisational contexts. A number of special circumstances make it an ideal case for investigating the relations between time and language use. Firstly, the term *start-up weekend* implies a future orientation as well as a limited timescale. The idea is to trigger creative productivity under time pressure, with the aim of achieving new, presentable outcomes within a short time. This future orientation has also an ideological aspect. Not only does any individual start-up project have a future prospect pointing beyond the frame of the weekend itself (here, it is important for the team to develop a concept that is timely). Start-ups in general address a hope for future socioeconomic success grounded in creativity and innovation from a grassroots level. Secondly, the limited—and therefore empirically manageable—time frame is one of the most important characteristics of the start-up event. The teams are constituted in the beginning of the event by participants who have not worked with each other before. This means that the process of teambuilding and identity formation (Who is who within the team? Who are we as a team?) starts at this point and unfolds over time. Building and negotiating social relations is normally a process that evolves on much longer, open-ended timescales. Thirdly, both ideas and relations evolve in an intense and creative process. The participants produce not only ideas, which compete and interact dynamically and develop gradually towards the final outcome; in their interactions, they also produce semiotic resources, which they recontextualise and reinvest in the flow of time. At any point of time, the participants make sense of the given time scheme as well as their own past actions and future plans. Using language to organise time is not only a central part of the interaction; it contributes to the ongoing process of change and development. Taking these together, it is clear that the start-up weekend unites orderly and stable phenomena (such as the time schedule, the fixed starting point and goal) with unstable and emergent phenomena that arise out of the participants' individual and collective agency. Some contexts and semiotic resources are highly stable (or underlie processes of change far beyond the scope of the weekend) while others emerge and shift while things are going on. Some linguistic behaviour is habitual; some emerges in the flow of action (cf. Blommaert, 2005: 126-128).

The article begins with a discussion of perspectives on time as a flow in which linguistic interaction unfolds, and as a contextual frame that affects the making of meanings in any here-and-now and how these perspectives intertwine in the case of the start-up weekend (Part 2). Part 3 introduces the setting, participants, and method of data collection. In Part 4, I present two example sequences to demonstrate how ideas, relations, and semiotic resources unfold over time and across different timescales. I show how the participants organise their interactions in time, how temporal indexes shape coherence in and across time, and how temporal frames and the flow of time influence the alternation between Norwegian and English. Concluding the analysis, Part 5 shows how these processes and semiotic relations intertwine and lead to unforeseen, creative outcomes.

2. Time, language use, and creativity

Time is a fundamental dimension of everything we know, so fundamental that its effects are often overlooked. In spite of a long tradition of research into language history, variation, and change, temporality and the flow of time in language use have called relatively little attention yet. This has been pointed out from various angles for quite a while (e.g., Blommaert, 2005; Auer et al., 1999; Enfield, 2011; Goodwin, 2002; Larsen-Freeman and Cameron, 2008). Auer et al. (1999) relate the detemporalisation of language as a research object to the general decontextualisation of language in western folk ideology and linguistic research. They argue,

> "in the end, the metaphor of language as a tool used to convey (denotational) meaning turns out to be basically flawed, although it continues to thrive in folk theories of language and, in various disguises, in linguistic theory: The tool has no existence without the praxis in which it is used, and this praxis unfolds in time." (Auer et al., 1999: 6)

Linguistic forms and meaning-making resources emerge on multiple timescales (from biological evolution and diachronic emergence to online situational processing), which interact dynamically and mesh in the current moment (MacWhinney, 2005; Rączaszek-Leonardi, 2010; Larsen-Freeman and Cameron, 2008; Lemke, 2000). The same is true for the multiple voices, subjectivities, and historicities that mesh in encounters between different individuals (Uryu et al., 2013).

Such encounters of different individuals and their collaboration as a team take place during the start-up weekend. The participants engage in the creative development of something that has not existed before. This process unfolds within a given temporal and contextual frame; all actions take place within the flow of time; and immediate and distant temporal contexts affect the making of meanings in any here-and-now. As a point of departure, it is therefore useful to distinguish between conceptions of time as flow and frame (cf. Parmentier, 2007, 1987). Both perspectives become intertwined in a complex manner (cf. Lempert and Perrino, 2007).

The start-up weekend provides a temporal frame which defines a beginning and an end and limits the duration of the process. This temporal frame becomes semiotically relevant because it gives meaning to many actions within the frame. In this view, the start-up weekend as a semiotic frame can be described as a *chronotope* (Bakhtin, 1981 [1975]). A *chronotope* is a "semiotic representation of time and place peopled by certain social types" (Agha, 2007: 321), "akin to a denotational textual 'field', a temporally situated, virtual space of emplotment" (Lempert and Perrino, 2007: 207). It brings "chunks of history to the interactional here-and-now as relevant context" (Blommaert, 2015: 111). The duration of fifty hours is one characteristic of the start-up weekend as a chronotope. More important than its duration is, however, that the chronotope defines relevant and adequate types of actions, role-relations, interactional spaces, ideologies, and indexicalities. For example, the general ideology of start-ups and entrepreneurship as agents of innovation, creativity and future economic success (cf. Holborow, 2015) is revealed in many of the team's actions. The participants also use the time limit of fifty hours when trying to persuade others of their ideas. One analytic task is therefore to describe relevant aspects of the temporal, chronotopic frame(s) and their impact on the process.

While the chronotope (derived from literary analysis) is typically understood as a spatio-temporal, contextual frame surrounding a situated here-and-now, interactional approaches highlight the organisation of actions in the flow of time (e.g., Goodwin, 2002). Enfield (2011, 2013, 2014) proposes *enchrony* as an overarching perspective (embracing concepts such as *sequence, adjacency, nextness, contiguity,* and *progressivity*) besides other temporal perspectives such as *diachrony* and *synchrony*. Enfield (2013: 29) describes *enchrony* as "forward-feeding temporal, causal-conditional trajectory of relevance relations":

> "Each swatch of communicative behaviour simultaneously occupies a backward-looking status as a response to what has just happened, and a forward-looking status as something that elicits a response next. This gives rise to a potentially unbounded sequence of pivoting sign-response relations." (Enfield, 2013: 29)

One of the strengths of the concept of *enchrony* is that it highlights the flow of time in the face of a still prevailing preference for synchronicity in linguistic research; it directs our analytic view towards actions and reactions as temporal sequences and their linguistic organisation.

The concept of Enchrony is, however, highly limited in that it does not account for the full spectrum of temporal dynamics beyond the level of turn-taking (Uryu et al., 2013: 43). Neither a chronotopic frame alone nor a potentially unlimited but linear chain of causal-conditional trajectories are suited to explain the dynamics of interactions between individuals in context and the emergence of unexpected, creative outcomes. In our case, it is evident that the outcomes of the creative process are unpredictable; the work of our start-up team would be redundant if it could be predicted. Clearly, something is going on beyond what is explainable by a given chronotopic frame,

a set of rules, and a series of causal-conditional trajectories. It is therefore important to combine the perspectives on time as frame and flow.

Especially in creative, communicative processes with multiple participating agents, the effect may be disproportionate to the cause (Cameron and Larsen-Freeman 2007; Prigogine and Stengers, 1984). In the flow of time, "each individual action or each local intervention has a collective aspect that can result in quite unanticipated global changes" (Prigogine and Stengers, 1984: 203). This implies that individual actions or local interventions within a temporal, contextual frame can affect the frame itself and the overall meaning potential, which, again, influences the subsequent actions. As a consequence, developments in time become unique and irreversible (in the sense that there is only one possible direction of development from cause to effect). This is typical of complex adaptive systems (e.g. Larsen-Freeman and Cameron, 2008). According to Prigogine and Stengers (1984: 295), "communication is at the base of what probably is the most irreversible process accessible to the human mind, the progressive increase of knowledge". In our case, this means that the actions of any individual at any point of time can affect the overall meaning-making potential of all participants as the process goes on. Therefore, a perspective is needed that takes into account the interplay of individual actions and the wider frames as part of an overall creative process.

