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Conversation Analysis and Frame Analysis Combined A Proposal to Study the Use of Language in Paediatric Surgical Visits

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Abstract

This article applies tools and concepts of Frame Analysis and Conversation Analysis to a database of audio-recorded and transcribed paediatric surgical visits involving Italian native spearkers. The visits were collected to conduct a linguistic analysis of their communicative challenges. The database used for the analysis is composed of almost one hundred paediatric surgical first visits and check-up visits. It was decided to focus on first visits due to their complex patterns of interactions. The concepts of turn taking, of adjacency pairs, and of sequences from Conversation Analysis (CA), with CA also providing the transcription conventions, provide the analytical tools to describe the linguistic organisation of the interactions. The concepts of frame and structures of expectation taken from Frame Analysis are used to understand what types of conflicts arose during the interactions. Frequent communicative problems usually concern the delivery of the diagnosis (Heritage and McArthur 2019), because of its brevity and speed, of parents' misunderstanding of referents and of parents' emotions. A possible solution is suggested to improve the quality of the diagnostic moment, to make the subsequent information exchange less challenging and the overall interaction more satisfying.

Keywords: Conversation Analysis, Doctor-patient Interaction, Frame Analysis, Paediatric Surgical Visits, Pragmatics

Doctor-patient interaction is a typical case of asymmetrical institutional talk (Drew and Heritage 1992; Heath 1992; Heritage 1997; Pallotti 2007; Drew 2013) that has been the object of multiple linguistic studies since the seminal research by Korsch and Negrete (1972) and by Byrne and Long (1976), where for the first time the language of this type of interaction was used to understand the issues at stake in its natural-occurring spoken contexts. Effective communication has become crucial in medical settings across the world, and many studies have been conducted in different countries to investigate the structure of a variety of doctor-patient interactions in different contexts using

the analytical tools of conversation analysis and of frame analysis (such as Tannen and Wallat 1993; Peräkylä 1997, 1998, 2019; Heritage and Maynard 2006; Afzaal *et al.* 2019).

Numerous studies have been carried out on paediatric visits, where doctor-patient-child interactions are involved. In 2000, Tates and Meeuwesen were already presenting an overview of the research available on the topic; more recently, the studies conducted by Wong *et al.* (2020), and Lee *et al.*, (2020), just to name two recent examples, show how the research for a methodology aiming to improve paediatric interactions from a linguistic point of view is still ongoing and relevant. Different paediatric interactions have been studied with the aid of Conversation Analysis, such as negotiating antibiotic prescribing decisions (Stivers 2002) or turn-taking in doctor-parent-child communication (Tates and Meeuwesen 2000), to more recent studies on whether and how children instigate talk in paediatric consultations (Jenkins, Hepburn and MacDougall 2020), or on interactions with children with autism spectrum disorders (Solomon *et al.* 2016). These and other studies made frequent use of conversation analysis tools to identify recurring patterns and conversational issues for sociological and medical concerns.

Referring to the specific interactional context of this article, recent studies exist on paediatric surgical visits, for example on decisional conflict (Ritchie, Chorney and Hong 2016), on the assessment of caregivers perceptions in paediatric dental surgery regarding the need of behavioural intervention (Lee *et al.* 2020), or on a mixed-method approach of combining Visual Text Analysis and Conversation Analysis applied to analyse the patterns and features of paediatric dental surgical consultations (Wong *et al.* 2020). However, no retrievable studies, as of today, have dealt with paediatric surgical visits with a combined analytical methodology of Frame Analysis and Conversation Analysis applied to a database of naturally occurring exchanges.

The purpose of this research is to answer three research questions:

1. Is there a conversational pattern to paediatric surgical first visits?
2. Are there moments of the interaction when problematic points occur more frequently?
3. Why do they occur? How are they revealed? Is it possible to avoid them or, at least, to reduce their effects on interactions by working on the information exchange?

The analysis of the exchange of information between the surgeon and the parents and how the way information is conveyed affects the interaction is of particular interest for possible solutions to problematic moments. Namely, analysing information exchange would help to understand:

1. If there are recurrent moments that are specific to paediatric surgical visits;
2. How turn-taking is organized among the interactants, especially when the parents asked questions and expected answers;
3. If the surgeon's answers satisfy the expectations of the parents, in terms of both content and delivery.

