

FIRST CAME THE EGG: THE POSITIONING AND SHAPING OF COMPETING DESIGN PROPOSALS

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ABSTRACT

This paper explores how two competing design proposals formulated and proposed within a single mock-up session take very different routes through the process. Using the ethnomethodological method of Conversation Analysis, I illustrate the differences with which participants offer, shape (physically as well as verbally) and position each of the proposals and how these differences eventually appear to influence the final outcome of the design process and the participants' evaluation of this outcome, so that one proposal is preferred over the other.

INTRODUCTION

When participants engage in the design process, they frequently work through and propose a number of different alternatives for the resulting design. These alternatives are then typically evaluated based on either pre-determined criteria (for instance specifications) or criteria applied after the process has been completed (Pugh 1981; Thurston 1991; Hung et al 2007). Research that focuses on the actual design process have however argued that evaluation of design in reality takes place during the whole of the process (Bucciarelli 1988; Brissaud et al 2003) because the participants during the process will make assumptions that influence the final design (Matthews 2010). Moreover, as argued by Brereton et al (1996), the social interaction that goes on in a design process shapes the end-result because the participants continuously evaluate, ignore, compare and negotiate each budding

design proposal, so that only some are carried to fruition, whilst others remain hidden in the mire of the process. In this paper, I focus on some of the interactional processes and practices that may be of consequence for the final design outcome. Specifically, I explore how these processes and practices are employed in a single mock-up session in which participants propose and construct two different designs for a chair that can be used in the intensive care unit of a hospital ward. Using the ethnomethodological method of Conversation Analysis, I explore the different routes taken for each of the two design alternatives, illustrating how the participants use different practices (both verbally and physically) for proposing the two alternative designs and position these proposals in sequentially different places in the mock-up session. These matters, I argue, serve to shape the final outcome so that the design proposal that is eventually

deemed the most relevant and important of the two proposals is done so, not simply because it is the smartest design, the most realistic design, the cheapest design to produce, the most marketable design or so on, but also because the route taken by each of the design alternatives throughout the process ultimately serve to shape the participants' own evaluation.

BACKGROUND AND METHOD

The data on which the following analysis is based consist of a 20-minute video recording of part of a mock-up session in which 6 participants attempt to make mock-ups of a chair to be used in the intensive care unit of a hospital ward. The mock-up session is part of a larger participatory design project and the video recording on which this analysis is based recounts only part of the mock-up session, beginning at a point at which the participants appear to have been engaged in the process for a while and ending before the session is concluded. The video-clip has been kindly provided by the researchers engaged in the larger participatory design project and a fuller description of the project and the particular process investigated here can be found in Rosenqvist and Heimdal (2011). The current analysis is thus impeded by the fact that I do not have direct access to the knowledge generated by the participants at earlier stages of the process. However this "lack of access", rather

than being a hindrance per se, merely results in the analysis delivering a different perspective on the process, one that is not guided by pre-existing criteria such as why was the mock-up session organized in this way, what is the purpose of the session, who the people involved are and so on. Whilst not all, obviously, agree that such matters are irrelevant, the method of Conversation Analysis, which is employed here, is based exactly on the assumption that what matters is what is treated as relevant by the participants themselves. Conversation Analysis is thus an ethnomethodological approach that focuses on members' own methods (Garfinkel 1954) with the presupposition that issues such as activity context, social roles and relations are constructed and negotiated through interaction rather than being a priori categories to be identified in a transcript or a video. In addition, and contrary to other methods that investigate for instance design processes from a discursive angle, CA is not concerned with content (i.e. what people say) (cf Brereton et al 1996), but with action (i.e. what do people do), practices (how do people do what they do) and sequential organisation (where do people do what they do) (for other studies of making following this approach see for instance Nevile 2011, Mortensen and Lundsgaard 2011). As a consequence of my methodological approach, I do not in the following discuss matters such as who the participants are, what their individual expertises might be, nor do I investigate the thematic or topical progression of the process, count the number or type of contributions from the different participants nor do I measure how much time is spent discussing each alternative design proposal. Rather, I identify some of the actions that the participants engage in, illustrate how and where they do that and thus attempt to highlight how differences with regards to action, practice and sequential placement may all be matters that ultimately play a part in determining the outcome of the mock-up session in question.