Permanent emergence and change lead us to the question why these do not lead to total chaos. We will see that some situations can be characterised as chaotic, indeed. But the answer is that stability and continuity are maintained through the participating agents' actions (This principle is also described as *non-equilibrium dissipative structure* (Prigogine and Stengers, 1984; Larsen-Freeman and Cameron, 2008)). Temporal sensemaking plays an important part in structuring the evolving process. Language use at any moment of discursive interaction provides the means to index, interpret, and appropriate other events or instances of discourse across timescales and thereby structure the discourse (Silverstein, 2005), and appropriate, contextualise, and configure the relationship of the past, future, and ongoing present (Wiebe, 2010; Uryu et al., 2013; Bietti, 2012; Emirbayer and Mische, 1998). The start-up weekend as a chronotope is not the only relevant temporal frame, here. Relevant *timescales* (Lemke, 2000) can stretch from miniscule moments of vocal articulation via words, utterances, and the ebb and flow of talk to very long timescales such as the lifespan, history, and evolution. The dynamics between processes on radically different timescales is essential to how meaning emerges (Rączaszek-Leonardi, 2010; Uryu et al., 2013; Lemke, 2000; Bietti, 2012; Larsen-Freeman and Cameron, 2008). Smith and Thompson (2016) speak of cross-frame and cross-chronotope alignment; and Blommaert and De Fina (2017) discuss interacting macroscopic and microscopic chronotopic frames. The duration of a timescale (in terms of seconds, hours, or years) is of minor importance compared to the way it surfaces in the ongoing interaction. Different timescales complement each other in linguistic practice (Bietti, 2012; Bietti and Sutton, 2015): Events on the interactional timescale and memories on much longer timescales, referred to and narrated in interaction, are equally important to the making of meanings. In our case, we therefore have to consider how the participants index and refer to temporal frames and contexts on various timescales, which temporal frames they point at, and how these are used in the flow of time.

In summary, to approach the multifaceted and complex relationships between language use and time in the interactions of our start-up team, we must take into account: the chronotopic frame(s) in which the process unfolds; the linguistic organisation of temporal sequences of interaction; the interplay of temporal flow and frames and how it leads to unexpected changes; and the use of linguistic means to organise and structure temporal relations across different timescales.

Before applying these perspectives to the interactions of our start-up team, I want to consider a few thoughts about duration, empirical access, and conceptions of temporal relations. It seems that a timescale of fifty hours (comprising coherent semiotic collaboration) is a grey area among the timescales investigated and theorised in linguistic research. Concepts such as *speech event* and *interactional time* are technically not limited to a particular temporal duration but usually

understood as quite short timescales. Silverstein (2005: 7) speaks of the speech event as "an arbitrarily small here and now—a unique, contingent moment of using semiotic media". According to Enfield (2014: 331), enchronic processes tend to last "from fractions of seconds to a few seconds and minutes". When looking at developments over longer timescales and the dynamics across different timescales, empirical access to all relevant processes becomes increasingly more difficult, if not impossible (cf. Rączaszek-Leonardi, 2010). One response to this challenge is the study of narratives connecting radically different timescales (e.g., Bietti, 2010; Bietti and Sutton, 2015; Uryu et al., 2013; Wiebe, 2010). The focus of these studies lies on the temporal connections that become apparent in a particular here-and-now. Longitudinal studies of language use and temporal flows are quite few. Kaplan and Orlikowski (2013) describe organisational changes over a timespan of eight months, conducting interviews at different stages of the process. Wortham (2005, 2006) analyses the linguistic socialisation among pupils across a whole school year. Intertextually linked series of events and individual trajectories are central to that process, and are held together through mutual semiotic relations. Our case comprises cohesion across particular instances and different timescales and, simultaneously, a continuous flow of actions and reactions from beginning to end. When we study continuous interactions over such a time span, it becomes evident that many here-and-now actions and the temporal frames surfacing in these here-and-now actions are also connected through the same, continuous flow of actions in time. The case of the start-up weekend, thus, sheds new light on how certain timescales become semiotically relevant in combination with particular types of action and ways of building coherence within and across discourses.

3. Setting and data

The start-up weekend took place in a Norwegian town in 2014, organised by start-up entrepreneurs and supported by local companies. The organisers had invited everybody interested to "experience the excitement of going from a small idea into a full-blown start-up company", advertising entertainment, creativity, economic and organisational development as well as the possibility to learn and make new experiences. I consulted the organisers, decided to take part as an ordinary participant, and joined one of nine project teams. The team members agreed that I would record our interactions during the whole process.

Figure 1 shows the overall timeline of the weekend, which lasted for fifty hours from Friday afternoon to Sunday evening. In the beginning, the organisers provided general information, instructions, and advice for project development, before the participants were invited to briefly present their project ideas. The approximately fifty participants voted for the best ideas and gathered in teams of five or six to start working on their projects. The major part of the time was reserved for team-building, idea, and product development, only interrupted by brief *stand-up check-ins* where the teams had to report the progress of their work to the plenum. Beyond this, the teams were free to structure the work process according to their own needs. The aim of the process was to pitch the outcomes (ideally the concept for a functioning start-up company and a product prototype) to an expert jury on Sunday evening.

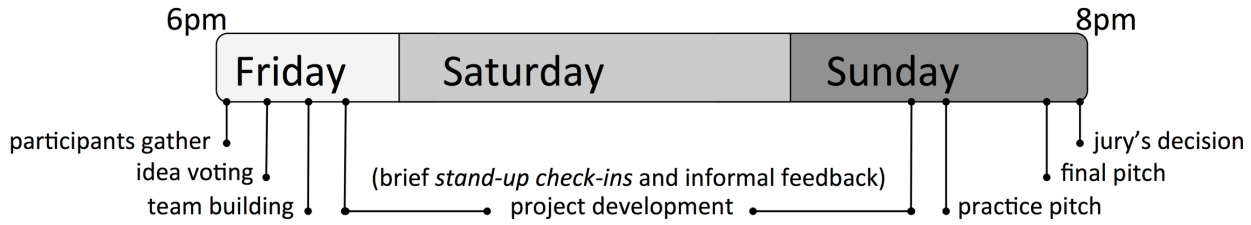

Figure 1: Timeline of the start-up weekend

The project team consisted of six persons aged between 21 and 33: *Signe* (SIG) had been working as a freelancer in diverse projects and had some previous experience with start-ups; *Kristine* (KRI) was an office employee; *Ingvild* (ING)*, Fredrik* (FRE)*,* and *Morten* (MOR) were students of economy; I (FLO) entered the team with a background as researcher in linguistics. In contrast to meetings and team interactions in organisations (e.g. Holmes and Stubbe, 2015), none of the team members had worked together with each other before. All relationships within the team were in the making; and the participants were not part of any superordinate organisational structure. Most interactions in regular workplace settings are embedded in an institutional order, which is made up of shared habitual practices (Sarangi and Roberts, 1999: 3). The team had gathered around Signe's project idea: Many teenagers in Norway drop out of school and do not find a way into the job market. Could the team invent some kind of tool that would help to solve this problem?