After providing information on database collection and features, the theoretical and methodological conceptual background of the study is explained. Its application to some significant examples from the database is then discussed and solutions to conflicting interactions are suggested. Then suggestions are offered on how the combined approach discussed in this article could be used, when applicable, to improve the efficacy of communication in paediatric surgical visits.

1. The Collection of the Database

The database consists of almost one hundred surgical visits, audio-recorded over five days at the surgeon's public paediatric surgery in Tuscany, and over three days at his surgery in a private medical practice in Tuscany. All interactants were Italian native speakers who agreed with the surgeon to be part of the activities performed by his assistants, which included the research on which this study is based. The exact locations, the time of the year, and the year itself, as well as any other data regarding the interactants that might hint at their identity will not be disclosed for privacy reasons. To them goes the most heartfelt gratitude of the author.

The database of the collected visits can be divided into two groups: first visits and check-up visits. The first visits were less frequent than the check-up visits, but they had more interesting contents, since it was the first time the surgeon had met the patient and his/her parents who accompanied him/her. This was a crucial element for the analysis, because the paediatric surgical first visits developed into an interaction between the surgeon and the parents, with the young patient almost always playing a passive role.

These first visits are pre-surgery visits, where the surgeon will decide whether and how to operate on the children. These visits are the final phase of the medical procedures involving a paediatric surgical visit, with the surgeon having to meet the child and parents, check available tests, examine the children and decide whether to operate or not. Check-up visits after an operation, on the other hand, were more frequent, and, ideally, would have provided more material for the analysis. However, as it turned out from examining the recordings, they tended to be less challenging; on account of the interaction between parents and surgeon being more standardised, check-up visits provided interactional material that was less linguistically challenging. The interactants did not need to establish a first connection during check-up visits, and the surgeon did not have to communicate a diagnosis, with all the implications that this has on the interaction, as the article will discuss later.

The surgeon also openly supported the analysis on the interactions to solve a pressing issue of time. He had to remain within some specific time limits for his consultations in the public surgery, and he constantly failed to comply with those time limits. Therefore, the surgeon explicitly asked whether it was possible to isolate those moments in the interactions that lengthened the duration of first visits and made the visit session invariably run overtime. He also asked whether it was possible, through this research, to improve his communicative skills for a better communicative experience. Therefore, first visits were selected for the investigation, the methodological framework of which will be illustrated in the following section.

2. Frame Analysis and Conversation Analysis as Methodological Framework

As anticipated in the introduction to this article, a combined methodological approach using some specific tools and concepts of Frame Analysis and Conversation Analysis was applied to analyse the collected database of visits. This section will outline the methodological background applied to the study.

Conversation Analysis is founded upon the idea that an important area of meaning in an interaction is revealed through the sequences of talk (Cameron 2001; Heritage and Maynard 2006; Pallotti 2007; Hutchby 2019). Along with this theoretical framework, the analysis of the database was first performed using Conversation Analysis to detect a general linguistic pattern in interactions. The concepts of adjacency pairs and dispreferred second acts, and of sequential implicativeness lay the foundations to the study. An adjacency pair implies that the minimal unit

of a conversational exchange is made up of a pair of speaking turns, and that the first turn creates certain expectations which constrain the range of possibilities for the second turn (Cameron 2001; Heritage and Clayman 2010; Hutchby 2019). Question and answer are an example of an adjacency pair, together with, for instance, complaint and apology, accusation and denial or greeting and greeting. However, the second turn of an adjacency pair can be constituted by a response differing from the expected one, which is referred to as a dispreferred second acts.

Adjacency pairs and dispreferred second acts have been an important tool to retrace a sort of a standard sequence for the paediatric surgical visits examined. Furthermore, adjacency pairs provide the basis for the concept of sequential implicativeness, which implies that each cue in a conversation is a response to the preceding talk and is an anticipation of what is to follow (Sacks, Schegloff and Jefferson 1974). Through the formulation of their turns, speakers show their understanding of the previous turn and reveal their expectations about the coming turn.