ANALYSIS

The practical, physical outcomes of the mock-up session described above consist of two alternative design proposals for a chair, a hanging chair called “the

egg” and a moveable chair called “the compartment”. Both of these proposals end up on the “summary board” from which the participants presumably are to present their proposals to other members of the project. However, as noted by Rosenqvist and Heimdal (2011) one proposal, “the egg” appears to claim a dominant role both during and after the session, in that it is given much more attention by the participants, is remembered best by the participating researchers after the session was concluded and is developed in detail with regard to functional features. They argue that the dominant character of “the egg” is based among other things in the fact that this design proposal is scaffolded by reality, thus making it easier for the participants to relate to it. Whilst their analysis thus focuses on why one design proposal is given a dominant position in the session, my analysis will focus on how that dominant position is accomplished, interactionally. In the following, I will thus explore how a number of aspects of the design process differ in relation to the development of the two proposals, paying special attention to a) where the proposals for each of the design concepts are positioned; b) how these proposals are shaped and receipted and c) how the participants engage with the alternative design proposals.

POSITIONING A DESIGN PROPOSAL

We begin with comparing how and where the two different design proposals are introduced. In order to do so, however, we first need to look at the very beginning of the video clip, where a number of the participants engage in establishing a crucial criterion for their design, namely its possible size. Extract (1) thus begins with E inviting the others to help determine how much available space they will have in the intensive unit for their chair. As we can see, the others initially appear to accept this approach to defining criteria for size and begin a negotiation of how many square meters are realistically available for the chair, with D, C and A insisting that a maximum of two square meters is available (lines 03, 04, 38-40) despite E's attempt to expand that space to three square meters (line 37).

01 E: =Jerh.=å' hvor meget (.) khær vi å' gore
=Yeah=and how much (.) space do
02 godt me'. >al'så h[va' hva',<
we have. >well w[hat what,<
03 D: [t↑ø kvadratmeter.
[t↑two square meters
04 C: Ja højest,
Yes at the most,
35 A: Du fylder jo mere, end den der.
You take up more room, than that one.
36 (1.2)
37 E: Tø te' tre kvadratmeter?
Two to three square meters?
38 D: Jkk' tre.
Not three
39 A: *Nejh:.*
Noh:.
40 D: Je-ahnen det' jkk' realistisk.
Well it isn't realistic.

Extract (1).

The negotiation over how much space is available for the group's design continues in the following way, where yet another participant, B, aligns with A, C & D in being realistic and thus minimizing the design as much as possible. Thus, in extract (2), both B and C work to convince E that by aiming for the maximally available space as their outset criteria, the resulting design will run the potential risk of being discarded in actual use, because it's size will make it either impractical to use (lines 68-70) or, even worse, because the maximum size will mean that the chair on many occasions will have to

59 B: Det' på en go' dag. a' det ser så'n der ud.
It's on a good day. that it looks like that.
60 ? Ja.
Yes.
62 B: Du ve' ofte komme ud for a' der' mere på
You'll often experience that there's more in
63 stuen.=
the unit.=
64 C: =>.hh<.hh Mæ' jeg tror jkk' vi ska' regne
=>.hh<.hh But I don't think we can expect
65 me'>Al'så hvis det' no'et der sk- hvis de-
>Well if it's something that sh-< if it-
66 v- sk- vi- Nu' vi jo næsten over i
v- sk- vi- Now we're almost in the
67 realisme[as]en så
the realistic [phase then
68 B?: [°Ja= j[a°
[°Yes=[yes°
69 E: [JErh, Ok[ay det gr vi=
[Yeah, Ok[ay we are.=
64 C: [ikk',
[right,
65 C: =ev- [ev- fordi- at at så- så må man sige at
=ev- [ev- because then- then you must say
66 E: [Jgrh.
[Yeah,
67 C: den skai- den ska' fylde så lidt som muligt
that it sh- it should take up as little space as
68 for det øjeblik at den først bli'r .hhh for
possible because the moment it becomes too
69 pladskrævende så vil (.) tilbøjeligheden te' å'
demanding of space then (.) the tendency to
70 anvende den være (0.2) m[iminal].
use it will be (0.2) m[iminal

Extract (2).