The design of the start-up weekend allowed me as a researcher to participate on an equal level with all other participants. Though informed about my research, the other participants treated me as ordinary team member. The only difference was that I had to pay some attention to the voice recorder to make sure that it was working correctly. The intensity of the work process usually drew away everybody's attention from the recorder and its scientific purpose. Therefore, the impact of my role as researcher and the ongoing recording was likely minimal.

The recordings cover the team's work on Friday evening and Saturday (12 hours of recorded speech), containing the whole process of idea development and important decisions about the product and business concept. On Sunday, the team members worked in groups of two or three on product details and prepared the final pitch. For practical reasons, this part of the process was not recorded but covered by field notes. The recordings were transcribed using Exmaralda, which allows viewing both recordings and transcripts along a timeline.

The time-space configurations of a research article require that we present a temporally limited amount of speech translated into a written transcript and spatial representation. None of these sequences is isolated. Any segmentations made for the purpose of presentation are artificial. All examples must be understood as parts of a continuous flow of actions that unfolds during the whole weekend (see also Wortham, 2005).

4. Findings

I begin my analytic approach with two sequences of the unfolding interaction. I take these as points of departure for a closer examination of organisation and contextualisation in the flow of time, the impact and use of temporal frames, and the dynamic relations across different timescales.

Example 1 is an extract of the team's interaction a few minutes before 11 p.m. on Friday evening. The organisers had scheduled a *stand-up check-in* at 11 p.m., where all teams had to report the current state of their projects to the plenum. The participants show a clear temporal orientation towards both the future (predominantly the upcoming stand-up check-in) and the past (what the team has been doing till now). There is also a future orientation towards the team's next steps.

Example 1

01 FRE: ja skulle det være sånn *stand-up check-in* nå
yes should there be such a *stand-up check-in* now
02 klokka elleve?
at eleven o'clock?
03 KRI: (0,6) klokka elleve?=
(0,6) eleven o'clock?=
04 MOR: ja:. tror-a. (0,6)
yes:. I think. (0,6)
05 KRI: =(ja. trur de.)

=(yes. think so.)
06 ING:men æ trur kanskje vi kan sikkert bare (prate) om
but I think maybe we can certainly just (talk) about
07 ja æ trur det vi har gjort.
yes I think what we have done.
08 så kan vi prate om (0,9)=
then we can talk about (0,9)=
09 SIG:mm
10 ING:=at vi sier 'hei vi ble kjent.
=that we say 'hi we got to know (each other).
11 vi har prøvd å (.) bli kjent med personan her (.)
we have tried to (.) get to know the persons here (.)
12 kem e vi og ka- (.) ka e vi gode på
who are we and what- (.) what are we good at
13 og mindre gode på (.)
and less good at
14 SIG:hvilke roller tar vi. (0,5)
which roles do we take. (0,5)
15 ING:for så å rett og slett (.) bruke ganske mye tid å
in order to then quite simply (.) use quite much time to
16 s- (0,5) definere problemet. (0,7)=
s- (0,5) define the problem. (0,7)=
17 KRI:ja (.)
yes. (.)
18 ING:=ka e- ka e egentlig greia her. (0,5)
=what is- what is really the issue here. (0,5)
19 KRI:og så har vi funnet navn. (0,6)
and then we have found a name. (0,6)
20 SIG:ja
yes
21 ING:og så har vi funnet navn. (.)
and then we have found a name.
22 SIG:og vi brukte da teknikker hvor vi varierte
and we used techniques where we varied
23 arbeidsmiljøer (.) og: eh: (1,2)
working environments (.) and eh (1,2)
24 prøvde ulike metoder. (0,5) [blant annet eh]
tried various methods. (0,5) [among others eh]
25 ING: [*brainstorming*] (0,8)=
26 SIG:*brainstorming* [har vi begynt med. ja.]
brainstorming [have we started with. yes.]
27 ING: =[uttømming av eh eh idean.]
=[pouring out of eh eh the ideas.]
28 KRI:ja
yes
29 SIG:og vi på en måte starta da: i det vidre spektret.
and somehow we started then into the wider spectre.
30 og så gikk vi og (0,7) *narrow* 'litt *down*
and then we went and (0,7) *narrow* a 'bit *down'*
31 i kategorier. (0,6)
into categories. (0,6)
32 nå skal vi gå enda mer i dybden av det. (.)
now we will go even more into the depth of it. (.)
33 KRI:ja. i morra. (0,6)
yes. tomorrow. (0,6)
34 ING:mm (.)
35 SIG:mm
36 KRI:ja (1,1)
yes (1,1)
37 SIG:ja? (0,7)
yes? (0,7)

The collaborative summing-up of past events during approximately 51 seconds of talk in Example 1 is embedded in processes on longer timescales: the creative development and organisation of ideas; and the development of interpersonal relations, individual and collective identities. In the example, the participants take a meta-perspective on these processes. Since these processes and relations develop and become effective throughout the whole weekend, we will have to look beyond the scope of single sequences.

The sequence in Example 2 is the immediate continuation of Example 1. Understanding that Ingvild, Signe, and Kristine have come to an agreement, Fredrik has spotted the right point of time to make a new proposal, insisting (metaphorically) on moving forward in the process (*I would really like to get (myself) there* (44–45)). This has a number of consequences: He does not only initialise a shift of topic and focus; compared to Example 1, there is also a change in participant roles; and disagreement among the participants becomes visible. Fredrik, who had stayed mainly passive in the preceding sequence, enters into a competition with Signe, not only about what to do next, but also about who is to decide. The duration of Example 2 is approximately 28 seconds.

Example 2

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38 ING:mm (0,8) vi [burde-  ]
       mm (0,8) we [should-]
39 FRE:            [skal vi:] [kjøre]=
       [shall we] [run]=
40 ING:                       [ja   ]
       [yes]
41 FRE:=en how, what, why imens? (0,8)
       =a how, what, why in the meantime? (0,8)
42 FLO:vi var jo nesten litt i gang med det.
       we were nearly about to do that, after all.
43 SIG:jeg ten[ker]-
       I thi[nk ]-
44 FRE:       [hæ?] (0,8) jeg har veldig lyst å komme- (.)
       [hæ?] (0,8) I would really like to get- (.)
45     å komme meg (.) dit.
       to get (myself) (.) there.
46 KRI:ja. men vi  [kan jo s- ]
       yes. but we [can s-]
47 FRE:            [ikke for å] rush-e nå. for å ikke (.)
       [not to] rush now. not to (.)
48     [(skynde) problemet men eh-]
       [(push) the problem but eh-]
49 SIG:[nei eh jeg skjønner       ]
       [no eh I understand]
50     eh skjønner eh [de greier.     ]
       eh understand eh [those things.]
51 FRE:               [jeg tenkte sånn] tidsmessig
       [I was thinking in a way] concerning the time
52     og syns [det er eh- ]
       and think [it is eh-]
53 SIG:        [vi har seks] minutter på det. (.)
       [we have six] minutes for that. (.)
54 FRE:ja. men siden det er så- (0,5)
       yes. but since it is so-
55     siden det er femti timer
       since it is fifty hours
56     det er snakk om hele helgen, så er de=
       we're talking about the whole weekend, it is=
57 ING:mm
58 FRE:=begrensa hva vi kan (0,5) analysere oss ned til
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=limited what we can analyse us down to
59 at vi skal gjøre noe med.=
that we must do something about.=
60 ING: [mm]
61 FRE:=[hva vi] må gjøre. vi må gjøre noe med det.
=[what we] have to do. we have to do something about that.
62 og så [okay] hvordan gjør vi det.
and then [okay] how do we do that.
63 FLO: [ja.]
[yes.]