As highlighted in multiple studies on doctor-patient interactions using Conversation Analysis (Heath 1992; Maynard 1992; Gill and Maynard 2006; Heritage and Maynard 2006; Heritage and Clayman 2010; Fatigante *et al*. 2020, to name a few), divergences and mismatches can occur between the structures of expectation about, for example, the information the patient expects doctors to provide about the pathology and its surgical treatment, or, vice versa, the information the surgeon expects the patient to provide at the beginning of the consultation about his/her problem, thus causing conflicts in the interaction.

Frame Analysis was then applied to the interactions to understand where the conflict originates in the interactions collected for this study; in other words, to understand what sort of activity the speakers are involved in while performing an utterance and what they think they are doing while talking in a certain manner in a precise setting at a definite moment of the interaction (Tannen 1993).

The term *frame* (Bateson 1972; Goffman 1986) refers to a sort of a mental picture the interactants build up in their minds with reference to the particular talk they are engaged in. Central to this study is the idea that a frame originates from a set of *structures of expectation*, or *knowledge schemas* which refer to the participants' pattern of assumptions and expectations about objects, people, settings and ways of interacting, as described by Tannen (1993). Therefore, the *structures of expectation* are mental constructions affecting the picture or, more appropriately, the *frame* that speakers are producing in their minds about a forthcoming or ongoing speaking event, interaction or whatever kind of everyday social activity (*ibidem*). From a linguistic point of view, then, framing an event means having in mind a range of pre-set verbal and non-verbal actions for a particular situation, which can be played out during that particular situation. Tannen's interpretation and application of the concept of frame to linguistic analysis will therefore be preferred as reference for this study, being more closely related to the linguistic analysis that was performed on the database.

Consistently with what Tannen (1993) claims, interactions between doctors and patients have proved to be a source of conflict due to their divergent knowledge schemas and multiple co-occurring frames, as already singled out by Kleinman (1980) and Mishler (1984) among many others, and more recently developed in a series of sociological studies on shared decision making (SDM), that do not pertain to the area of applied linguistics, and therefore will not be mentioned in this study. Since divergent knowledge schemas have been identified as most likely to bring about conflict, and since conflict management and solution has become increasingly important in doctor training (Saltman, O'Dea and Kid 2006), conflicting frames qualify as a significant source of conflicts in doctor-patient interactions (Tannen and Wallat 1993). However, compared to the number of studies applying CA to doctor-patient

interactions mentioned above, very few recent studies apply frames to a linguistic analysis of the interactions. Among those, however, Frame Analysis has proved to be extremely useful to understand how framing a condition influences its reception (Reali, Soriano and Rodríguez 2016), and how investigating frames even in medical drama is significant to better understand how real-life doctor-patient interactions are conducted and what issues arise (Chen 2019).

To summarize, Conversation Analysis helped to trace the recurrent sequences of talk between the surgeon and the young patients' parents throughout the interactions analysed, and to examine where these sequences did not occur – which was the cue that a communicative problem was occurring. Then Frame Analysis contributed to the analysis of the structures of expectations or knowledge schemas in places in the interaction, so as to understand how and why the communicative problems occurred in the interaction, and to suggest a possible solution.

3. Data Analysis and Communicative Problems

The analysis of the pre-surgery first visits collected in the database suggested a first subdivision of each visit into two parts. The first part of each first visit begins the moment the young patient and his/her parents enter the surgery and lasts until the surgeon delivers the diagnosis and the decision to operate on the child or not; the second part begins with the reactions of the parents to the delivery of the diagnosis and lasts until the young patient and his/her parents leave the surgery.

Inspired by the pattern suggested by Heath (1992), among the many others available to segment doctor-patient interactions,[1] a general pattern of five recurrent phases occurring throughout the paediatric surgical visits in the database was singled out:

1. contact with the parent(s);
2. first information exchange (reading of the tests, body scans, and documents relating to the young patient's pathology and verbal enquiries from the surgeon);
3. physical examination of the patient, delivery of the diagnosis, and decision to operate or not;
4. second information exchange: the operation;
5. closing sequence.