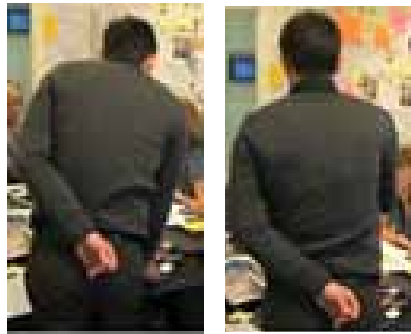
be removed to make room for more necessary equipment in the intensive care unit (lines 59-63).

Extracts (1) and (2) illustrate how a crucial design criteria such as size is negotiated and constructed *during* the actual process of making. In addition to this, however, the establishing of design criteria at this point in the design process (i.e after the process has in fact begun) turn out to be relevant for the possible weighting of the two competing design alternatives, “the egg” and “the compartment”. Thus, it is at this point in the process that the design proposal that ends up playing the dominant role in this session, “the egg”, is introduced for the very first time, as illustrated in extract (3).

Whilst C has been arguing for the most minimal design (lines 67-70), A has picked up a mock-up of a chair made earlier and introduces that as a design that meets these criteria, criteria that now appear to be accepted by A, B, C and D. The positioning of this introduction thus ties the proposed design together with the design criteria, something which is accomplished both verbally, by A’s introduction “There we’ve designed the ultimate ()”, as a response to and in overlap with C’s argument for working on as small a design as possible, and physically, by A grabbing and then holding up the mock-up of “the egg” for inspection again as a response to and in overlap with C, as illustrated in Picture 1, below.

A also establishes this connection more explicitly, by claiming “the egg” to be “the ultimate” solution or design in this context (line 72).

What A manages to do in his turn in line 71 is both to circumvent any further discussion of the design criteria



Picture 1: A picks up a mock-up of “the egg” while C says “være” (line 70), then holds it up for inspection while uttering “designet” (line 71).

for physical size, in effect establishing the criteria to be that they aim for “as small as possible” even though E has not (at least explicitly) agreed to this, whilst at the same time proposing “the egg” to be the design alternative that meets these criteria in the best (ultimate) way. In one sweep, then, A has managed to both propose a particular design proposal and to establish this as meeting certain criteria on which the final design is dependent. In contrast to this, the competing design proposal, “the compartment”, which is in fact already in the works as F has been moulding a mock-up of this throughout the discussion in extracts (1)–(3), is not included as a potential alternative at this point, but is, in fact, effectively ignored by anyone but F who continues working on the mock-up. The significance, not only of where “the egg” is proposed as a design solution, but also that it is proposed at all, should be evident from the other participants’ receipt of A’s proposal. As can be seen in extract (3), at least two of the other participants (D and C) receipt A’s proposal with something like enthusiasm, as indicated by the pitch (the upward arrow) with which the minimal response tokens “Mm” (line 73) and “Ja” (line 74) are produced. C further seeks to support A’s proposal by pointing out that he himself created an earlier mock-up of “the egg”, from which A’s mock-up is a further development. C thus not merely receipt and accept A’s proposal, but claims some ownership to it. Whilst the activity of doing a mock-up of “the compartment” thus, at this point, continues to be done as a unilateral activity by F and is not offered to the other participants for as-

essment, the alternative proposal, “the egg” now has two participants claiming ownership to it and one participant expressing enthusiasm. In the following section I will illustrate how these differences between the two proposals are further developed by the participants, so that “the egg” is treated as a joint project that all can participate in developing, whereas “the compartment” remains very much F’s project to which the others can at best contribute upon invitation.