The time frame of fifty hours does not only limit the time the teams have to complete their projects, it is also used for temporal sensemaking (Wiebe, 2010) during the ongoing process. This is visible in Example 2 when Fredrik refers to the time limit in order to convince Signe of his proposal. The timespan he refers to stretches far beyond the causal-conditional relations of the interactional sequence and involves both past and future. In the interactional here-and-now, Fredrik has success with his argument, which, in turn, has an impact on what the team does next. Lemke (2000: 280) calls this effect *heterochrony*: "A long timescale process produces an effect in a much shorter timescale activity".

Besides the time limit of fifty hours, the most obvious, relevant timescales in the two examples are the sequences themselves and the timescales the participants refer to explicitly: past activities of the team, the upcoming stand-up check-in, plans for further project development, and a broader temporal context beyond the start-up weekend which relates to the problem, solutions, and potential users. In the next sections, I explore in detail three aspects of time-related language use in and beyond these example sequences: First, we see a continuous temporal organisation of the interaction within the sequences and a shift that takes place between Examples 1 and 2. Second, the participants use a multitude of temporal references that point to other instances of the discourse and beyond. Third, considering the use of linguistic resources, the choice of English expressions (*narrow litt down, how what why*) in Norwegian talk catches our attention. These are both marked and unmarked choices which vary over time and become semiotically relevant in time.

4.1 Organising interaction in time

Temporal organisation is pervasive in how the participants produce actions, react to others' actions and thereby interact with each other. Goodwin (2002) presents a number of features at sentence/turn level and beyond by which interlocutors can project upcoming actions of the speaker and manage their own participation. These include syntax, intonation, prospective indexicals (such as story prefaces), gesture, and the simultaneous combination of several of these. "Time, in the form of sequential projectability, is central to the organization of such units" (Goodwin, 2002: 24).

The sequence in Example 1 consists of a collectively produced summary of the team's previous activities. This is initiated by Ingvild's projecting clause (6–8), which sets the frame for what is about to come. Kristine's and Signe's contributions add to this frame (9–21). They embed their contributions thematically, structurally, and at the right points of time in the flow of communication. However, the collective production of this summary is not purely collaborative. There is also competition for the role of principal (Goffman, 1981). Ingvild has taken this role in the beginning of the sequence and defends it repeating Kristine's utterance (21), just before Signe takes over (22). The point of time for Signe to take over is easy to project with respect to syntax, intonation, and genre: Ingvild has completed a clause adding another action to the enumeration. Signe connects her utterance with Ingvild's by the conjunction *og* ('and'), which signals a continuation of Ingvild's talk. When Ingvild suggests *brainstorming*, Signe also uses repetition to keep the role of principal. Signe concludes the summing-up of past events by pointing towards the future and (implicitly) asks the others for confirmation. At this point of time, Kristine uses Signe's

future reference to bring in a personal interest (33): Proposing a point of time for proceeded action (*tomorrow*) implies a wish to finish the work for the day (she had already expressed being tired several times before). During this short sequence, this is the best point of time for Kristine to bring across her interest: there are obvious signs that the summary of past actions is completed; she can take up the future orientation in Signe's preceding utterance; and her elliptic utterance fits into the syntactic frame of Signe's (32). Both thematic and syntactic contextualisation only work in the given sequential (and thus temporal order).

In Example 2, we see that Fredrik has found the ideal point of time in the flow of collaborative interaction for inserting his proposal for new action. This also leads to a change in participant roles. Briefly summarised, we see a temporal organisation of participation, which interacts with the unfolding contents talked about, the linguistic structures used, and the role-relations between the participants. The temporal organisation of the team's online interactions and their summary of past and future events are equally important and complement each other while the participants negotiate their mutual relations (cf. Bietti, 2012). At the same time, we must keep in mind that the two sequences are just a small part of a much longer, coherent, and progressive interaction. The negotiation of role relations we observe here draws on and adds to a longer process of negotiating individual and collective identities in the team. The temporal organisation of talk and participation from instance to instance and across timescales, which we can observe here, continues over time and gives structure to the unfolding discourse, the emergence and development of ideas, and the relations of roles and identities within the team.

4.2 Indexes of time

When the team members organise their ideas, interpersonal relations, the discourse, and work processes, they use language to point to actions, events, and relations on and across a variety of timescales in the past, present, and future. Temporal sensemaking and framing the ongoing action by indexing and appropriating past, present, and future is a central element of their individual and collective agency (Emirbayer and Mische, 1998). Examples 1 and 2 contain plenty of explicit and implicit "acts of pointing-to" (Silverstein, 2005: 9). The participants use grammatically and lexically conventionalised indexes of time, such as verb tense, deictics (*nå* 'now', *så* 'then'), and references to specific points of time (*klokka elleve* 'eleven o'clock', *i morra* 'tomorrow'). To a great extent, in Example 1, these serve to make sense of past actions with a view to the upcoming stand-up check-in. At the starting point are references to the check-in (1–8), followed by a long summary of past actions (mainly by Signe and Ingvild) (9–31). The summary begins with past references to the team's starting point, followed by references to general conditions (present tense) (12–18) and the team's activities in a temporal order (past tense) (19–31). Signe concludes the summary, pointing towards the future (32). These temporal indexes do not only make relevant a variety of timescales and contexts from beyond the interactional sequence. In the flow of time, single temporal indexes combine to a report of what has happened. The result is a cohesive pattern of similar references, which also affects the structure of interaction and participation: Ingvild, Signe, and Kristine build on this thematic coherence when shifting turns and co-constructing the recount of past activities.

Silverstein (2005) distinguishes between inter- and intradiscursive relations, basically relations within and between discursive events:

> "Intratextual units come into being and are chronotopically co-"eval" at their plane because they constitute a structure of indexicality, one unit pointing to the other as its co-occurrent counterpart within the discursive interaction coming to structure. Parallel to this, interdiscursive relations across events of using semiotic media also, in effect, constitute relations of "-eval"; they freeze the chronotope of independently occurrent and experienced social eventhood in a structure of likeness that is based on the nature of texts in relation to their contexts of occurrence." (Silverstein, 2005: 8)

Thus, in Silverstein's terms, we are dealing with intradiscursive relations between interdiscursive indexes (though we can ask questions about the boundaries between inter- and intradiscursive perspectives in our material): Temporal indexes in the flow of talk point to other events and actions; and within the discursive event, they form metrical patterns of "likeness" and co-indexicality and give internal structure to the text. In our case, many of those other events indexed in any instance of the discourse are part of the same discourse, at other points of time, connected through the continuous flow of time and through a variety of semiotic relations. The previous actions summarised in Example 1 are earlier instances of the same discourse and connected to the here-and-now not only through acts of pointing-to.

Figure 2 covers the time span between Examples 1 and 2 (when the participants talk about the stand-up check-in) and the stand-up check-in at 11 p.m. It maps the team's continuous use of temporal indexes in the flow of the 16 minutes between these two instances.