According to this five-phase pattern, there are two exchanges of information during interactions, occurring in the second phase and in the fourth phase of the interaction. As discussed more extensively further in the article, information exchanges often identify with the most challenging moments in the interaction. It is during the information exchange that the often conflicting expectations of surgeon and parents become evident. The crucial issue affecting the development of the interaction is whether the surgeon's and the parents' expectations are reciprocally satisfied during the consultation or not – i.e., whether the surgeon expected the parents to provide more (or less) information about their child's problem at the beginning of the interaction, or to convey more information about the child's pathology after the delivery of the diagnosis. As shown in the examples below, sometimes mismatched expectations concerned whether the parents expected the surgeon to operate on their child or not; due to these first visits being pre-surgery visits, an operation was usually expected by the parents of the young patients, and sometimes the decision

[1] See Pawlikowska *et al.* 2006 for an overview of some common ones.

of the surgeon not to operate was not welcomed, as shown below. The examples that follow are taken from some of the first visits collected in the database; these examples were selected because the linguistic evidence they provide is indicative of specific problems occurring in the interaction. An in-line translation in English is provided to make excerpts understandable.

3.1 Communicative Problems Emerging in Phase 2 (First Exchange of Information) of Interaction 5

The first remarkable example of communicative problems occurred during the second phase of Interaction 5 (example 1). At the opening of the interaction, the mother took the initiative and began talking quickly and uninterruptedly for more than one minute about the previous treatment of her son's pathology:

(1) [S: Surgeon; M: mother; G: grandmother; A_2: 2nd assistant]
M: buongiorno ↑ (.)
good morning↑ (.)
A_2: buongiorno:↑=
good morning:↑=
S: =buongiorno=
=good morning=
M: =buongiorno (.) ((she says the child's surname))
=good *morning (.) ((she says the child's surname))* (.) vieni R. ((towards her son)) (.) e mia mamma ((she introduces the child's grandmother to the surgeon)) (.) è la nonna=
(.) come R. ((towards her son)) (.) and my mother ((she introduces the child's grandmother to the surgeon)) (.) she is the grandmother=
G: =la nonna sì↓ (2.3)
=grandmother, yes↓ (2.3)
((the mother gives to the surgeon the documents about her son's tests))
M: allo:ra: (.) lui ha compiuto tre anni ad agosto:: (.) ha problemi di::
we::ll (.) he has turned three in Aug::ust (.) he has a problem o::f
testicoli ritenuti (.) abbiamo fatto la cura ormona::le consigliata dal
testicle retention we did the hormonal cu::re suggested by
Professor S. l'anno scorso (.) sia il criptocu:r (.) per un mese tre
Professor S. last year (.) both the criptocu:r (.) for one month three
volte al giorno: (.) poi abbiamo proseguito con il gonassin otto
times a da:y (.) then we continued with gonassin eight
punture nell'arco di un me:se (.) e la situazione diciamo: non sono
injections within the space of a mo:nth (.) and the situation let's sa:y they didn't
scesi:: (.) dove dovevano essere però lo scroto si era ingrossato e
get do::wn (.) where they should be but the scrotum became bigger
anche i testicoli effettivamente erano: (.) siamo ritornati: a:::
and the testicles too actually we:re(.) we came back to
ma:rzo dal professore↑ quest'anno ci ha riconsigliato:: siccome la
the professor↑ i:::n March this year he suggested agai::n as the
situazione era sempre uguale ci ha riconsigliato la cura ormonale
situation was still the same he suggested again the hormonal cure
abbiam fatto criptocur a giugno: (.) solo criptocur (.) però
we did criptocur in Ju:ne (.) criptocur only (.) but
obiettivamente::: cioè si sono di nuovo un pochino (.) ingranditi (.)

objectively::: well they became slightly bigger (.)again (.)
lo scroto lo ste:sso però son sempre lì dove sono↓ (.) quindi:: a
the scrotum too:: but they are still where they are↓ (.) the::n at
questo punto: ci è stato consigliato di venire da le:i per vedere
this point we have been suggested to come to you:: and see::
[se era il caso:]
[if there was the ca:se]

S: [ma l'ha visto il] Professor S. (.) vi ha mandato da me il Professor [S.?]
[but has professor S.]seen him (.) Professor S. sent you
[to see me?]

