



Distribution of visual orientations in prenatal ultrasound examinations: When the healthcare provider looks at the pregnant woman's face

Aug Nishizaka *

Department of Sociology, Meiji Gakuin University, Minato-Ku, Tokyo 108-8636, Japan

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Abstract

The aim of this study is to explore an aspect of the organization of participation, that is, the organization of the appropriate distribution of participants' orientations, through the analysis of 32 video-recordings of prenatal ultrasound examinations. Ultrasound examinations are distinctive in that the major fields that the participants need to visually orient to, that is, the monitor screen and the pregnant woman's abdomen, are located distally from each other, and from the faces of the participants. In this environment, it is very infrequent for the healthcare provider to look at the face of the pregnant woman during the ultrasound demonstration. I elucidate a procedural ground for the production of this conduct by healthcare providers, and argue that healthcare providers' gazes to pregnant women's faces instantiate a practice oriented specifically to displaying that their (the healthcare providers') occasioned actions in progress be received as such. This practice can also be employed to *mark* the occasioned-by nature of the utterances in progress. Ultrasound examinations are a 'perspicuous site' for the investigation of the organization of participation.

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1. The issue to be addressed

The aim of this study is to elucidate an aspect of the organization of participation in interaction. By the organization of participation, I mean an indefinite (but describable) set of organized practices for the joint management of the participants' orientations through the appropriate distribution of these orientations (Nishizaka, 2006; see also Goodwin, 1981, 1984, 2000, 2007). In what follows, I focus on interaction between healthcare providers (obstetricians or midwives) and pregnant women in prenatal ultrasound examinations.¹ In Japan, prenatal ultrasound examinations are usually performed by an obstetrician or midwife during a regular prenatal checkup. These examinations are saliently bounded because special preparations for the examinations are usually necessary: The participants occasionally need to move to a special room equipped with an ultrasound scanner, the scanner needs to be switched on, the pregnant woman's abdomen needs to be prepared, and the like.

As far as I have been able to observe, in the Japanese context, rather than simply viewing the ultrasound images by themselves, healthcare providers seem to perform prenatal ultrasound examinations with an aim to demonstrate to the pregnant women the normal development of the fetus (and the uterus). Indeed, they frequently turn the ultrasound monitor screen to the pregnant women before beginning the examinations. In terms of the organization of participation, prenatal ultrasound examinations are distinctive in several respects. First, an ultrasound scanner is a device for the real-time visualization on a monitor screen of a structure in the interior of a body. Therefore, the participants in an ultrasound examination tend to direct their visual orientations to the screen for an extended period of time during the examination.

* Tel.: +81 3 5421 5366; fax: +81 3 5421 5697.

E-mail address: augnish@soc.meijigakuin.ac.jp.

¹ Ultrasound prenatal examinations may be abdominal or vaginal. In this article, however, I refer only to abdominal ultrasounds.

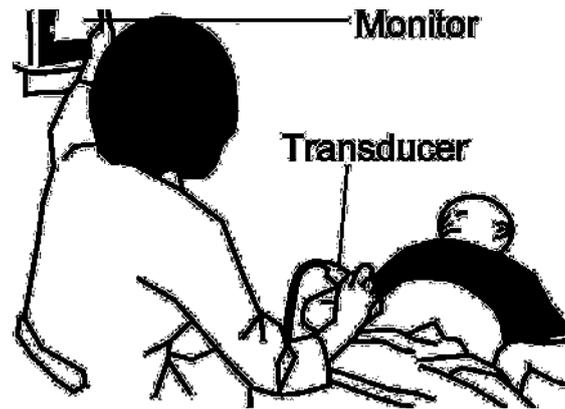


Fig. 1. The default bodily arrangement in an ultrasound examination: Both participants' lower bodies face each other such that their orientations to the monitor screen and the pregnant woman's abdomen are accessible to each other.

Second, the mechanism of this visualization is based on the calculation of the time difference between the sending and receiving of ultrasound waveforms from a transducer, i.e., a tool which the healthcare provider holds against the pregnant woman's abdomen in order to capture images of the interior structures beneath it (see Cunningham et al., 2001:390, for example). In performing an ultrasound examination, the healthcare provider also needs occasionally to direct his or her tactile and visual orientations to the pregnant woman's abdomen, in order to adjust the transducer (see Fig. 1). Thus, there are at least two separate and spatially-distanced fields which need to be visually oriented to by the participants (i.e., the screen, and the transducer/pregnant woman's abdomen). Thus, when the healthcare provider performs an ultrasound examination in this technological environment, his or her primary visual orientations are potentially distributed in mutually exclusive directions (i.e., the screen, the transducer/pregnant woman's abdomen, and infrequently, the pregnant woman's face).

In this technological environment, in order to establish and maintain their common orientations, the participants cannot rely on directing their gazes to each other. Rather, they arrange their bodies such that their lower bodies display a basic mutual orientation (see Kendon, 1990b; Schegloff, 1998) and such that the appropriate distribution of their orientations can be seen peripherally (see Heath, 1986). Gaze is only rarely directed to the other's face, and, in particular, healthcare providers only infrequently direct their gazes to the pregnant women's faces. Indeed, one healthcare provider never directs his gaze to the pregnant woman's face during the entire ultrasound examination (which is approximately four-minutes long). Table 1 shows a comparison of the frequencies and durations of gazes in ordinary conversation and ultrasound examinations. This table is only intended to provide a rough idea as to how infrequently the participants in ultrasound examinations look at each other's faces, through a comparison with Duncan and Fiske's (1977) cases.

Gaze-direction has been one focal area for students of naturally-occurring interaction. In one of the earliest studies of gaze-direction, Kendon (1990a [1967]) observes that speakers tend to look at their interlocutor when they are reaching the completion point of their current utterance, and presents the following interpretation: "in looking up as he [*p*, or the current speaker] ends an utterance *q* can perceive that *p* is not ceasing to talk yet still giving him his attention, and in giving his attention in this way, *q* can perceive that *p* now expects some response from him" (Kendon, 1990a [1967]:64). Kendon further proposes that "*p* may be said to be 'offering' *q* the floor, for in looking steadily at him he indicates that he is now 'open' to his actions, whatever they may be" (p. 64).

More recently, Rossano (2010), Rossano et al. (2009), and Stivers and Rossano (2010), sometimes drawing on statistical analysis of video-recordings of naturally-occurring interaction, propose that speakers' gazes to their

Table 1

Gaze rate speaking (number of gazes while speaking divided by speaking time) and gaze extent speaking (total time spent gazing while speaking divided by speaking time) have been calculated for two ultrasound examinations to be examined in the present study.^a

	Total time	Gaze number (Mean)	Gaze rate speaking (Mean)	Gaze extent speaking (Mean)
Duncan and Fiske (1977)	5 min	6.52/min	0.206	0.61
SZ 3 (Doctor)	2 min 10 s	0.92/min	0.050	0.018
TE 1 (Doctor)	2 min 28 s	2.19/min	0.052	0.042

^a In both cases, the overwhelmingly large portion of speaking time is occupied by the doctor's speaking (the time duration in which only the pregnant woman speaks, without overlapping the doctor's speaking, is about 0.7 seconds for SZ3 out of 40.53 seconds of total time of at least one person speaking, and 5.78 seconds for TE1 out of 101.10 seconds). Furthermore, the pregnant women in both cases never look at the doctor's face during each examination. The values in the table are only based on the doctors' gazes and speaking time.

interlocutors systematically contribute to the mobilization of a response from the latter. They claim that with such gazes speakers increase pressure on their interlocutors to respond (Stivers and Rossano, 2010:23; see also Bavelas et al., 2002, for speaker gaze's role in seeking listener responses).