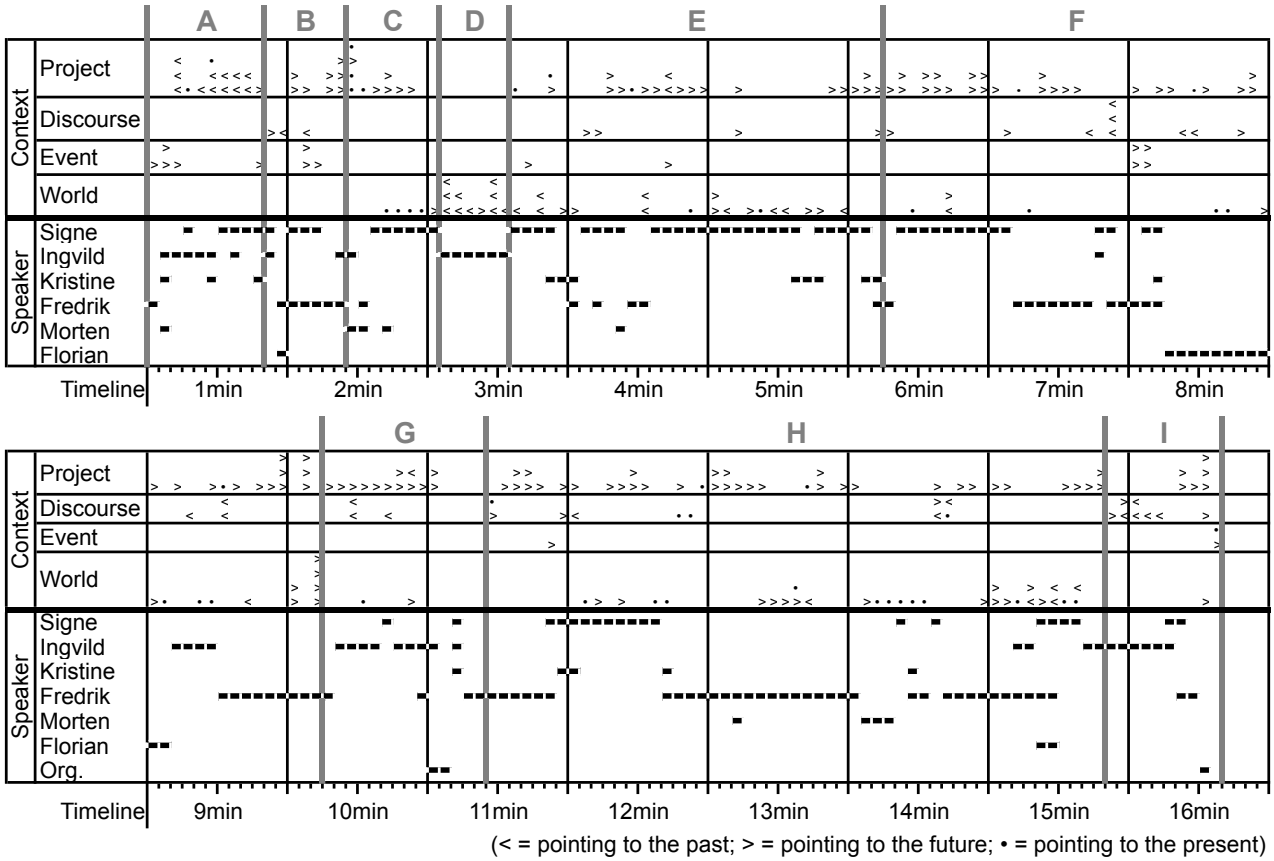

Figure 2: Temporal indexes in the flow of time

I have categorised the temporal references in Figure 2 in four contextual frames relevant to the specific chronotope of the start-up weekend, covering different, partly overlapping timescales:

- *Project:* References to the project work cover past and future actions and activities of longer duration, minutes, hours, or days from the now, within the frame of the start-up weekend and, in a few cases, potential activities beyond this timeframe. Though often linguistic in nature, most of these are referred to as actions, not as utterances.
- *Discourse:* Temporal references used to organise the discourse cover the shortest timescale: utterances and stances expressed now, a few moments ago, or in a few moments.
- *Event:* The start-up event is referred to as an institutional frame with scheduled events and temporal limits the team has to adhere to.

- *World:* References pointing to the world outside include general conditions that last over long timescales, the activities and problems of potential users in the present and future, and specific past events, including personal experiences. These references also include perceptions of what is 'timely'.

The boundaries between these four categories are fluent: scheduled activities of the start-up weekend get included in the project development; utterances and sequences in discourse become actions and activities in the project development; and the project outcomes are meant to bring about some change in the world outside.

The main topic of discussion during these 16 minutes is *how, what, why*, as Fredrik called it in Example 2 (41). The grey lines mark the major shifts of topic and footing: First on the timeline, we find Examples 1 and 2 (A&B). This is followed by a discussion about how and where to collect relevant information (C); a narrative about Ingvild's personal experiences (D); a continued discussion about information and communication (E); a discussion about what the team wants to achieve and what aims are realistic (F); a brief sequence about how to proceed, interrupted by one of the organisers (G); a discussion about the kind of service or product the team might develop (H); and another brief sequence about organising the discussion and the team's next steps (I). The latter is interrupted by an organiser announcing the beginning of the stand-up check-in.

It is visible from Figure 2 that the majority of references point to future activities in the project development. In Example 1, we have seen that temporal references can frame a sequence of talk and construct a cohesive pattern of similar references across the sequence. Since the relevance and usefulness of the future product in the world outside is a core question, it is not surprising that the indexed timescales and contexts vary between the project frame and the world outside, sometimes in quite clear-cut sequences, like waves of arguments that move back and forth between the project and the world outside (particularly in E&H): The team members make proposals for the project and search for arguments in the world of potential users.

Besides the temporal organisation of the interaction, which makes use of intradiscursive coherence in the flow of talk (both are seen to be relevant on short timescales (Silverstein, 2005; Enfield, 2014)), the participants build temporal coherence across longer timescales within the start-up weekend and make relevant temporal contexts beyond it. Figure 2 shows that indexes of time occur permanently in the flow of the unfolding interaction. These also relate to and make relevant aspects of ideology, identity, and other social contexts. Simultaneously, the continuous use of temporal references builds a coherent pattern of (interdiscursive) semiotic likeness (and contrasts), which essentially adds to discursive coherence over time and, again, connects acts of pointing-to with actions pointed to. Thus, two discursive events can be connected through both inter- and intradiscursive relations simultaneously. This only becomes visible when we look at stretches of emerging discourse beyond temporally limited sequences.

Connecting events through both inter- and intradiscursive relations simultaneously has an important impact on the way in which experiences of actions, events, and contexts evolve and change in the flow of time. Note that, in Example 1, the participants discuss the stand-up check-in as a future event; this future turns into present at the end of the time span covered by Figure 2. In Example 2, Fredrik suggests to run a *how, what, why*, which is implemented during the sequence sketched in Figure 2. The figure shows a multitude of references to past experiences and future expectations within the same flow of action (marked *Project* and *Discourse*). These sixteen minutes therefore provide an insight into an emergent process (and reveal some of the mechanisms at work) in which experiences change in the flow of time, are referred to and made sense of; the participants' temporal sensemaking is, again, embedded in the flow of time.

4.3 Shifting codes and linguistic resources in the flow of time

Semiotic resources such as words, codes, or languages are relatively stable and change only on longer timescales. However, such resources are used dynamically in the flow of time, and new meanings emerge. The use of English resources in the mainly Norwegian interaction is the most visible example. Time is essential for understanding the way the team members use English in their talk. The English expressions in Examples 1 and 2 are instantiations of contextual relations that reach beyond the scope of the two sequences. Signe's utterance *og så gikk vi og (0,7) narrow 'litt down i kategorier* (30–31) can be interpreted in several ways: (a) it may be part of her personal idiolect (and thus independent from the immediate context); (b) it may index an ideology that relates innovation, creativity, and technical development with the use of English; (c) it might point forward in time towards the upcoming stand-up check-in where the team is to present precisely these issues in English; and (d) it might be a combination of all.