M: [ehm] ci ha mandato:: il pe[diatra::do]po che il Professor S. ci ha→
[ehm] by the pae[diatricia::n af]ter that Professor S. →

S: [pediatra↑]
[*paediatrician*↑]

M: →detto (.) o aspettiamo:: o lo facciamo vedere d[al chirur]go insomma: (.)
→ told us (.) either we wait o:::r we have him visited by [the surgeon] in sho:rt (.)

S: [ho capito]
[mm: I see]

S: si:::: tira un pochino giù i pantaloncini vi[eni] (33.2) ((he begins the physical examination of the child))
wee::ll let's pull down your trousers [here] (33.2) ((he begins the physical examination of the child))

M: [sì]
[yes]

[…]

In example (1), the mother was accompanied by her own mother; it was the only case where this sort of family support was provided. The mother of the patient gave a detailed account that the surgeon, after listening for a while, interrupted first by asking a question, then stating that he had understood, seemingly implying that no more was needed from the mother, and beginning the physical examination of the child. The interruption by the surgeon could be interpreted as a response to the perception of a too detailed account on the part of the mother, while, possibly, not providing the information the surgeon was expecting from her in a more concise way. Martini (2022) provides more details as to the type of information and its expected delivery: the essential pieces of information the surgeon usually asked the parents to provide, if he was not given them spontaneously, were (a) the paediatrician's diagnosis; (b) how long the child had suffered from the problem; and (c) what symptoms had been observed. Example (1) shows how the information delivery expected by the surgeon was not provided by the mother.

The conflicting frames originating from the unsatisfied expectations usually appeared at the moment of the second information exchange, more evidently, during the fourth phase of the interaction than during the second one, as discussed in the next section.

3.2 Communicative Problems Emerging in Phase 4 (Second Exchange of Information) of Interaction 2

In Interaction 2 (example 2), a child had an umbilical hernia, and the parents had kept a plaster on it for at least two months. The hernia was no longer so evident as the surgeon expected it to be, and he decided to see the child in a fortnight's time in order to check whether he really needed an operation or not. Meanwhile, the parents had to avoid putting a plaster on the navel, so that the surgeon could actually see the hernia.

The parents, instead, expected their son to be operated on immediately, because they had seen the hernia when it originated, and the pain it caused their child. Therefore, they had already framed the surgical visit as a prelude to the operation. Consequently, they were completely unprepared to face a different decision on the part of the surgeon.

The conflict between the surgeon's and the parents' structures of expectation did not appear at the moment it arose, because the parents did not contradict the surgeon's diagnosis. It is likely that they knew that he was more qualified than them and maybe did not dare to contradict him, but the linguistic evidence that follows shows how disappointed they were at not being able to persuade him to operate on the child. They expressed their disappointment with an interesting utterance (in bold type) in example (2) below:

(2) [S: Surgeon; F: father; M: mother]

[…]

F: **no perché anch[e noi:: siamo contrari [a::: anest]esia]tutto**

no because we [a::re opposed to:: [a::: anaesth]etic]and

quanto: (.)

so on *(.)*

S: [ecco insomma eh? Fac[ciamo così]

[well in short mmh?[let's do it this way]

M: **[a::: anest]esia]**

[a::: anaesth]etic]

F: quindi:::=

the:::n=

S: =beh queste cose le facciamo in anestesia totale [{/?/}]

=well we do these things under general anaesthetic [{/?/}]

M: [ehmm]

[ehmm]

F: [ehmm]

[ehmm]

S: però:: preferisco rivedere eh? Anche fra quindici giorni (.) eh? (.)

we:::ll I'd rather see him again, ok? In fifteen days as well (.) ok? (.)

[…]

The father's utterance, echoed by the mother, appears to contrast with the ordinary knowledge schema about surgical operations, for anaesthesia is essential to avoid pain during the operation, and it would sound strange for a father to imply that he did not want his child to avoid physical suffering whenever possible. Yet, the father and the mother in a synchronized overlap declared that they were against anaesthesia and "and so on (.)". This is the cue to understand their reframing; the decision to postpone the operation left the parents dissatisfied, and, as a reaction, they seem to dissent with anything else the surgeon would say.