More recently, Rossano and his colleagues (2010; Rossano et al., 2009; Stivers and Rossano, 2010), sometimes drawing on statistical analysis of video-recordings of naturally-occurring interaction, propose that speakers' gazes to their interlocutors systematically contribute to the mobilization of a response from the latter. They claim that with such gazes speakers increase pressure on their interlocutors to respond (Stivers and Rossano, 2010:23; see also Bavelas et al., 2002, for speaker gaze's role in seeking listener responses).

In most of the cases examined in this article, healthcare providers' gazes to the pregnant women occur at the turn-final position. In these terms, gaze in this context may also be a practice for "mobilizing response"; with their gazes, healthcare providers may be perceived to expect some response from the pregnant women. For example, in the following fragment, the healthcare provider (an obstetrician) appears to expect a response from the pregnant woman when he looks at her face. In line 01, the doctor points out the image of the fetal leg on the monitor screen.

(1) [TE I: 2: 02]²

- 01 DOC: → (k)oko ne? .hh ashi ga (.) koo aru wake **desho?**
 here P leg P like-this exist reason JD
"Here, you see. The legs (.) are there like this, OK?"
- 02 **(.)**
- 03 PWM: **hai.**
"Yes."
- 04 **...**
(.)

The doctor looks at the pregnant woman's face as he produces the final word of his utterance, i.e., *desho*, which turns the current utterance into a request for confirmation. The doctor's gaze is extended over the pregnant woman's response to the request ("*hai*") in line 03, and retracted and returned to the monitor screen immediately following this response by the pregnant woman. In other words, the doctor returns his gaze to the monitor only after he sees (and hears) the pregnant woman respond.

However, the issue should be what specifically healthcare providers accomplish through mobilizing response with this particular resource, i.e., gaze – especially given the context where, as I noted above, the participants only very infrequently look at each other's faces. Moreover, healthcare providers do also pursue responses from the pregnant women without using gaze. For example, the doctor in the following fragment attempts to pursue a response with a resource other than gaze. In line 01, the doctor indicates with a pointing gesture the image of the fetal mouth on the monitor screen (i.e., she points to a location on the screen with her index finger as she utters "*kono*", then slides the finger downwards along the screen, and points to another location as she utters the "*to*" of "*chotto*").

(2) [SZ 3: 03: 12-17]

((Doc points to the monitor and then slides the index finger))

- 01 DOC: **kono (.) chotto shita ↓ni kuchi ga a↓ru (n') s' ne:↑?**
 this a-little down P mouth P there-is JD P
"From here (.) a little downwards, there is the mouth."
- 02 *(7.8)((The pregnant woman relocates her head on the pillow, while continuing looking at the monitor screen.))*

² All the extracts cited in this article are composed of three tiers. At each numbered line, there is first a romanized version of the original Japanese. Below this is a phrase-by-phrase gloss, and finally, on the third tier, a rough English translation. The first tier of transcript utilizes a transcription system developed by Gail Jefferson (see Jefferson, 2004, for the most recent version). In the second tier glosses, the following abbreviations are used: INF for "Infantile"; IR for "Interrogative"; JD for "Judgmental"; P for "Particle"; and PL for "Polite". The letters and Roman numerals in brackets next to the extract number indicate the identity of the pregnant woman in each extract. Arrows indicate targeted utterances. Solid lines *above* each utterance indicate the part accompanied by the healthcare provider's gaze at the pregnant woman's face, and broken lines indicate the transition of gazes. Those lines *below* each utterance indicate the pregnant woman's gaze.

- 03 DOC: >nanto naku ↓wakari masu ka:??<
 kind-of recognize JD IR
 ">Do ((you)) kind of recognize ((it))?<"
- 04 (0.4)
- 05 PWM: #n# : : n :: n
 "Well, uhm"

During the long silence in line 02, the pregnant woman, without responding, relocates her head on the pillow to do "inspecting" the screen in front of the doctor. Then, in line 03, the doctor attempts to solicit a response from the pregnant woman with the first pair part of a canonical "adjacency pair" (Schegloff and Sacks, 1973; Schegloff, 2007), i.e., a question ("Do ((you)) kind of recognize ((it))?"). She (the doctor) does not look at the pregnant woman during the utterance in line 03. Note that in line 05 the pregnant woman produces only a vocalization, hearable as doing "thinking", indicating her inability to recognize the target image on the screen. Thus, we need ask under what circumstances gaze, rather than other resources (e.g., syntactic, prosodic, etc.), is employed for response pursuit, and what, more than response pursuit as such, is particularly done with gaze.

On the other hand, in the following fragment (Extract 3), while the doctor looks at the pregnant woman's face around the end of his current utterance very quickly in line 03, this quick look comes only after the pregnant woman starts to respond in line 04. Therefore, the doctor's gaze here does not appear to be a part of response mobilization.

(3) [TE II: 02]

- 01 DOC: soo fima ni- a- shita =
 well now oh down
- 02 PWM: Lkon getsu wa:-
 this month P
 "This month-"

((Doc moves his pointing finger in a circular motion.))

- 03 DOC: = re: ki te masu kara n re
 P come JD-PL so P
 "Well now- Ah ((the head)) has come down, so." [Lines 01 & 03]
- 04 PWM: La- La yoka(h)ttah
 oh oh was-good
- 05 de(h)su fh
 "Oh-" "Oh, that's good. hh"

The doctor is demonstrating that the fetal presentation is cephalic (i.e., head-down), and therefore currently normal. The doctor starts to make a pointing gesture to the monitor screen when he utters "shita" (or "down") in line 01, and moves his pointing finger over the screen in a circular motion during "masu" in line 03. In doing so, he "highlights" the outline of the image of the fetal head on the screen (Goodwin, 1994; Lynch, 1985, 1988). This demonstration can only be accomplished if the pregnant woman is able to see the outline of the fetal head so highlighted, as well as feel the position of the transducer on her abdomen. Therefore, it is very probable that, rather than to pursue a response, the doctor's quick look at the pregnant woman's face immediately after his highlighting gesture is done in order to check to see whether the pregnant woman is looking at his gesture on the screen – especially given that the doctor's gaze occurs only after the pregnant woman begins to respond.³

There are two points being made about Extract 3. First, gaze was directed to the pregnant woman's face even after a response had already been initiated. In other words, gaze appears not to be uniquely associated with response mobilization. Second, it is quite rare for the healthcare provider to look at the pregnant woman's face when he or she makes pointing gestures to the monitor screen, though healthcare providers tend to employ such highlighting gestures

³ One may note that the pregnant woman recycles the aborted claim of "change-of-state" (Heritage, 1984b) when the doctor's current utterance is coming to an end, without specifically acknowledging that part of the doctor's demonstration which continues over the first (aborted) a (oh). As Jefferson's (1980/1981, 1985) observation suggests, the pregnant woman may publicly "disattend" to that part and tie her recycled response back to the prior part (see also Schegloff, 1987).

very frequently (Nishizaka, 2011a; see also line 01 of Extract 2 above). Given this context, again, the issue should be what, in particular, is accomplished by gazing to the pregnant woman's face while manually highlighting the image on the screen.

In sum, gaze may be characterized as follows: Insofar as gaze is basically a resource for publicly monitoring a co-participant's behavior, and thereby for publicly paying attention to the co-participant in this way (as Kendon, 1990a [1967], indicates), gaze can also be an interactional resource for publicly displaying an expectation for a particular action from the co-participant, whether this expected action may be to respond to the current utterance in a certain way, to look in a certain direction, or something else. The questions that I address below are as follows: Under what circumstances does the healthcare provider employ gaze to the pregnant woman's face as a resource for displaying an expectation for a particular action from the latter, and what, more than action expectation as such, is *specifically* achieved by this gaze in interaction?