Figure 3 shows the participants' use of Norwegian and English resources over a timespan of two and a half hours on Friday evening, from the beginning of the recording until they decided to catch the last bus home. The method for producing Figure 3 was adopted from Jørgensen (2001; see also Møller and Jørgensen, 2009), who annotated Danish-Turkish adolescents' use of Danish or Turkish in spoken discourse based on the turn structure (The result was the concept of *languaging* (Møller and Jørgensen, 2009): The graphic representation in some cases did not show any systematic differentiation between languages in the adolescents' talk). I segmented the material into small sections of five seconds (independent from turns or syntactic structures, in order to follow the timeline). Each section was coded according to the linguistic resources used. In our diagram, we see that talk in Norwegian forms a continuous baseline throughout the interaction so that the instances where English resources are used literally stick out from the Norwegian talk.

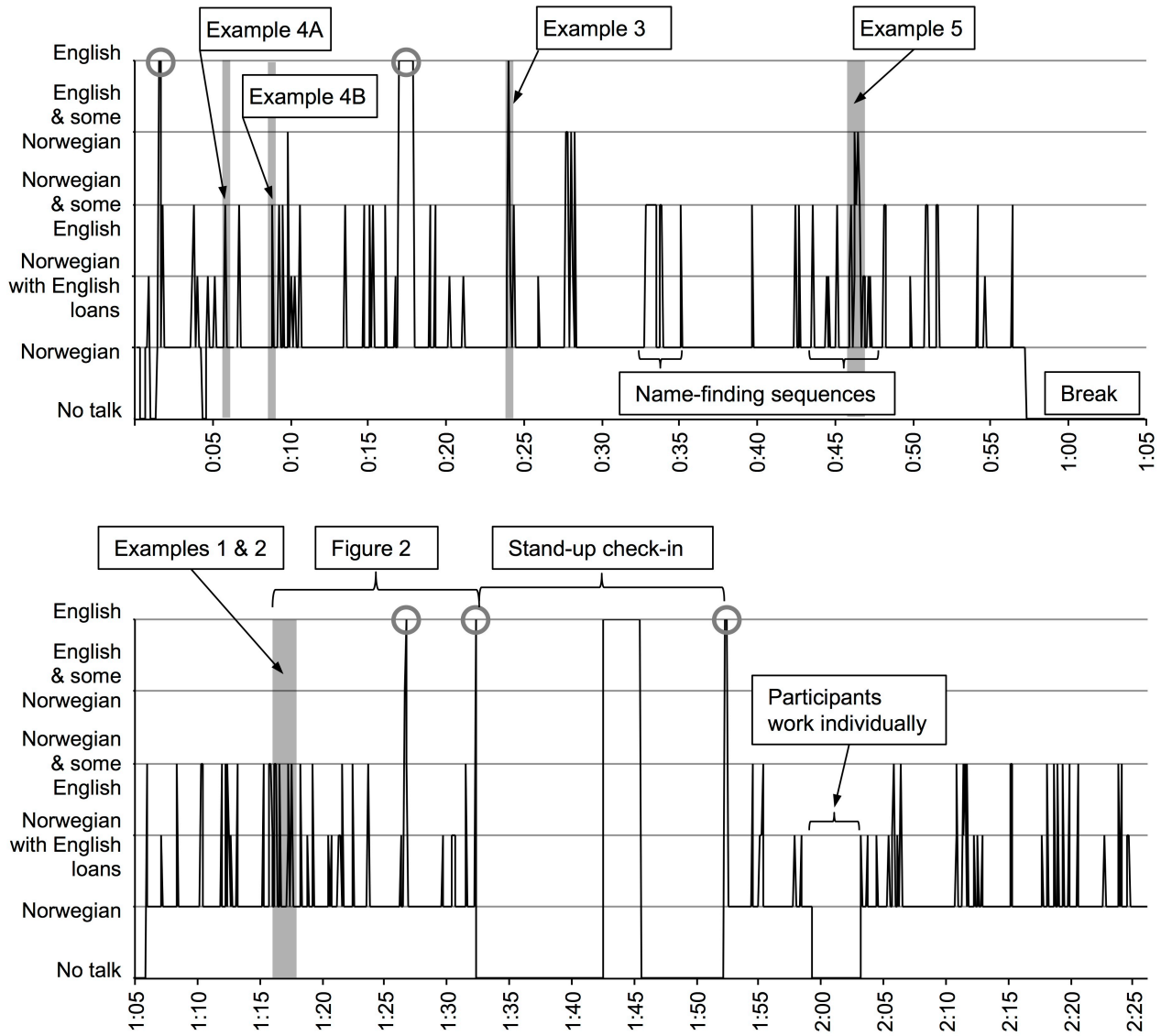

Figure 3: The use of Norwegian and English resources over time

The grey areas in Figure 3 locate the analysed example sequences on the timeline (Examples 3, 4, and 5 will be analysed in this and the following section). The name-finding sequences marked in the diagram will also be discussed in Section 5. The grey circles mark situations where the team members respond in English to other participants or organisers.

Looking at each separate occasion where English is used, we make the following observations about the causes and contexts: First, as a simple rule, team members respond in English when they are addressed in English by organisers or other participants (grey circles in Figure 3). They also use English consistently when the program requires it. The team's presentation during the stand-up check-in is only in English. All other uses of English are much less predictable. Second, some aspects of the chronotope (the start-up event) sometimes trigger the use of English, e.g.: when the participants refer to the program and the organisational frame (which are in English); when they deal with material affordances such as smartphones, apps, and post-its; and when they refer to knowledge obtained in English. English expressions can also relate to the ideology of start-ups, entrepreneurship and innovation and signal ingeniousness connected with advancement in the market society (cf. Holborow, 2015: 71-77); and the team members may use English when talking about the life-world of perceived users. Third, some uses of English can be explained by the

interactional context; they are local reactions to each other participants' actions. Fourth, in many cases, particularly non-domain-specific English expressions (e.g, Fredrik's repeated use of *eller what not* 'or what not') can be seen as part of personal idiolects. The team members use English to different extents: Morten 9,35%, Fredrik 9,3%, Signe 6,58%, Kristine 4,48%, Ingvild 3,61%, and Florian 1,32% of their individual speaking time. Signe and Fredrik talk considerably more than Morten. Thus, their use of English is heard most often. However, Fredrik also speaks alone for several minutes without using English expressions.

There are also contexts where only little or no English is used, e.g., in discussions about the internal organisation of the teamwork, coordination, and strategies. In some but not all situations, the participants show a clear metalinguistic awareness surrounding the use of English. Thus, the use of English appears as a marked as well as unmarked choice. Example 3 shows one of the situations where the use of English is commented on explicitly.

Example 3

01 FRE:yeah (1,9)
02 SIG:hva? (0,6)
        what?
03 FRE:*my post-it.*
04 MOR:((ler)) (.) du er i Norge.
        ((laughs)) (.) you are in Norway.
05 FRE:(.) yeah

The ways the participants use Norwegian and English resources cover most of the dynamic continuum of bilingual speech (Auer, 1999), from alternational code-switching for particular purposes to idiolects where the use of English has become a naturalised part of the speech of some participants. Figure 3 also reveals that alternations between Norwegian and English are not distributed evenly in the flow of time. This is not random. The variations visible in Figure 3 do not only have to do with different contextual conditions at different points of time, but also with the development of events, semiotic resources, indexicalities, and personal relations over time.