The conflict between the structures of expectation in this interaction originated at the beginning of the physical examination, but it was revealed much later, and was unusually strong. Its power was even more evident at the conclusion of the interaction, because the parents left the room without thanking the surgeon for the visit, and the surgeon did not give them his mobile phone number, which is the usual practice. It is the cue that this interaction developed wrongly, because the parents felt that the surgeon had restricted himself to postponing the solution of their child's problem.

His omission was a consequence of the previous conflict between the structures of expectation during the physical examination of the young patient. His decision to postpone the child's operation contrasted with the parents' strong structures of expectation, resulting in their hostile attitude towards him and his suggestions. This can explain the lack of a verbal answer to the surgeon's question "alright? (.)", despite the mother's answer to the nurse about the day of the new appointment.

3.3 Communicative Problems Emerging in Phase 3 (Delivery of the Diagnosis) and How They Affect the Outcome of the Visit

Delivering the diagnosis is a crucial moment in doctor-patient interactions, and multiple studies have focused on its communication and structure.[2] The communicative mismatch of Interaction 2 originated in the third phase of the visit, which includes the physical examination of the young patient, the diagnosis and the subsequent decision to operate. This phase begins after the surgeon finishes reading the documents about the child's problem. While the surgeon examines the child, he is already deciding on a diagnosis and on a possible operation, and he communicates his decision to operate immediately after he has stated the diagnosis, therefore leaving no time to the parents either to intervene, or to ask questions about the diagnosis or the pathology.

When conveying the decision to operate on the child so swiftly, the surgeon seems to take a decision on the parents' behalf, as if he is assuming responsibility for the child. However, the parents do not feel offended by his behaviour, because he is always gentle, forthcoming and respectful towards his patients, which is fundamental for the confidence he has to establish with them. In this case, it seems that he is trying to steer the parents towards his decision to operate, using expressions like "ok?", "alright?", "do you agree?", uttered in a quiet gentle tone of voice. The parents know that he has the expertise they lack about pathologies and their surgical treatment, and they do not normally contradict him.

The parents do not feel offended by the surgeon's swiftness, but they do ask for information. Therefore, they instinctively perceive a lack of communication during the interaction. In particular, when reviewing the diagnoses inside the transcribed interactions, it is evident that

[2] For a systematic overview of the practice of diagnosis in US primary care see Heritage and McArthur 2019.

they are quick and concise. However, these features are not always negative; as shown in the next example, the communicative effectiveness of the diagnosis depends on the type of information delivered alongside the diagnosis itself.

Interaction 1 (example 3) shows an example of a quick diagnosis delivery, which, however, turned out to be effective, because it included some information that matched the structures of expectation of the parents, thus positively influencing the rest of the interaction:

(3) [S: Surgeon; F: Father; M: Mother]
[…]
S: =m[mno:: **bisognerebbe::**] (.)
*=m[mno:: **we shou::ld**] (.)*
M: [F. vieni qui: vieni↓]
[F. come here come↓]
S: **fare una plastichina del frenulo perché l'ha un pochino corto**
do a small plastic surgery of the fraenum because it is a bit too short
sennò quando non gli si apre be::ne se si apre si lacera tutto(.)
otherwise if it doesn't open we::ll, when it opens it all tears (.)
M: e allor[a::↓]
and th[e:::n↓]
S: [e:: ni]ente (.) si mette in lista lo facciamo eh?(.) va bene?
[mm:: no]thing (.) we put him on the list and we do him ok?(.) alright?
Vi dico io qu[ando è possib]ile(.)
I'll tell you [when it is possib]le(.)
[…]

Even if the diagnosis (in bold type) is brief, it includes three basic pieces of information: the type of operation which is necessary ("..**a small plastic surgery of the fraenum**"); the reason for the operation, i.e., the nature of the problem ("..**because it is a bit too short**" – the fraenum, implicitly); the consequences of a non-operation ("..**otherwise if it doesn't open we::ll, when it opens it all tears"**).

In this case, the delivery of information is quick, but it covers three major concerns of the parents, who will later ask for information only about what type of anaesthesia is needed, because the surgeon himself has provided all the other information about the operation day and the pre-operating analysis. As seen in the database, the three basic pieces of information conveyed by the diagnosis are usually a guarantee that the next phase of the information exchange will not be problematic.