2. Data and method

The data I examine are video-recordings of 32 prenatal ultrasound examinations collected in several urban areas of Japan from 2002 through 2008. I extracted 27 fragments of interaction in which the healthcare provider looks at the pregnant woman's face in mid-examination, though I excluded from the analysis those cases in which the participants engaged in "side talk", unrelated to the image on the screen, such as talk on the pregnant woman's current appetite, travel plans, and the like.⁴ In all the extracts that I cite, unless noted otherwise, the pregnant women continue looking at the monitor screen throughout without any notable body motions, even when the healthcare providers look at them.⁵

I employ conversation analysis (Heritage, 1984a; Heritage and Clayman, 2010; Sacks, 1992; Schegloff, 2007; among others) to analyze the data and to explicate a procedural ground for the production of healthcare providers' gazes to pregnant women's faces during the participants' mutual engagement in the activity of performing the ultrasound examination. By a "procedural ground" I mean as follows: Insofar as the target conduct is produced in an orderly way, there is expected to be some method or procedure which the producer employs in its production, and which also possibly serves the producer as a ground for his or her action production at that specific sequential position in the interaction.

3. Participation structure for ultrasound examinations

As I demonstrate elsewhere (Nishizaka, 2011a), demonstrations of the normality of the fetal and uterine condition in a prenatal ultrasound examination consist of what can be called "differentiation sequences"; each differentiation sequence is composed of two parts: (1) a differentiation-invitation by the healthcare provider, that is, inviting the pregnant woman to discriminate an image of a fetal or uterine part from the graytone surroundings on the screen, and (2) a claim of such discrimination by the pregnant woman.

Insofar as this is the case, as I have indicated above, participants' common visual orientations should be most appropriately distributed to the monitor screen; whether or not the participants see anything in particular on the screen, their gazes (i.e., visual orientations) to the screen exhibit their adequate attention to the current activity, and to each other.⁶ If this distribution of orientations is the basic participation structure for ultrasound examinations, participants should redistribute their orientations to anything other than the normative focal field only "for cause" in terms of the participation structure.

For example, one doctor looks at the pregnant woman's face when she (the doctor) produces her final utterance, which is a summative evaluation of the entire current ultrasound examination ("Good."). Another doctor looks at the pregnant woman's face during an added-on account of the condition of the fetal bladder which he provides after the completion of the differentiation of its image on the screen (saying, "The existence of the bladder, as I told you at your previous ((visit)), (0.4) means that the baby's kidney functions, so .h ((it means that its)) renal function is alright.=It produces pee"). This account is a general explanation of the meaning of the appearance of the fetal bladder, rather than the description of the particular image on the screen per se. Here, the doctor redistributes his orientation such that the participants are repositioned in a formation more akin to ordinary face-to-face interaction. Thus, a healthcare provider's gaze to a pregnant woman's face may be related to the current status of their ongoing utterance as (whether permanently or temporarily) moving outside of

⁴ I have also excluded cases in which the healthcare provider's gaze does not fully reach the pregnant woman's face.

⁵ In some cases, the camera does not capture the pregnant woman's eyes, but there is no head movement in response to the healthcare provider's look.

⁶ As I showed elsewhere (Nishizaka, 2006), in a violin lesson with a young child the instructor self-interrupts her instructive utterance when she looks up at the child and finds the child looking at her face instead of at the bow of the violin. In such a context in which a particular object plays a normatively essential role, distributing one's gaze to the co-participant, rather than the object, may exhibit inadequate attention to the current activity, and also to that co-participant.

the ultrasound demonstration. However, as we have already seen (Extracts 1 and 3), there are cases in which the healthcare provider looks at the pregnant woman's face in the very course of their description or announcement of what is currently on the monitor screen. This study focuses on several such cases.

4. Looking at the pregnant woman's face in the course of the ultrasound demonstration

In this section, I first examine several target cases to obtain a first approximation of a characterization of the circumstances under which healthcare providers' gazes to pregnant women's faces are produced; the gazes appear to be employed during utterances which are occasioned in one way or another by the pregnant women's prior behavior (4.1). Then, in presenting several contrasting cases, I move on to characterize the circumstances more exactly; those utterances during which gazes to the pregnant women's faces are employed can be further characterized as being occasioned only *covertly* by the prior behavior of the pregnant women. After this, I propose what is specifically achieved by the distribution of gaze to a coparticipant's face in this context (4.2).

4.1. Gaze during utterances occasioned by the pregnant woman's prior behavior

In this subsection, I examine three prominent cases in which a healthcare provider distributes his or her gaze to the pregnant woman's face during an utterance occasioned by the pregnant woman's immediately prior behavior. These utterances embody the following actions: (a) the completion of a sequence initiated by the pregnant woman, and (b1) an elaboration of the differentiation-invitation, or (b2) an explanation of the difficulty of differentiation. Both b1 and b2 are occasioned by the pregnant woman's observable trouble in differentiation.

4.1.1. Completion of a sequence initiated by the pregnant woman

In the following extract (Extract 4), which is an extended version of Extract 3, the doctor's utterance, during which he looks at the pregnant woman's face, is in response to a sequence-initiation by the pregnant woman. During the long silence in line 01, the doctor is observably preparing for the ultrasound examination by putting gel on the transducer. The pregnant woman's utterance in lines 02–03 is produced immediately after the doctor begins to turn the monitor screen slightly toward the pregnant woman, which may indicate the impending start of the ultrasound examination.

(4) [TE II: 02]

- 01 (14.6)
- 02 PWM: *sen getsu chotto atama ga: ue ni ki te ta*
last month a-little head P up P come PT
- 03 *mita_Γi datta n' desu kedo: ̣*
like JD-PT JD though
- "((I)) was told that the head was up last month."**
- 04 DOC: *L_{soo} desu- aa soo sa ̣kasa n' natte ta*
so JD oh right inverted P be PT
- 05 *n' desu ka ne: soo ̣ima ni- a- shita =*
JD-PL IR P well now oh down
- 06 PWM: *L_{kon} getsu wa:-*
this month P
"This month-"
- 07 DOC: *= ̣e: ki te masu kara n ̣e*
P come JD-PL so P
"Right- Ah ((it)) was inverted. Well now- Ah ((the head)) has come down, so." [Lines 04-05 & 07]
- 08 PWM: *L_a- L_a yoka(h)ttah*
oh oh was-good

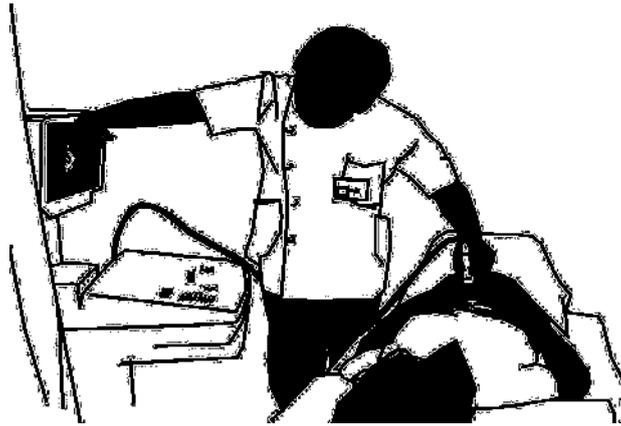


Fig. 2. The doctor thrusts two fingers downward in front of the screen to highlight the outline of the image of the fetal legs, when he utters the “*koo*” or “like this” in line 09 of Extract 5.