Example 4A

01 FRE:jeg føler meg litt sånn *drai:ned* for ideer *at the moment*
        I feel a bit *drained* of ideas *at the moment*

Example 4B (3 minutes later)

02 FRE:føler meg litt sånn *lost* jeg nå
        I feel a bit like *lost* now
03 MOR:(.) ((ler)) (.) »*drained*« som du sa i stad
        (.) ((laughs)) (.) »*drained*« as you just said
04 FRE:ja (8,0)
        yes (8,0)

Morten's use of the word *drained* in Example 4B can only be explained properly if we look beyond the sequence itself. Morten uses the English word in his reaction to Fredrik's utterance, who uses the English word *lost*. The team is trying to capture all dimensions of the problem they are confronted with, and Fredrik feels overwhelmed by their multitude. In his reaction, Morten refers to an utterance Fredrik had made about the same concern three minutes earlier. These two utterances and Morten's reaction are not only connected through explicit reference, but also similarity: They relate to the same topic and contain English expressions. That Morten laughs and pronounces the word *drained* with a change in his voice suggests that his reaction implies a metalinguistic

comment. Fredrik is one of the participants who talk most, and, as Example 3 shows, the others have paid attention to this extensive use of English. In his reaction, Morten humorously positions Fredrik as the one who uses a lot of English. In doing this, he involves at least three different timescales and a range of semiotic relations. His reaction takes place within a sequential order; he refers to Fredrik's utterance at an earlier point of time; and implicitly, he addresses a behaviour on a longer timescale. Fredrik's utterance may be the immediate cause for Morten's reaction, but his use of English becomes meaningful only in relation to similar uses over time. Morten's re-use of *drained* has a creative aspect in that the term receives new meaning that has not been there before.

It is evident from Figure 3 that using English expressions is quite a normal practice among the participants. Examples 3 and 4 demonstrate that there is an emergent and creative process taking place between using English and experiencing the use of English. In the examples, we see that the use of English is reacted to and becomes part of an ongoing negotiation of identity relations among the team members, including creative changes to the social meaning of English expressions. This is valid for most other uses of English resources in the unfolding interaction, too: Whatever sequential context or frame they are embedded in and make relevant, they also draw on the dynamics of the flow of time and across various timescales.

5. Unpredicted creative outcomes

In the preceding sections, I have analysed the organisation of interaction in time, the use of temporal indexes over time, and the dynamics of semiotic resources in the flow of time. What remains is to show how these combine in processes of creative collaboration—creative because the team members produce something new that first emerges from their actions, and collaboration because the process involves the coordinated and competitive actions of six individual agents. In particular, we have to focus on small actions with a collective impact in the flow of time (cf. Prigogine and Stengers, 1984).

Example 5 shows one of the situations where the use of English expressions accumulates. The sequence takes place right before the team arrives at a decision about the team name. This is their second attempt to find a name (see timeline in Figure 3), which had been going on already for about three minutes before the example sequence. Not only for this reason, it is crucial to take into account a longitudinal development of ideas, identity relations, semiotic resources, and contexts. These previous developments do not only include an unsolved content-related task (agreeing on a name), but also conflicting stances that have developed through earlier discussions. The team members have had different opinions about the team name itself and about the point of having a specific team name at all.

Example 5

01 ING: men vi sku-kkje ha nåkka vi kunne sagt *team* framfør? (0,8)
but shouldn't we have something where we could say *team* before? (0,8)
02 SIG: ja (0,7)
yes (0,7)
03 KRI: *team* eh (.) *hard work*. (.) nei da. (1,8)
team eh (.) *hard work*. (.) no. (1,8)
04 ING: *team do it. team* eh: (4,3)
team do it. team eh: (4,3)
05 KRI: hm eh (1,0) *team* ungdom (1,2)
hm eh (1,0) *team* youth (1,2)
06 FRE: jeg har sagt min mening. (0,6)
I have told my opinion. (0,6)
07 KRI: ja (1,4)
yes. (1,4)
08 MOR: *team* [*skateboard*]

09 SIG: [*team make*] *the future* (1,3)
10 ING: *team make it*
11 SIG: *create the future* (1,2)
12 MOR: *team make it* kan vi jo kanskje kalle det for da. (0,5)
team make it could we maybe call it. (0,5)
13 SIG: ja (0,6)
yes (0,6)
14 MOR: *»you can do it.«*
15 FRE: ((laughing))
16 KRI: *you can do it.* ja (1,0)
17 FRE: *yes you can.* (1,5)
18 SIG: *yes we did.* (1,2)
19 KRI: [((laughing))]
20 ING: [((laughing))] (1,0) *future one two three*
22 KRI: eller *the motivators* (0,6)
or *the motivators* (0,6)
23 ING: *»motivator«* (.) de-e (1,4) de-e jo allerede konseptet.
»motivator« (.) that's (1,4) that's already the concept.
24 SIG: ((laughing)) tror det va sånn her- (4,4)
((laughing)) think it was like- (4,4)
25 FRE: ja? (0,6) hva blei det til? (0,3)
yes? (0,6) where did it end up? (0,3)
26 ING: *team* potet. (0,5)
team potato (0,5)

The purpose of the team name is to identify the team and their project during the start-up weekend. Seen from the time of discussion, it will be used in the future, and it is supposed to reflect some of the ideas the team has arrived at in the past through brainstorming, organising post-its, and discussion. It is also visible that the future is one of the concepts the team wants to include in the name.

Ingvild's proposal (01) is one of those small, individual actions with a collective impact. To some extent, its impact can be explained by causal-conditional patterns. But soon, very unique, unpredictable developments happen, which in fact lead to an unforeseen agreement. Ingvild's proposal is meant to elicit responses; it even proposes a structure for the others' reactions: *something where we could say team before*. Most of the reactions follow this structure in an orderly manner. The word *team* in Norwegian is borrowed from English. It combines well with Norwegian names (e.g., *team ungdom* 'team youth' [05]). In this case, it might be the trigger for name proposals in English (*team hard work* [03], *team do it* [04]).

While the first part of the sequence is focused on name proposals, Fredrik's meta-comment (06) marks a shift. His utterance points back in time towards a stance he had taken several times earlier: He had stated that the team name itself was of minor importance, it could be *potato* or *whatever*; therefore, in his view, the team should just agree quickly on any name. Implicitly, Fredrik's utterance addresses conflicting attitudes that have emerged around the issue of the team name and a struggle for role identities within the team, which has been unfolding since the beginning of their collaboration. In order to interpret Fredrik's stance within this short sequence, it is essential to take into account the timescales on which the subjective positions have emerged (cf. Thompson, 2016). In this situation, diverging attitudes, intersubjective relations, and the multitude of name proposals get challenged and transformed in a chain of small, unforeseen events.

That Fredrik brings in his previous stance complexifies the unfolding interaction during the next few seconds (08–26). Fredrik's comment could have led to conflict, but the team responds with humour. The metapragmatic awareness Fredrik arouses by his stance turns the use of English (from associations with innovation and success) into a humorous resource. English name proposals turn into a chain of associations with popular slogans (*You can do it!* [Nike], *Yes, we can.* [Obama]). Each small individual action triggers new reactions, changing the whole situation in an unpredictable manner. It is clear that there is no mastermind behind this development. In the flow of

events, it becomes increasingly impossible to predict what happens next. Nobody would predict at this point of time that the chaotic and carnivalesque situation at the end of the sequence would lead to an agreement about the team name just a few moments later. Obviously, most of the name proposals towards the end of the sequence are nonsense rather than constructive steps towards a solution. However, collectively carnivalising (cf. Bakhtin, 1984) the name-finding process resolves intersubjective tensions and opens the door for an agreement. In fact, the team members agree on the next serious name proposal, which is a word-play in Norwegian: *Laget for fremtiden* 'team/made for future' (*laget* means both 'team' and 'made').