3.3.1 Mismatching Structures of Expectations in the Delivery of the Diagnosis

In the first visits from the database under examination, the surgeon tends to intentionally convey the diagnosis in a concise manner. Indeed, he avoids conveying information about the child's pathology both because of the lack of time available for these consultations, and because he purposely wants to minimise the child's problem and to avoid parents' concern about it. As seen in the previous examples, the surgeon tends to use linguistic strategies (like diminutives and a soothing tone of voice), which aim to decrease the emotional impact of the the diagnosis. Therefore, he is conscious of how much the diagnosis will emotionally affect the parents and he is not insensitive to their feelings, even though the quickness of the diagnosis might seem to suggest that.

The surgeon does not give details about the pathology when he mentions it; he seems to presuppose at least some knowledge of the issue on the part of the parents. He is, however, ac-

tually aware of their limited competence in realtion to their child's problem, and this is precisely the reason that leads him to convey a concise diagnosis. According to the follow-up interview to the surgeon, he does not want the parents to be excessively alarmed. Had he explained the pathology and the operation in all their medical and technical details, parents might find this description chilling, while for him it would simply be the description of a routine operation, or just some additional information.

Besides, parents are inclined to ask questions, because they are worried that their child's pathology may derive from their own mistakes or from their lack of attention towards the child, or from a genetic cause. Indeed, some of their questions are intended to reassure themselves that they have done everything they could in order to avoid their child's suffering, and that they are not responsible for it. Moreover, they instinctively need detailed information, and they expect it to be conveyed with the delivery of the diagnosis. Yet, as previously stated, the surgeon tends to convey this information quickly and briefly. Therefore, the crucial communicative problem between the surgeon and the parents lies in the delivery of the diagnosis and in its reception. It is then useful to trace the connection between the type of information given with the diagnosis and the type of information requested by the parents.

Interaction 5 (example 4) is significant in this sense, if we look at how the diagnosis was delivered:

(4) [S: Surgeon; A3: student; M: mother]
[…]

S: /?/ ci siamo (.) vedi? criptorchide: (.) i testicoli si /stirano/ abbastanza bene ma

/?/ there (.) see? cryptorchi:d (.) the testicles can be /pulled/ quite well but

se lo lasci vedi? questo (.) tà (.) sal[e e] →

if you let go see? This (.) there (.) [up and]

A3: [mh]

[mm]

S: → torna quassù in cima (.) poi c'è questo:↑ che non c'è: (.) lo porti:

→ gets back up here (.) then there's thi:s↑ which is not he:re (.) you take i:t

(.) nello scroto (.) e se lo lasci risale (.) infatti non è testicolo in ascensore (.)

(.) to the scrotum (.) and if you let it goes up (.) indeed it's not retractile (.)

ma (.) testicolo criptorchide::↑ (.)

but (.) cryptorchid te::sticle↑ (.)

((addressing his student))

M: a:h (.) questo è proprio criptorchide::?=

so: (.) this is indeed crypto::rchid?=

S: =quando non sono nello scroto è

=when they are not in the scrotum it's

criptorchide (.) è un criptorchide /?/ bisogna intervenire /?/

cryptorchid (.) it's a cryptorchid /?/ we must operate /?/

[aspettare: /?/ha già tre anni]

[waiti:ng /?/ he's three already]

[…]

While examining the child, the surgeon explained the pathology to one of his trainees, and, at the same time, he delivered the diagnosis, but not to the mother. Feeling excluded, the mother took the initiative and asked for information ("ah (.) this is an actual cryptorchid?"). The surgeon answered with a diagnosis which lacked two of the three key pieces of information because he did not mention either the type of the operation, or the consequences of avoiding the operation.

It is possible to reconstruct the reason for the operation in the diagnosis even though the cue was not perfectly audible: the child had a serious malformation of the testicles and was already three years old, which implied that he should have been operated on before. However, these are just later deductions from a written transcription. Probably, the mother could not single out all these clues, and she could not perceive the veiled information as well, because the emotional element had completely overwhelmed her after the diagnosis.

Thus, the mother did not receive the information with the diagnosis in this interaction. She had shown that she was anxious about her son throughout the previous phases of the interaction, and this lack of information made her even more anxious. It seemed that she was even unable to perceive what the surgeon was saying to her; after all the answers provided by the surgeon, she said: «alright tell me all», while the surgeon had already told her everything she needed to know.