- 09 *de(h)su* *ɦh*
JD
"Oh-" "Oh, that's good. *hh*"
- 10 DOC: *ˌdajjo'bu desu* *ɦkara ne::*
all-right JD so P
"That's all right."
- 11 PWM: *ˌhai:*
"Yes."

In lines 02–03, the pregnant woman reports that she was told that the fetal presentation was breech or “inverted” (i.e., head-up) when she visited the hospital one month before. The pregnant woman’s report, being positioned as it is when the ultrasound examination is about to start, can be heard as her raising a concern to be addressed in the incipient ultrasound examination. That is to say, it hearably initiates a problem-presentation sequence, which is expected to be completed by the doctor’s showing the current fetal presentation in the ultrasound examination (Nishizaka, 2010). The doctor’s utterance in lines 05 and 07 (“Ah ((the head)) has come down, so.”), which is produced as he highlights the outline of the fetal head on the screen, can be hearable precisely as this expected sequence-completion. The doctor looks at the pregnant woman during this responding utterance.

4.1.2. Occasioned by the pregnant woman’s observable trouble in differentiation 1: Elaborated differentiation-invitation

Extract 5 is an expansion of Extract 1. The doctor proposes, in lines 01–04, that the fetal genitals are visible on the screen, without explicitly referring to the genitals. In doing so, he appears to delicately invite the pregnant woman to differentiate the image of the fetal genitals on the screen. However, the pregnant woman, instead of claiming the differentiation, only registers the proposed fact that the image of the fetal genitals appears on the screen, by repeating the core part of the doctor’s invitation, i.e., “*mie te*” or “visible”, in line 05 and acknowledging the information with “*n*” or “*mh mm*” in line 07.⁷ Then, the doctor elaborates the differentiation-invitation, employing various hand gestures at the screen to highlight how the fetal legs can be seen on the screen (see Fig. 2, for example). This elaboration appears to be occasioned by the noticeable absence of the expected response from the pregnant woman (i.e., a claim of the differentiation).

(5) [TE I: 2: 02]

- 01 DOC: *.hh (s)orede .h ˌha::i. tte kono (.) .h omata*
then yes P this between-legs

⁷ The pregnant woman’s partial repetition of the doctor’s preceding utterance (line 05) may appear to initiate repair (Schegloff et al., 1977), but combined with the acknowledgment token in line 07, the entire turn-at-talk (lines 05 and 07) is rather hearable as a registration of the information conveyed by the doctor’s utterance. One should further note that the weak acknowledgment *n (mh mm)*, preceded by the partial repetition, cannot be heard as an expected claim of differentiation. Indeed, the doctor, who initiates an elaboration of the differentiation-invitation, treats the pregnant woman’s response in lines 05 and 07 as inadequate for all practical purposes.

- 19 (0.2)
- 20 DOC: *kore tamatama.*
this testicles-INF
"These ((are)) the two little things."
- 21 (1.2)
- 22 PWM: *haa haa haa.*
"Ah, ah, ah."
- 23 (0.6)
- 24 PWM: *ΓHAA HAA Γhaa*
"Ah, ah, ah."
- 25 DOC: *Lde:- Lochinchin no saki.*
and penis-INF P top
"And- the top of the pee pee."

The doctor invites a differentiation of the fetal genitals for the second time at the end of the utterance in line 15 ("hore" or "you see?"), and then after a 1.4-second silence (line 16), this time with an explicit expression of the genitals ("the pee and two little things are there") as an increment to the component in line 15, and accompanied by a pointing gesture to the screen in line 17. At this point, the doctor looks at the pregnant woman's face for the second time. One should note that this is also the point at which the doctor has completed the entire elaborated differentiation-invitation with an explicit demonstrational action (i.e., mentioning the name of the target fetal part and making a pointing gesture), which has been occasioned by the observable lack of the pregnant woman's expected response, and to which the doctor's utterance in line 9 of Extract 5 was preliminary.

4.1.3. Occasioned by the pregnant woman's observable trouble in differentiation 2: Explanation for the difficulty of differentiation

In the following extract (7), the doctor invites a differentiation of the fetal nose and eyes in lines 01 and 03, by mentioning the names of the facial parts and making pointing gestures to the monitor screen, but the pregnant woman does not respond immediately; the silences in lines 02 and 04 may be intelligible as indicating the pregnant woman's trouble in the differentiation of these facial parts.

(7) [TE I: 2: 03]

- 01 DOC: *<hana no atama:.>*
nose P tip
"The tip of the nose."
- 02 (1.2) ((During this time period, both the doctor and the pregnant woman continue to look at the monitor screen; the doctor rests his right hand on the control panel, after withdrawing it from the monitor screen.))
- 03 DOC: *me.*
"The eyes."
- 04 (5.4) ((During this time period, both the doctor and the pregnant woman continue to look at the monitor screen; the doctor withdraws his right hand from the monitor screen and rests it on the control panel for a few seconds, and then moves it towards the monitor screen again.))
- 05 PWM: *hai*
"Yes."
- 06 DOC: *°>kore me< ne: Γ:° .h*
this eye P
">These are the eyes<° right? .h"
- 07 PWM: *L hai.*
"Yes."

08 DOC: → *koo -:* *te ga chotto jama shi te 'ru kara*
 this-way hand P a-little prevent be because

09 → *mje nikui kedo n e?*
 see difficult though P

"This- The hand makes it difficult to see ((them))."

10 PWM: *Lhhai*
"Yes."

It is only after the doctor starts to move his right hand toward the monitor screen during the silence in line 04, which foreshadows the doctor’s reattempt to invite a differentiation of the fetal eyes, that the pregnant woman produces a possible claim of the invited differentiation. After the completion of a second round of the differentiation sequence (lines 06 and 07), in lines 08–09 the doctor provides an account for the possible difficulty of the pregnant woman’s differentiation of the fetal facial parts. This is done with an elaborated description of the image on the screen, that is, “The ((fetal)) hand makes it difficult to see ((them))”. At the end of the account, the doctor looks at the pregnant woman’s face (line 9). This gaze by the doctor comes during his explanation for the possible difficulty of the proposed differentiation, which is occasioned by the pregnant woman’s trouble in the differentiation, as exhibited by the noticeable delay of her expected response (i.e., a claim of the differentiation).

4.1.4. Summary

In this subsection, I have examined several cases in which the healthcare provider looks at the pregnant woman’s face during the ultrasound demonstration. All of these instances have been demonstrably produced during utterances which were occasioned in one way or another by the pregnant woman’s immediately preceding behavior. There were two types of occasioning behavior: Sequence-initiation and noticeable trouble in expected response. These are very different from each other in their sequence-organizational positions; the former is an action at the first (i.e., initiating) position and the latter a trouble at the second (i.e., responding or completing) position. However, both make more or less expectable the healthcare provider’s action, whether a sequence-completion, a reattempt of the first action, or something else, in the next turn-at-talk.

4.2. The covertly occasioned-by nature of healthcare providers’ ongoing actions

On the other hand, a closer examination of the cases presented in the previous subsection reveals one characteristic of the nature of the behavior of the pregnant women in Extracts 4, 5, and 7, which appears to occasion the healthcare providers’ utterances-accompanied-by-gaze: The behavior of the pregnant women makes only *covertly* expectable the actions embodied by the healthcare providers’ utterances. I contrast these cases with other cases where the pregnant woman’s behavior constitutes a more straightforward sequence-initiating action, or lack of relevant response, and thereby more *overtly* occasions the healthcare provider’s actions, i.e., sequence-responding actions or reattempts at differentiation-invitation. The healthcare provider’s more overtly occasioned actions do not accompany their gazes to the pregnant woman (see Table 2 below for the summary).