PARTICIPATION IN THE DEVELOPMENT OF DESIGN PROPOSALS

One of the most fundamental features of interaction is that the number of participants matters and that as soon as more than three parties are present, schism may occur (Schegloff 1995). Schism means that the people who are co-present and even parties to the same activity may split up into several different interactions. For an activity such as designing which is clearly very much a joint activity, the occurrence of schism can obviously become a crucial aspect of the activity. In our case, a schism occurs almost immediately after A has introduced “the egg” as a design proposal. Thus, while A, B & C engage in further discussions about the development of “the egg”, D, E & F initially focus on the other design alternative, “the compartment”.

At this point of the process we thus have two concurrent interactions, each focusing on their own design proposals. Picture 2 illustrates this split by capturing how the participants physically orient themselves towards one of the two interactions, with A, B & C creating one triangle of interaction, D, E & F creating another triangle. We



Picture 2: A, B & C forms an interaction triangle (lower left corner of picture) and D, E & F form another triangle (upper right corner).

69 C: plødskrævende så vil (.) tilbøjeligheden te' à'
demanding of space then (.) the tendency to
70 anvende den være (0.2) m[inim]al.
use it will be (0.2) m[inim]al
71 A: [Der har vi
[There we've
72 designet def[n] ultimative [()
designed th[e] ultimate [()
73 D: [↑Mm,
74 C: [J↑a.
[Y'es.
75 C: Ja. M' det var jo faktisk den jeg havde
Yes. But that's actually the one I had
76 forsøgt å' lave her.
atte[m]pted to make here.
77 A: [(A) Ja præcis. ()
[(Yes) Yes exactly ()

Extract (3).

102 C: Jahmen ve' du hva' hvis du nu- Hvis man nu
Yes but you know what if you n- If one now
 103 tænker den helt færdig ikk', >Så prøv li'
think it all the way through right, >Then just
 104 tænk< .hhh så er der en eh (.) Der er eneh
think< .hhh then there is a eh (.) There is a eh
 105 >eh hva' hedder< de:t e:hm: (0.6) *e:h*
*>eh what's it called< e:hm: (0.6) *e:h**
 106 >Hva' hedder så'n en løfter?<
>What's one of those lifters called?<
 107 (0.7)
 108 A: J↑[a
Y↑[es
 108 C: [en kran=
[a crane=
 109 A: =Ja,
=Yes,
 110 C: >Hva' a det nu det hedder,<
>What's it called again,<
 111 A: Ja=ja, men;
Yes=yes, but;
 112 (.)
 113 C: så'n en ikk'?=
*one of those right?=
 114 A: =Ja=
 =Yes=
 115 C: =den [(sætter du)] så dg->Ja en
 =you [(then put that)] so the->Yes a
 116 B: [>en patientlift<]
 [>a patient lift<]
 117 C: patientlift å' den< dækker hele stuen.
*patient lift and that< covers the whole unit**

Extract (4).

begin by taking a look at the interaction going on between A, B and C who are now jointly working on developing “the egg” further, as illustrated in extract (4).

Having agreed with the basic idea of the form of the chair (similar to a Danish design icon, hence the name the egg), they go on to discuss and develop the *functional* features of the chair, with C suggesting that they attach the chair to the patient lift already in the intensive care unit. Though C has problems finding the right term for the patient lift and thus has difficulties in finishing his proposal, the responses produced by both A and B display their understanding and ready engagement in this activity and in the further development of “the egg” as a design proposal. Throughout C’s extended attempt to formulate exactly what he means, A thus continuously displays not just that he is listening, but also that he is understanding and agreeing with C’s proposal. When, for instance, C for the third time makes an overt inquiry for the term (patient lift) that he is missing (line 110), A responds with what has been termed a “multiple response token” (ja=ja “yes =yes”), i.e. a combination of two or more response tokens (such as yes, no) within one intonational unit, with which the speaker can show that the