This development was impossible to predict at the beginning of the sequence. In the retrospective, we can, however, trace the way in which small actions by individual participants contribute to a change in the whole situation. We see that all aspects discussed above become effective here: from the (relatively) orderly temporal organisation of participation to building coherence across timescales through acts of pointing-to and a chain of likeness and similar associations that unfolds throughout the sequence. The use of English as a semiotic resource changes its character in the flow of time. This change itself is important to the final outcome. Only the interplay of such small actions and developments in the flow of time combined with contextualisation across time makes possible such a creative development and its outcomes. Analysing creative processes can help to make visible the pervasive, omnipresent, and dynamic relations between time in language use and language use in time.

6. Discussion

The case of the start-up weekend is special in that it comprises developments that normally take place on much longer timescales on the relatively short timescale of only a weekend. The limited timescale and type of activity allow us to capture most of the relevant temporal contexts and take these into account in the analysis. Having access to most important developments in the flow of fifty hours, we see clearly that isolated sequences are not the timescales on which relevant actions unfold. Rather, they are part of a continuous process in which small, individual actions have an impact on the whole situation—including content and ideas, stances and intersubjective relations, and semiotic resources.

The case of the start-up weekend demonstrates that exploring creative processes requires a perspective which includes both temporal contextualisation and the organisation of interaction in the flow of time and which acknowledges the full complexity and emergence of meaningful resources over time. The analyses have illustrated the emergent character of the team's interactions and the dynamic interplay of actions, events, and relations on and across different timescales. One of the most important temporal frames with impact on the team's actions is the start-up weekend itself, which I have described as a chronotope. Before concluding this article, I want to address one final question: What is the impact of the flow of time on this chronotopic frame?

The chronotope is relatively stable. In this way, it provides some degree of stability in the otherwise dynamic, complex, and emergent development. At the same time, the chronotope as an artistic, literary concept is composed, or, in Bakhtin's (1981 [1975]: 84) words, "carefully thought-out" to fuse spatial and temporal indicators into one concrete whole. Of all surrounding temporal and spatial contexts, only specific aspects become part of the chronotope. The Start-up weekend was designed to provide an ideal temporal and spatial frame to enable a particular type of collaboration and creative productivity. In our case, temporal duration and the process of idea development are defining characteristics of the chronotopic frame. The start-up weekend even stipulates a prototypic path of development. While moving forward in time along this path, the participants' experience of the chronotopic frame evolves and changes continuously. Essentially, the frame does not remain empty. It gets filled with actions and gradually turns into experiences, which the participants draw on in new interactions and in their evaluations of what is still to come.

The ability to point to, position, and appropriate temporal contexts by linguistic means plays a central part in this process. Despite the emergent character of the overall process, the participants' acts of pointing-to reveal a perception of the chronotopic frame as given and stable. Thus, while the experience of the chronotope changes in the flow of time, its meaning is both maintained and changed through the actions of the participants. In this sense, the chronotopic frame is given and stable as well as emergent at the same time.

Viewing the concept of chronotope in the face of an ever ongoing temporal flow arouses questions about the conceptual boundaries between inter- and intradiscursive relations (Silverstein, 2005). Events, actions, and semiotic signs are indexically related because of their (intradiscursive) co-occurrence within the same temporal, chronotopic frame. Parallel to this, interdiscursive relations can be established through acts of pointing-to, building on "a structure of likeness that is based on the nature of texts in relation to their contexts of occurrence" (Silverstein, 2005: 8). Since we have investigated language use in a timespan that is longer than usual, we see that both types of indexical relations can occur at the same time and between the same semiotic events. That is, two events can be connected interdiscursively through an act of pointing-to while they are also connected intradiscursively through their co-occurrence in a longer, coherent continuum of discursive activities. We could conclude, on the one hand, that a clear either-or distinction between inter- and intradiscursive relations is not appropriate anymore when we take seriously a perspective on time as both a frame and a flow. On the other hand, we may take into consideration that both types of indexical relations can be operative within the same discursive continuum. Addressing different perceptions of what belongs to the here-and-now and there-and-then, they offer speakers to deal with the complexity of temporal dynamics.

7. Conclusions

One overall aim of this article was to demonstrate the importance of incorporating a perspective on time in the analysis of language use. Our case has shown that, in combination, the flow of time and the indexing, interpretation, and appropriation of temporal frames enable the emergence of creative outcomes. We observe that phenomena vary over time, not simply because of shifting contextual conditions at different points of time, but essentially because of the dynamic and mutually intertwined development of actions, semiotic resources, indexicality, and personal relations. This does not only apply to the creative work of our team of young entrepreneurs but also to any creative and emergent development on any timescale in everyday language use.

Analysing creative collaboration has brought to the fore the pervasive, dynamic relations between time in language use and language use in time. A perspective on time in language use should take into account: the relevant chronotopic frames; the temporal organisation of interaction; the emergence of unexpected, creative developments from the interplay of temporal flow and frames; and the use of linguistic means to structure and relate events on different timescales. One consequence is that the well-established concept of chronotope must be complemented by a perspective on temporal fluidity. We have seen that, when looking at time as both a frame and a flow, we can stake out both stable and emergent aspects of the chronotope.

Taking seriously the temporal character of language use means that we have to look beyond short, limited timescales of speech events or interactional sequences. Only a few timescales beyond short interactional sequences have been theorised properly yet with respect to how they are handled in language use (cf. Wortham, 2005; Smith and Thompson, 2016). Investigating the temporal frames and flow during the start-up weekend, we see that different instances of the ongoing interaction can be semiotically connected through both co-occurrence in the flow of time and acts of pointing-to across time. Therefore, we have to reconsider the conceptual boundaries between inter- and intradiscursive relations (Silverstein, 2005) and, more generally, the impact of different

timescales on language use. We use language to make sense of various temporal contexts; and this temporal sensemaking takes place in the flow of time.

This study shows also that developments in the flow of time impact the use of multilingual resources, with a complexifying effect. Sociolinguistic and discourse analytic approaches to complexity have in principle acknowledged this impact of the flow of time in linguistically diverse interactions, but not yet integrated it fully into theory and analysis (e.g., Blommaert, 2015; Blommaert and Rampton, 2011). When explaining complexity, they highlight first and foremost the multitude of resources, agents, and uses.

Finally, the empirical study the flow of time and the interplay of multiple timescales meets challenges and limits. It is impossible to capture all relevant developments on all timescales (this will be even more challenging in settings other than the start-up weekend). To present developments in spoken interaction within the limited space of a research article or book, we are bound to condense them to a limited amount of written text and other types of spatial representation. Such a transfer of data from the flow of time to fixed space can easily lead to false implications. It is therefore crucially important to keep in mind the limits of written transcripts compared to the flow and multiple frames of language use in time. My analysis is also limited with respect to the linguistic phenomena and processes I have chosen to study. While I have focused on a set of quite visible features, there are many more linguistic and other features that become indexical, develop in time and become effective at any point of time.

Transcription key

(0,5)	pause (in seconds)
(.)	pause (<0,5s)
(word)	guess at unclear word
[ ]	overlap
word-	truncation
»word«	changed voice
((laughs))	nonverbal action
=	utterance continues
italics	English expressions

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