4.2.1. Sequence-initiation

In Extract 4, the pregnant woman’s utterance to which the healthcare provider responds with his gaze to the pregnant woman’s face only indirectly or implicitly involves the pregnant woman’s concern; the pregnant woman in Extract 4 embeds her concern in a report of what she was told at the previous visit, rather than constructing it as an explicit sequence-initiator (by using a question form, for example).

The following fragment (Extract 8) is not a typical case in that the focus of the activity in progress (ultrasound examination) shifts from the monitor screen to the pregnant woman’s abdomen, but it still provides support for the point

Table 2

Healthcare providers look at the pregnant woman’s face when the utterance in progress has been occasioned by the pregnant woman’s prior behavior, which is not straightforward with respect to its “action-occasioning” force.

Pregnant woman’s behavior	Straightforward/overtly action-occasioning	Non-straightforward/covertly action-occasioning
First-position action	–	+
Lack of second-position action	–	+

being made. The midwife has been explaining how the image of the fetal face is visible on the screen. While looking at the monitor screen, she indicates on the screen that a fetal hand is moving around the fetal face in lines 01–02.

(8) [IK I: 1: 02: 32-39]

01 MDW: <ima te ougo- .hh ugokashite masu kedo, kore (.)
now hand () move JD-PL though this

02 ne: (.)>kore ɾkore korɾ e< n: ɾn
P this this this yeah

"<Now, ((the baby)) moves a hand, this. (.) >This, this, this.< Yeah."

((Figure 3 ↓))

03 PWM: L hai J.h L<e atama tte kocchi
yes well head P this

04 gawa: (.) nan'desu ka ɾ:?
side JD-PL IR

"Yes. .h Well, is the ((baby's)) head on this side?"

((MDW looks at the abdomen.))

05 MDW: L↑ata↓ma shita des'
head down JD-PL

06 yo: ɾ:
P

"The head is down."

07 PWM: → L ah shita n(i) natte ɾmas'(-)
oh down P have-become JD-PL
"Oh, ((it)) has become down(-)"

((MDW looks at the abdomen.))

08 MDW: → L ma shita. nn
precisely-down yeah
"Precisely down. Yeah."

09 (PWM: °hai°
"Yes."

In lines 03–04, the pregnant woman inquires about the location of the fetal head, with a pointing gesture to the right side of her own abdomen (see Fig. 3), while looking at the monitor screen. The pregnant woman's uninterrupted gaze to the screen makes her inquiry hearable as also being related to what she sees on the screen. In response to the inquiry, probably induced by the pregnant woman's use of a deictic term ("kocchi gawa" or "this side" in lines 03–04; see Goodwin, 1986), the midwife looks at the abdomen with "↑ata↓ma" or "head" in line 05. Here, the pregnant woman expresses her concern about the fetal presentation in a question form, that is, a form which very explicitly makes a response relevant. During the utterance which embodies an overt responding-action to the question, the midwife does *not* look at the pregnant woman's face.

In contrast, when the midwife finalizes her confirming utterance in line 08 with "nn", she looks at the pregnant woman's face. Note that the pregnant woman, when registering the midwife's answer ("The head is down" in lines 05–06) to her question as news, uses the word *natte* (have become) in line 07, which implies that the fetal presentation was not cephalic (head-down) at the previous visit but transverse or oblique, although her gesture in line 03 could be perceived to point to the lower area of the abdomen in general, rather than a particular location (see Fig. 3). The emphasizing prefix *ma* (precisely) in line 08 is hearable as being occasioned by this implication, and the midwife, this time, looks at the pregnant woman's face during this utterance (line 08), which embodies a response to the implied previous concern (which is being addressed by the midwife).

One should also note that in line 18 of Extract 6 the pregnant woman overtly requests a further elaboration ("dore desu ka:(h)?" or "Where are ((they))?"). The doctor, in response to this explicit request (or request in a question form which

- 08 (4.0) ((Both participants continue to look at the monitor screen, while the doctor is moving the transducer along the pregnant woman's abdomen.))
- 09 DOC: *kore ga: kuchi:*
this P mouth
"This is the mouth."
- 10 (.)
- 12 PWM: *hai*
"Yes."
- 13 DOC: *<hana no atama.:>*
top P nose
"The top of the nose."

Note that the doctor's differentiation-invitation in line 1 of Extract 7 (i.e., line 13 of Extract 9) is a second attempt to invite the pregnant woman to differentiate the fetal nose (or fetal face) on the screen. This means that no expected response to the first round of the attempt in line 01 of Extract 9 has occurred, at least from the doctor's point of view. (In line 07 the pregnant woman hearably only acknowledges the information conveyed by the second unit [or "turn-constructural unit"; Sacks et al., 1974] of the doctor's utterance in line 03, rather than claims the differentiation of the fetal facial parts on the screen.)

In line 01 of Extract 9, the doctor, with pointing gestures to the screen, invites the differentiation of the fetal forehead, eyes, nose and mouth. However, the pregnant woman does not respond to the invitation. The 0.6-second long silence in line 02 is perceivable as the official absence of her response. The two units of the doctor's utterance in lines 03–04 – a description of how the fetal face appears on the screen, and an account for the possible difficulty in seeing the fetal face on the screen, respectively – can be heard as being occasioned by the pregnant woman's possible trouble in the differentiation. Note that the healthcare provider's account for the possible difficulty is constructed in a manner very similar to the one in lines 08–09 of Extract 7 in that not only is the fetal hand mentioned, but also that the token *kedo* (*though*) indicates the unfavorable nature of the information conveyed by the utterance in progress. However, the doctor does *not* look at the pregnant woman during this utterance (lines 03 and 04 of Extract 9).

In sum, there is again a clear pattern observable in the gaze-behavior of the healthcare providers: The healthcare provider looks at the pregnant woman's face during utterances (by the healthcare provider) *covertly* occasioned by the pregnant woman's preceding lack of an expected response (line 09 of Extract 5; lines 08–09 of Extract 7), whereas this is not the case during utterances (by the healthcare provider) *overtly* occasioned by the pregnant woman's simple (straightforward) lack of response (line 3 of Extract 2; lines 03–04 of Extract 9).

4.2.3. Summary and discussion: Gaze as a resource for specifically displaying an expectation for the receipt of the occasioned action

Table 2 summarizes the observations that I have made. The healthcare provider looks at the pregnant woman's face (designated as +) when his/her utterance in progress are only covertly occasioned by the pregnant woman's prior behavior (first-position action or lack of second-position action), which makes the healthcare provider's actions (second position action or reattempt of first-position action) more or less implicitly expectable.⁸

When pregnant women's first-position actions and lack of second-position actions are straightforwardly recognizable, healthcare providers' actions occasioned by these actions are expected to be received appropriately as so-occasioned in the natural course of interaction. In contrast, when the pregnant women's actions are not so straightforward, healthcare providers may be intelligibly motivated to perform work specifically aimed at getting their (the healthcare providers') occasioned actions received as *particularly* so-occasioned. For example, in Extract 4, insofar as the doctor's demonstration (of the fetal presentation) has been initiated by the pregnant woman's implicit (non-straightforward) problem-presentation, the doctor may be motivated to perform work specifically aimed at getting his action being embodied by his talk and (single) hand gesture received as evidence-presentation *particularly* occasioned by that problem-presentation. In Extract 5, as the pregnant woman's lack of expected response is not straightforward, the doctor may be intelligibly motivated to perform work specifically aimed at getting the reattempt of his original action received as a reattempt *particularly* occasioned by that lack and pursuing an appropriate response.