prior speaker is persisting beyond the necessary (Stivers 2004). Thus, A indicates that C’s persistence in finding the right term is unnecessary because he has already understood what C means without the use of the “proper” term and has agreed with the general gist of the proposal. This is further underscored by the “men” (“but”), which serves to challenge the relevance of the ongoing activity (i.e. the search for a “proper” term) (Stensig and Asmuss 2005). Other ways in which A clearly participates in the discussion of the further development of “the egg” as a design proposal is evidenced in the two collaborative completions (Lerner 2004) he produces in lines 120 and 125, showing C (and us) that he knows exactly where C is going with his proposal and that he agrees. B’s involvement in this activity or sequence is also evident, though she takes on a slightly different role than A at this point in the process. Whereas A’s responses and contributions cast him as an active participant in the actual development of the proposal, B’s contributions are mainly of the supportive kind, which treats C as the driving force behind the process. Her only (verbal) contributions are thus the provision of the term “patient lift” in line 116 in response to C’s inquiry for that term and an evaluation of the proposal at the end of the sequence (line 137). This evaluation (“not at all a bad idea”) may to some appear a somewhat weak and low-grade, hence unenthusiastic, type of assessment, but in Danish assessments of this kind are generally considered to be high-grade and enthusiastic by participants in interaction (Lindström and Heinemann 2009). In the case in point, B’s enthusiasm is further emphasized by her adding the adverb “slet” (at all), which upgrades the assessment to an “extreme case formulation” (Pomerantz 1986).

At the same time as this interaction about “the egg” is going on between A, B & C, the following takes place in relation to the second design proposal, “the compartment”, between D, E & F. Here, as noticed earlier, F has been working on a mock-up for “the compartment” for quite a while but has not, as yet, *proposed* the design to the others. At this point, however, F holds up the mock-up as if to present it for in-

118 B: Mm=
 119 C: =så- å' ha' (.) e:n [eh
 =then- and have (.) a: [eh
 120 A: [en (kant en æg stykker)=
 [an (edge an egg piece)=
 121 C: J↑a, Æ[ggget.
Yfes, Th[e egg,
 122 A: [Ja.
 [Yes.
 123 A: J[a.
 Y[es.
 124 C: [e:h=
 125 A: i hænge,=
 in a hanging,=
 126 C: =Ja, der li- der >simpelthen< >>du ved<<
 =Yes that ju- that >simply< >>you know<<
 127 >(den ka' du li') te'< å' kore ned,=
 >(you can just)< pull it down,=
 128 A: =J[a
 =Y[es
 129 C: [å' så hænge på det samm[e aggregat å' så
 [and then hang on the sam[e aggregate and
 130 A: [Ja
 [Yes.
 131 C: ka' du sidde derinde [>hh< e:h e:h i den=>å'
 then you can sit there[>.hh e:h e:h in it=>and
 132 A: [°Jerh°
 [°Yeah°
 133 C: den ku' du< faktisk >.hh< den ka' hænges
 that you could< actually >.hh< e:h e:h it can be hung
 134 frit hvor:(.) al' så dgr hv[or der a' plads.
 free whe:re (.) well wh[ever there's room
 135 A: [Ja=ja *(
 [Yes=yes *(
 136 A: [[] *gets up and looks for material
 137 B: [Det' slet ikk' nogen dårlig ide.
 [That's not at all a bad idea.

Extract (4) continued.

spection and noticing this, E explicitly invites the others to inspect it. This is accomplished both verbally, with “Nej, se li’ der” (Oh look at that) (line 108 extract 5) and non-verbally, through pointing to the mock-up as illustrated in picture 3.

The interaction between D, E & F around “the compartment” in extract (5) shows some similarities to the interaction between A, B & C around “the egg” in extract (4). In both cases, one person takes on the role of proposing the design whilst the others join in by accepting the proposal in various ways. In extract (5), the proposal is done non-verbally by F proffering the mock-up to the others and acceptance



Picture 3: E points to the mock-up held up by F while making the verbal noticing “Nej se li’ der” (Oh, look at that).