⁸ Line 17 of Extract 6 may be deviant from this observable pattern. The doctor's utterance, at the completion of which he looks at the pregnant woman's face, may also appear to be occasioned by the lack of response by the pregnant woman in line 16. I noted previously, however, that the utterance is completing the entire reattempted differentiation-invitation with an explicit demonstrational action. One may also note that this is the only case in which gaze occurs at (or even after) the completion of, rather than during, the utterance in question; this gaze may be finely positioned in relation to an entire series of utterances which implement the reattempt, rather than a single utterance in line 17.

I argue that directing gaze to the pregnant woman's face is the work the healthcare provider may be motivated to perform, as gaze can be a resource for publicly paying attention to the co-participant. With such gazes, healthcare providers in the target cases can exhibit their special attention to the pregnant women, and thereby also publicly display an expectation that the utterances in progress be received as *particularly* occasioned by the pregnant women's preceding behavior. Furthermore, through this public expectation display, healthcare providers can *mark* their utterances in progress as specifically occasioned by their co-participant's prior behavior. In other words, through paying special attention to the pregnant woman through distributing gaze to her face in a context where such gaze to the pregnant woman's face occurs only very rarely, the healthcare provider may be able to mark his or her utterance as specifically being produced within the framework set (more or less covertly) by the pregnant woman's prior action. We now turn to some other cases which point to this possibility.

5. Assurance of normality: Marked relation to the purpose of the visit

There are several cases in my corpus in which the healthcare provider looks at the pregnant woman when he or she (the healthcare provider) reads the estimated fetal weight on the screen, which is calculated by the machine itself based on various measurements. In the following extract (10), the doctor manipulates the control panel of the ultrasound scanner while looking at the screen during the silence in line 02, and then reads out the estimated fetal weight shown on the screen in line 03; he points to the value appearing on the screen with his index finger when he utters "'n' *de*" or "so" (though his finger arrives at the screen just before he starts the utterance).

(10) [TE I: 2: 02]

- 01 DOC: <yoi:: sh:::sho>
"There we go."
- 02 (11.4)
- 03 DOC: → >'n' *de*< ni sen ro *ppyaku*
so two thousand six-hundred
- 04 → *gurai kana:?* *tte yuu.*
about I-wonder so-to-speak
">So,< two thousand six hundred? or like that."
- 05 PWM: *aa aa*
oh
- 06 *ok tte kiku nari mashita ne::?*
big become have-PL P
"Oh, ((it)) has grown, right?"
- 07 DOC: *tsuitee taijuu ga ne::? .hh (s)orede .h ha::i.*
estimated weight P P then OK
"The estimated weight is. *.hh* Then, *.h* OK."

The doctor begins to look at the pregnant woman's face while uttering the final item of the value appearing on the screen (line 04). In the following (11), a similar bit of conduct is observable.

(11) [SZ: 3: 02]

- 01 DOC: *choodo ii desu ne:?*
just good JD-PL P
"Just right ((for your week of pregnancy))."
- 02 (1.0)
- 03 DOC: → *.h sen nana hyaku kyuu juu*
a-thousand seven hundred ninety
".*.h* One thousand seven hundred and ninety."

04 (0.6) ((The pregnant woman nods.))

05 DOC: → $\overset{\cdot\cdot\cdot\cdot}{gura}\downarrow\overset{\cdot\cdot\cdot\cdot}{mu}.$
"Grams."

06 $\overset{\cdot\cdot\cdot\cdot}{(.)}$

07 PWM: $\overset{\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot}{\text{°}ha\ \overset{\cdot\cdot\cdot\cdot}{ri}\text{°}}$
"°Yes. °"

08 DOC: $L(des')\ ne.$
"((It) is."

In line 01, the doctor hearably provides an evaluation of the estimated weight immediately after three graphs appear on the screen, which show the ranges and means of standard fetal weight at the various weeks of pregnancy. Then, in line 03, she (the doctor) reads out the value resulting from the calculation by the machine. When she produces the utterance in line 05 ("gura ↓ mu." or "grams") after a 0.6-second silence, during which the pregnant woman nods once, she (the doctor) looks at the pregnant woman's face. The duration of this gaze by the doctor extends over the micro-pause in line 06.

At least Extract 10 does not appear to contain any behavior by the pregnant woman by which the doctor's utterance was occasioned.⁹ However, one can note that the utterances in question present evidence for the normality of the fetal development, the assurance of which is one of the main purposes of routine checkup visits. The estimated fetal weight is one of the most important indicators of the normal development of the fetus and uterus (others of which include the fetal heart rate, the fundal height – measured from the top of the pubic bone to the top of the uterus – etc.). Thus, announcing the estimated weight calculated by the machine is more or less hearable as being related to the very purpose of each visit. In particular, gaze by the healthcare provider to the pregnant woman appears to mark the healthcare provider's ongoing utterance as specifically meeting the purpose of her current visit, i.e., an action done by the pregnant woman, but which has not overtly occasioned the very utterances in progress. In other words, healthcare providers' gazes reposition their ongoing utterances within the general framework (remotely) set in the first place by pregnant women's visits themselves.

This is not based on the analyst's arbitrary interpretation. One can see some (if not decisive) evidence for the participants' own orientations to the relation of the announcement of the estimated fetal weight to the purpose of the visit, which is to find out the current developmental status of the fetus and uterus. In Extract 10, the pregnant woman, after the announcement as news, relates the announced estimated weight to the development of the fetus by saying, "okkiku nari mashita ne:?" or "((it) has grown, right?" (line 06). In Extract 11, the doctor provides a positive evaluation of the estimated fetal weight in advance to the announcement of it, saying, "choodo ji desu ne:?" or "Just right ((for your week of pregnancy))" (line 01). The term *choodo* (*just*) indicates that the weight is very normal, neither too heavy nor too light, for the current week of the pregnancy.

One should also note that the doctor's gaze to the pregnant woman's face is not coordinated with the evaluative part of the assurance, but rather with the part in which evidence for the evaluation is provided. The doctor does not merely claim the normality of the fetal development, but, by looking at the pregnant woman's face at this very point, presents a crucial piece of evidence of this normal development as one to be specifically received; evidence, rather than a (mere) claim, is supposed to specifically interest the pregnant woman, who seeks assurances of normal fetal development through the various examinations and measurements at the visit.

Though not typical, in that another tool comes into the healthcare provider's focus, the following case also provides another support for the point being made. At this clinic, the midwives calculate the estimated fetal weight with a portable electric calculator by inputting various measurements appearing on the monitor screen; when calculating the estimated weight, the midwives' visual orientations are distributed alternately between the monitor screen and the calculator. In the following extract (12), the midwife announces the result of the calculation while looking at the calculator. She looks at the pregnant woman's face when uttering "gramu" or "gram" in line 05, and then produces evaluations which refer to the normality of the fetal development ("ji" or "good" and "juncho" or "developmentally normal" in line 07).

⁹ With the gaze in lines 05–06 of Extract 11, the doctor may pursue response from the pregnant woman after a lack of a verbal response from her to the announcement of the number is perceivable. However, the point being made here is that the doctor may intelligibly have a (or another) specific motivation to pursue response by using gaze at this moment, given that this is one of the two occasions where the doctor looks at the pregnant woman during the ultrasound examination; using gaze may be an optimal solution to the current practical problem emerging from different interactional contingencies. On the other hand, it is still not clear to whom the silence in line 04 is attributed. The silence can also be perceived to belong to the doctor; in fact, during the silence in line 04, the doctor also appears to try to determine if there is any mentionable value at the ones' place, i.e., 1 through 9, after uttering the value at the tens' place, i.e., ninety. Then, the utterance of the term *guramu* (*grams*) in line 05 may mark the end of the trial.

(12) [IK I: 2: 06: 23-29]

01 MDW: *n::nto:*
"Well"02 |(1.0) BA| ΓNG
|(1.2) | ((The midwife takes a record sheet which was placed
on the ultrasound machine.))

03 MDW: L.hh

04 MDW: *ookisa ga ne: .hh sen hyaku kyuuu juu gō*
size P P thousand eight-hundred ninety five
.....05 *guramu Γdes'. akacha n ne:*
gram JD-PL baby P
"((It) weighs one thousand eight hundred ninety-five grams. The baby
does."06 PWM: L °*haa°h hai* J
"Yeh, yes."07 MDW: *.h Γh Γano: ij des' ne: junchoo des'.*
uh good JD P normal JD
".hh Uh, good. Developmentally normal."08 PWM: L_{ha} L_i.
"Yes."

In this situation, the participation structure, i.e., the configuration of the participants' orientations, is released from the normative distribution of visual orientation to the monitor screen. As shown in the extract, when the midwife recognizably begins to announce the result of the calculation in lines 01 and 04 ("*n::nto:* (2.2) *ookisa ga ne:*" or "Well (2.2) ((it) weighs)'), the pregnant woman begins to look at the midwife's face. It is interesting that the pregnant woman shows her reciprocity precisely at the point when a concrete number is expected to follow. One can also note that the midwife retracts her gaze from the pregnant woman just after the latter produces a response to the announcement, and that just after the midwife's retraction, the pregnant woman also retracts her gaze. The number (the estimated fetal weight) is thus jointly achieved as the interactional focus through mutual gaze-work.

Furthermore, the subsequent development of the interaction in Extract 12 may also be illuminating. The midwife adds some comments which do not directly refer to what is visible on the screen.

(13) [IK I: 2: 06: 28-40: Continuation of (12): Gazes not indicated]

07 MDW: *.h Γh Γano: ij des' ne: junchoo des'.*
uh good JD P normal JD
".hh Uh, good. Developmentally normal."08 PWM: L_{ha} L_i.
"Yes."09 MDW: = *choodo .hh (.) ↑chotto aida:*
precisely a-little interval10 MDW: *ga Γaita: no kana: konkai i- yon shuu:-: g-g->go shuu =*
P lapse P I-wonder this-time four week five week11 PWM: L_h ((sniff))12 = *gurai aita Γno Γkana?< Γ°kuru n' Γne°?*
about lapse P I-wonder come P P
"Precisely- .hh (.) ↑An interval has lapsed, I wonder, this time.
i- A four week- f-f- >five week long interval has lapsed, right?<
*°((Before you) came, right?°"*13 PWM: L_n L_{soo} L_{desu} ne: L_i:
"Yeah, right"

- 14 MDW: .h ɾh ɾsono:: gurai choodo seechoo shi ɾta gurai ɾno:
that like precisely grown have like P
- 15 PWM: L_{ha}: L_i L_a L_{hai}
"Yes." "Oh. Yes."
- 16 (.)
- 17 MDW: ookisa ni nari mas' ne:: (.) .hh yoku sodatte mas' yo?
size P become JD P well has-grown JD P
"((The baby)) has grown the bigger precisely for those weeks.
(.) .hh ((It)) has grown very well." [Lines 14 and 17]
- 18 ɾehhhh heh
- 19 PWM: L^oha°
"Yes."
- 20 PWM: £wa ɾkari mashita£.
"£I see. £"

After the second evaluation ("junchoo des'."), the midwife quickly goes on to provide a further added-on evaluation. This third evaluation refers to the growth that the fetus has attained since the pregnant woman visited the clinic last time. The midwife first begins to go into the third evaluation with "choodo" or "precisely" (line 09), but then interrupts herself to confirm the interval between these two visits (lines 09–13). After this confirmation work, the midwife resumes her self-interrupted evaluation by recycling the term *choodo* (*precisely*) in line 14, and mentions, in two utterance units, that the fetal size gains are "precisely" adequate for the interval between *these* two visits (lines 14 and 17), and that the fetus has grown very well since then (line 17), respectively. In this way, the midwife maintains the evaluation of the announced number as the ongoing course of action, while parenthetically exhibiting her orientation to the exactness of the interval. The announcement of the number is thus made accountable as being related to *this* visit to the clinic.

6. Concluding remarks

Changes in visual orientation may be embodied in tiny movements of the head or eyes, but, probably because gaze direction displays a strong current orientation, they are one of the most crucial resources for the organization of interaction (see Goodwin, 1979, 1981; Kendon, 1990a). By looking at the pregnant woman's face in the context of ultrasound examinations, where visual orientation is expected to be primarily directed to the monitor screen, a healthcare provider may *sequentially reposition* him or herself in terms of the pregnant woman's recognizable prior conduct or action. Demonstration of the fetal condition, the primary activity of prenatal ultrasound examinations, consists of "differentiation sequences." Differentiation sequences are initiated by healthcare providers, and completed by pregnant women, responding to the initiating-action (Nishizaka, 2011a). On the other hand, healthcare providers have a resource for sequentially repositioning themselves within the framework set by the pregnant woman's immediately preceding behavior or her visit: looking at the pregnant woman's face and publicly paying attention to the pregnant woman accordingly.

Social studies of the medical profession (such as Parsons, 1951; Freidson, 1970; Starr, 1982) have described how medical authority works in interaction between healthcare providers and their clients (patients, etc.); whereas the former have control over interaction with the latter (based on the expertise of the former), this control is not absolute, but rather socially, culturally, and historically contingent. In the analysis of interactional data, some studies (such as Stivers and Heritage, 2001; Nishizaka, 2010, 2011b) have shown, focusing on routine visits in primary care settings, that opportunities are systematically provided for the clients to take initiative in raising their concerns. The present study, in contrast, shows that a practice is provided for healthcare providers to concede an initiative to their clients for all practical purposes, by marking the occasioned-by nature of their action.¹⁰

Ultrasound examinations are a "perspicuous site" (Garfinkel, 2002) for the investigation of the organization of participation. In ultrasound examinations, distinct modes of orientations have to be distributed in ways appropriate to its "natural accountability" (Garfinkel, 2002). However, the "natural accountability" of an ultrasound examination is also produced precisely in and through that appropriate distribution of orientations. This intrinsically "reflexive" nature (Garfinkel, 1967) of the activity in progress is usable by the participants for the organization and re-organization of their

¹⁰ See Peräkylä (1998) who shows, employing conversation analytic methodology, that the medical authority is systematically balanced by accountability in the delivery of diagnosis in primary care consultation. See also Robinson (1998) who, focusing on gaze and bodily orientations as well as talk, shows that the "asymmetry whereby doctors routinely initiate the sequence" for patients' complaint disclosure is an interactional achievement by both parties.

interaction in progress. What I have explicated is no more than one possible procedural ground for healthcare providers' gazes to pregnant women's faces.¹¹ However, it is still a describable one – the description being based on the actual data.