108 E:	Nej sg li' der, <i>Oh, look at that.</i>
109 D:	Ja. <i>Yes.</i>
110	(.)
111 D:	()
112	(0.2)
113 D:	>Det' sã'n den skal laves (ã' så ska' > <i>That's how it's made (and then</i>
114	ma[n]< Y↑es, yo[u]< Y↑es.
115 F:	[Hvis man nu har den [ikk'?' [If you have that [right?]
116 E:	[hhhe]hhhh
117 D:	[J↑o,=A' så ska' [Y↑es.=And then
118	vi ha' en eh: (.) så ska' vi ha' skærmen. Å' det <i>we need a eh: (.) then we need the screen. And</i>
119	ska' være buet ås'. Det ska' al' så ås' være (rát). <i>that should also be arched. That should also be()</i>
120	(1.0)
121 D:	Ja, <i>Yes</i>
122	(3.0)
123 F:	Men denne her ku' ås' dækket det hele ikk', <i>But this one could also cover the whole right,</i>
124 D:	Jø. <i>Yes.</i>
125 F:	(ka' den ikk' bare) <i>(can't it just)</i>
126	(1.0)
127 F:	Nu må vi så ikk' klippe i den her men; <i>Now we're not allowed to cut this one but;</i>
128 D:	Må vi klippe i dem her, () <i>Can we cut these one, ()</i>
129 F:	Nej. <i>No.</i>

Extract (5).

is done in the form of evaluations from both D & E, D with the noticing in line 108, E through stating that “that is how it’s made” in line 113 and with her enthusiastic “Yes” in line 114. But this is where the similarities between the two interactions end. Firstly, while in extract (4), the participants engage in developing ideas for the function of “the egg”, the participants in extract (5) appear to focus on the appearance of “the compartment”. In this, they treat “the compartment” as a nearly finished product, where only the finer details are up for negotiation, something which is in fact already implied from the way in which F offers the mock-up up for inspection, as if it was ready to be evaluated already. Moreover, “the compartment” at this point of the process is already shaped as a “high-fidelity prototype” (Preece et al. 2002), a mock-up that looks very much like, and is made of the same material as, the final design. The mock-up of “the compartment” is, in addition already very detailed when F reveals it to the others, something which might result in “fewer comments and a more focused communication” (Brandt 2005: 37). By giving the appearance of being

almost done and to a certain level of detail, “the compartment” might thus not as readily invite other participants to join the development process, and if they do, to do so mainly at the level of appearance, rather than function. This focus on the details of appearance is evidenced also in the remainder of the extract, where F and D now concentrate on finding the right material to use for the remaining parts of the mock-up. Secondly, the proposal of “the compartment” is proposed after the competing alternative, “the egg” has been proposed and accepted by (some of) the other participants in the session, as illustrated in extract (3), thus coming in as a second proposal, which in itself renders it a quality of being an alternative. Thus, Brissaud et al (2003), for instance, argue that once participants in a design process move forward with a potential solution or proposal, this proposal is “afforded a status of irreversibility”, where a new proposal “has to be very strong to reverse the one already accepted” (164). Because “the compartment” is furthermore proposed at a point where schism has already occurred and three of the participants have entered into an interaction about the development of the first proposal, “the egg”, they have in a sense excluded themselves from considering any other alternatives (at this point at least), as this would require them abandoning the activity that they are currently engaged in. At the point at which F holds up the mock-up of “the compartment”, there is thus little chance of having A, B or C even acknowledge its existence, yet alone engage in a more expanded discussion and development of it. Extracts (4) and (5) together illustrate how the participants in the mock-up session have split into two groups, each focusing on alternative/competing design proposals. This split is not pre-agreed or in any way organized, but appears to be a result of the ongoing interaction. Nevertheless the split is at this point symmetric in so far as there are an equal number of participants in each group, which renders some degree of symmetry between each of the alternative design proposals in so far as each, at this point at least, should have the same number of promoters. However, schisming as an interaction-

al phenomenon is fragile and shifting, and participants may move between participating in different interactions. Such a shift occurs in extract (6), where E joins the activity around the development of “the egg”, leaving F & D to find suitable material for “the compartment”. Thus, at the same time as B is assessing the proposal made by C to hang “the egg” in the patient lift, E formulates the upshot of this proposal, namely that they are now focusing on something that can hang (lines 138-139). She then goes on to suggest that they need to mock-up that part of the proposal (line 145), here using the inclusive pronoun “vi” (we), thus showing that she regards herself as being part of this group now. The others’ acceptance of this shift is evidenced by A’s response in line 148, where he shows his willingness to comply with E’s suggestion.