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References

- Bavelas, Janet Beavin, Coates, Linda, Johnson, Trudy, 2002. Listener responses as a collaborative process: the role of gaze. *Journal of Communication* 52, 566–580.
- Cunningham, F. Gary, Leveno, Kenneth J., Bloom, Steven L., Hauth, John C., Gilstrap III, Larry C., Wenstrom, Katharine D., 2001. *Williams Obstetrics*, 22nd ed. McGraw-Hill, New York.
- Duncan Jr., Starkey, Fiske, Donald W., 1977. *Face-to-Face Interaction: Research, Methods and Theory*. John Wiley & Sons, New York.
- Freidson, Eliot, 1970. *Profession of Medicine: A Study of the Sociology of Applied Knowledge*. University of Chicago Press, Chicago.
- Garfinkel, Harold, 1967. *Studies in Ethnomethodology*. Prentice-Hall, Englewood Cliffs, NJ.
- Garfinkel, Harold, 2002. *Ethnomethodology's Program*. Rowman & Littlefield, Oxford.
- Goodwin, Charles, 1979. The interactive construction of a sentence in natural conversation. In: Psathas, George (Ed.), *Everyday Language: Studies in Ethnomethodology*. Irvington, New York, pp. 97–121.
- Goodwin, Charles, 1981. *Conversational Organization: Interaction Between Speakers and Hearers*. Academic Press, New York.
- Goodwin, Charles, 1984. Notes on story structure and the organization of participation. In: Atkinson, Max, Heritage, John (Eds.), *Structures of Social Action*. Cambridge University Press, Cambridge, pp. 225–246.
- Goodwin, Charles, 1986. Gesture as a resource for the organization of mutual orientation. *Semiotica* 62 (1–2) 29–49.
- Goodwin, Charles, 1994. Professional vision. *American Anthropologist* 96 (3) 606–633.
- Goodwin, Charles, 2000. Action and embodiment within situated human interaction. *Journal of Pragmatics* 32, 1489–1522.
- Goodwin, Charles, 2007. Participation, stance, and affect in the organization of activities. *Discourse and Society* 18 (1) 53–73.
- Heath, Christian, 1986. *Body Movement and Speech in Medical Interaction*. Cambridge University Press, Cambridge, England.
- Heritage, John, 1984a. *Garfinkel and Ethnomethodology*. Polity Press, Cambridge.
- Heritage, John, 1984b. A change of state token and aspects of its sequential placement. I. In: Maxwell Atkinson, lin J., Heritage, John (Eds.), *Structures of Social Action*. Cambridge University Press, Cambridge, pp. 299–345.
- Heritage, John, Clayman, Steven, 2010. *Talk in Action: Interactions, Identities and Institutions*. Wiley-Blackwell, Oxford.
- Jefferson, Gail, 1980/1981. The abominable 'ne?' An exploration of post-response pursuit of response. *Manchester Sociology Occasional* 6, 1–82.
- Jefferson, Gail, 1985. Notes on a systematic deployment of the acknowledgement tokens 'Yeah' and 'Mmhm'. *Papers in Linguistics* 17 (2) 197–216.
- Jefferson, Gail, 2004. Glossary of transcript symbols with an introduction. In: Lerner, Gene H. (Ed.), *Conversation Analysis: Studies From the First Generation*. John Benjamins, Amsterdam, pp. 13–23.
- Kendon, Adam, 1990a. Some functions of gaze direction in two-person conversation. In: *Conducting Interaction*. Cambridge University Press, Cambridge, England, pp. 51–90.
- Kendon, Adam, 1990b. Behavioral foundations for the process of frame-attunement in face-to-face interaction. In: *Conducting Interaction*. Cambridge University Press, Cambridge, England, pp. 239–262.
- Lynch, Michael, 1985. *Art and Artifact in Laboratory Science: A Study of Shop Work and Shop Talk in a Research Laboratory*. Routledge & Kegan Paul, London.
- Lynch, Michel, 1988. The externalized retina: selection and mathematization in the visual documentation of objects in the life sciences. *Human Studies* 11 (2/3) 201–234.
- Nishizaka, Aug, 2006. What to learn: the embodied structure of the environment. *Research on Language and Social Interaction* 39 (2) 119–154.
- Nishizaka, Aug, 2010. Self-initiated problem presentation in prenatal checkups: its placement and construction. *Research on Language and Social Interaction* 43 (3) 283–313.
- Nishizaka, Aug, 2011a. The embodied organization of a real-time fetus: the visible and the invisible in prenatal ultrasound examinations. *Social Study of Science* 41 (3) 309–336.
- Nishizaka, Aug, 2011b. Response expansion as a practice for raising a concern during regular prenatal checkups. *Communication & Medicine* 8 (3) 247–259.
- Parsons, Talcott, 1951. *The Social System*. Free Press, New York.
- Peräkylä, A., 1998. Authority and accountability: the delivery of diagnosis in primary health care. *Social Psychology Quarterly* 61, 301–320.
- Robinson, Jeffrey D., 1998. Getting down to business: talk, gaze, and body orientation during openings of doctor–patient consultations. *Human Communication Research* 25 (1) 97–423.

¹¹ There are likely various species of gaze, as one type of conduct can achieve various actions, which are incommensurable with each other. In regard to this point, see Schegloff (1997) for example.

- Rossano, Federico, 2010. Questioning and responding in Italian. *Journal of Pragmatics* 42, 2757–2771.
- Rossano, Federico, Brown, Penelope, Levinson, Stephen C., 2009. Gaze, questioning and culture. In: Sidnell, Jack (Ed.), *Conversation Analysis: Comparative Perspectives*. Cambridge University Press, Cambridge, pp. 187–249.
- Sacks, Harvey, 1992. *Lectures on Conversation*, 2 vols. Blackwell, Oxford.
- Sacks, Harvey, Schegloff, Emanuel A., Jefferson, Gail, 1974. A simplest systematics for the organization of turn-taking for conversation. *Language* 50, 696–735.
- Schegloff, Emanuel A., 1987. Recycled turn beginnings. In: Button, Graham, Lee, John R.E. (Eds.), *Talk and Social Organization*. Multilingual Matters, Clevedon, UK, pp. 70–85.
- Schegloff, Emanuel A., 1997. Practices and actions: boundary cases of other-initiated repair. *Discourse Processes* 23 (3) 499–545.
- Schegloff, Emanuel A., 1998. Body torque. *Social Research* 65, 335–596.
- Schegloff, Emanuel A., 2007. *Sequence Organization in Interaction*. Cambridge University Press, Cambridge.
- Schegloff, Emanuel A., Sacks, Harvey, 1973. Opening up closings. *Semiotica* 8, 289–327.
- Schegloff, Emanuel A., Jefferson, Gail, Sacks, Harvey, 1977. The preference for self-correction in the organization of repair in conversation. *Language* 53 (2) 361–382.
- Starr, Paul, 1982. *The Social Transformation of American Medicine*. Basic Books, New York.
- Stivers, Tanya, Heritage, John, 2001. Breaking the sequential mold: answering “more than the question” during comprehensive history taking. *Text* 21 (1/2) 151–155.
- Stivers, Tanya, Rossano, Federico, 2010. Mobilizing response. *Research on Language and Social Interaction* 43 (1) 3–31.

Aug Nishizaka is Professor of Sociology at Meiji Gakuin University, Tokyo. His current research is concerned with the study of interaction in regular prenatal checkups, focusing on the social organization of vision and touch. His recent publications include: Self-initiated problem presentation in prenatal checkups (*Research on Language and Social Interaction* 43(3): 283–313), Touch without vision (*Journal of Pragmatics*, 43: 504–520), and The embodied organization of a real-time fetus (*Social Studies of Science*, 41(3): 309–336).