A CA analysis cannot provide any solutions to why E “abandons” the interaction with D and F and instead join the group working on “the egg”. What we can see, however, is the kind of consequences this has later on in terms of the respective participants’ “ownership” of the different proposals. Thus, though E subsequent to the interaction in extract (6) shifts from one group to the other repeatedly, the participants themselves clearly see D and F as the only two participants who are not sufficiently informed about “the egg” as a design proposal. This is evident from extract (7), where B holds a more finished version of a mock-up for “the egg” out for inspection, specifically to

137 B:	[Det' slet ikk' nogen dårlig ide. [That's not at all a bad idea
138 E:	[Så li' nu a' vi ude i noget der [So now we're into something
139 E:	b[li'r hænger- der hænger ned? [hat hangs- that hangs down?
140 A:	[Så'n en laver jeg li'. [I'll make one of those.
141 B:	Det var slet ikk' no'en dårlig i[de. That wasn't a bad idea at all.
142 C:	[Nej. [No.
143	(.)
144 C:	Den a' de[r jo i forvejen d[en der. >den It's there [to begin with that one. >it
145 E:	[Så'n en må vi lave [We have to make one of those
146 B:	[Ja [Yes
147 C:	dækker hele rummet-< covers the whole room-<
148 A:	Jeg laver sã'n en i modellgr.= I'll make one of those in putty paste.=

Extract (6).



Picture 4: B holds up the mock-up of “the egg” for inspection, inquiring of D and F whether they “got it”.

D & F. While holding the mock-up towards D & F (as illustrated in picture 4, B simultaneously inquires of them whether they “got it”, then goes on to explain the concept in further detail (not shown here).

231 B:	Fik i den, Did you get that,
232	(0.2)
233 C:	Ja. Yes,
234 B:	Så'n en te' å' hænge op i: e:h= Like one to hang in: e:h= (continues describing the function of “the egg” to D & F)

Extract (7).

DISCUSSION

In the preceding analysis I have attempted to illustrate at least part of the route taken by two different design alternatives, “the egg” and “the compartment”, in a mock-up session, with a view to explaining how it comes about that one design proposal (“the egg”) receives a more dominant role in the process than the other design alternative(s).

I have pointed to two aspects of interaction that may influence this matter, sequential positioning and schism. In terms of positioning, I have sought to illustrate that both where and how a design alternative is proposed might have consequences for its subsequent uptake and development. Thus, “the egg” was proposed at a point at which it could be treated as a *solution* to certain design criteria, thus rendering the

proposal a large degree of relevance. By contrast, “the compartment” was proposed at a point in which half the group were already engaged in developing “the egg” further, leaving little space for any receipt, yet alone development of “the compartment” at this point. In terms of schism, I have illustrated how, as a natural consequence of the turn-taking system for interaction, the co-presence of more than 3 people who are engaged in a collaborative activity will eventually lead to schisms, i.e. to people splitting up into two or more groups engaging in different activities. This, in the context of the mock-up session of design proposals, meant that there may be several alternative proposals in play at the same time, but also that each of these proposals may thus be treated differently, not necessarily because of any inherent (lack of) quality, but simply because one proposal might have been worked through by more people than the other proposal. It takes no great analytic skill to realize that participants are more likely to remember, support and be enthusiastic about a proposal which they themselves have taken part in developing. Whilst my analysis has thus sought to illustrate how one design proposal becomes domineering, it does not give any clues as to why this happens, something, which I believe would be of more interest from a design perspective. However, the analysis does suggest that the fact that “the egg”

in this session is the dominant design proposal has nothing to do with it being a better, more suitable alternative, nor has it anything to do per se with one or more participants initially preferring this proposal over the other. Rather, “the egg” is turned into a better and hence preferred proposal through the way in which the participants interact around it, including, the way in which they manage to scaffold this proposal in reality, as illustrated by Rosenqvist and Heimdal (2011).

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REFERENCES

- Brandt, E. 2005. *How tangible mock-ups support design collaboration*, *Proceedings of the First Nordic Design Research Conference - 'In the Making'*. Copenhagen: The Royal Academy of Fine Arts, pp. 29-38.
- Brereton, M. F., Cannon, D. M., Mabogunje, A. and Leifer, L. J. 1996. *Collaboration in Design Teams: How Social Interaction Shapes the Product*. In *Analysing design activity* (pp. 319-341). Chichester, England: John Wiley.
- Brissaud, D., Garro, O. and Poveda, O. 2003. *Design process rationale capture and support by abstraction of criteria*. *Research in Engineering Design* 14, pp. 162-172.
- Bucciarelli, L. 1988. 'An ethnographic perspective on engineering design', *Design Studies*, 9(3):159-168.
- Garfinkel, H. 2002. *Ethnomethodology's Program*. New York: Rowman and Littlefield.
- Hung, H.-F., Kao, H.-P. and Ku, K.-C. 2007. *Evaluation of design alternatives in collaborative development and production of modular products*. *Int J Adv Manuf Technol* 33, pp. 1065-1076.
- Lerner, G. H. 2004. *Collaborative Turn Sequences*. In *Conversation Analysis: Studies from the First Generation*. Lerner, G.H. (ed.) Amsterdam: John Benjamins, pp. 225-256.
- Lindström, A. and Heinemann, T. 2009. *Good Enough: Low-Grade Assessments in Caregiving Situations*. *Research on Language and Social Interac-*

- tion 42 (4), pp. 309-328.
- Matthews, B. 2010. *Designing assumptions. Presented at the Studying professional software design (SPSD) workshop, Irvine, CA.*
- Mortensen, K. and Lundsgaard, C. 2011. *Preliminary Notes on 'Grooming the Object': The Example of an Architectural Presentation, Participatory Innovation Conference 2011, Sønderborg, Denmark. spirewire.sdu.dk/pinc/*
- Nevile, M. 2011. *The Real Thing: Artifacts, Action and Authenticity in a Student-led Stakeholder session, Participatory Innovation Conference 2011, Sønderborg, Denmark. spirewire.sdu.dk/pinc/*
- Pomerantz, A. 1986. *Extreme case formulations: a way of legitimising claims. Human Studies 9, pp. 219-229.*
- Preece, J., Rogers, Y. and Sharp, H. 2002. *Interaction Design – beyond human-computer interaction. John Wiley & Sons, Inc.*
- Pugh, S. 1981. *Concept selection: a method that works. In Review of design methodology. Hubka, V. (ed.) Zürich: Heurista, pp. 497 – 506.*
- Schegloff, E. A. (1995). *Parties and Talking Together: Two Ways in Which Numbers Are Significant for Talk-in-Interaction. In Situated Order: Studies in the Social Organization of Talk and Embodied Activities.: ten Have, P. and Psathas, G. (eds.) Maryland, USA: University Press of America, pp. 31-42.*
- Steensig, J. and Asmuß, B. 2005. *Notes on disaligning 'yes but' initiated utterances in German and Danish conversations. In Syntax and Lexis in Interaction. Hakulinen, A. and Selting, M. (eds.), Amsterdam/Philadelphia: John Benjamins Publishing Company, pp. 349-373.*
- Stivers, T. 2004. *No no no and other types of multiple sayings in social interaction. Human Communication Research 30(2), pp. 260-293.*
- Thurston, D. L. 1991. *A Formal Method for Subjective Design Evaluation with Multiple Attributes. Research in Engineering Design 3, pp. 105-122.*