5. Discussion

After the analysis of the sources of some communicative mismatches which can occur during the phases of the information exchange, some possible devices can be suggested which would render paediatric surgical interactions more satisfying and allow parents to deal with the idea of a surgical operation more competently, so that they can face the operation better, and better prepare the child.

From the interactions analysed in this study, a pattern is evident according to which parents request information, and it is interesting to see that their questions are usually about three distinct recurrent topics:

1. the anaesthesia (whether partial or total);
2. the pre-operating tests;
3. the pathology: what it is caused by; its name; its features.

As highlighted also by Gill and Maynard (2006), and by Heritage and McArthur (2019) referring to the situation in the United States, the diagnostic moment seems to be the step of the interaction where problems occur most frequently. By comparing the conversational pattern of the request for information on the part of the parents with the type of information provided by the surgeon within the diagnostic moment, it is possible to offer some suggestions meant to improve the quality of paediatric surgical first visits.

Considering the emotional impact of the diagnostic moment, and the surgeon's instinctive will to make it less striking, and in view of the questions usually asked by parents, it might be suggested that it would be useful to add to the minimised delivery of the diagnosis a small

amount of popularised medical information as well. The questions most frequently asked by the parents can indeed be the cue, the nucleus on which this small popular information could be built.

When delivering the diagnosis, the surgeon might add some little explanation about the pathology – i.e., some of its features that may render the parents more aware of "what it is all about" (e.g., its causes), or about the effects of the pathology without an operation. While stating the need for the operation, surgeons might say something about the anaesthesia (whether local or general), or provide some practical information about the operation itself, for instance about these aspects observable by lay people, as is the case with most of the parents (the scar, how many stitches, and so on), and, briefly, about what the operation consists of (removing hernia or making the testicle descend into the scrotum for cryptorchidism). Obviously, it is not necessary to provide all the medical details of the pathology or of the operation, because they presuppose medical knowledge which most parents lack.

As example (3) demonstrates, when these pieces of information were delivered to the parents, they refrained from asking further questions, thus significantly reducing the duration of the interaction and the duration of the visit itself.

The need for the operation would be better justified for the parents. Were they given more information, parents would be more aware of what their child was going to face. This could help them to deal with the inevitable emotional load of a paediatric pre-surgery visit, and with a distressing situation like having their child undergo a surgical operation. Furthermore, being more aware, the parents would prepare the child better for the operation, not least from the psychological point of view, and they would reduce the tension that its prospect always implies.

6. Final Remarks and Future Research Possibilities

The analysis presented in this article was applied to a small database of paediatric surgical visits collected in an Italian public surgery for the purposes of a small-scale pilot study. Data emerged from the transcription of the interactions were analysed in their organisational structure drawing from the tools of Conversation Analysis and applying the concepts of adjacency pairs, preferred/dispreferred seconds and sequences to, first, segment interactions in a pattern of five phases, and second, to single out those turns where communicative problems arose. Conversation Analysis helped to locate where communicative issues occurred in the interactions; then, the concept of frame and of structures of expectations derived from Frame Analysis were used to examine the problematic points of the interactions to understand how and why communicative issues originated, and to verify if solutions could be applied to prevent them from happening, without exceeding the extremely limited time available to each visit.

A possible solution proposed in this study would be for the surgeon to add some small pieces of information while delivering the diagnosis: (a) the type of anaesthesia (whether partial or total); (b) the pre-operating tests needed; and (c) something about the pathology (what it is caused by; its name; its features). Based on the most recurrent questions from the parents, and on the analysis of the interactions of the database where this type of information was delivered, when present, this information helped to reduce the time of the visit significantly, thus also meeting the need the surgeon.

Despite its limited scope, this study aims to suggest that further research in paediatric surgical communication is needed. Applying the methodological frameworks suggested in this study to a larger database, including also multilingual interactions, hopefully will provide more structured suggestions to improve the experience of paediatric surgical visits for all their participants.

Transcription Conventions

[ ]	squared brackets indicate overlapping voices, i.e. two voices are heard at once
=	the equal sign indicates latching cues, i.e. there is no pause between lines
/?/	indicates inaudible words
?	indicates a question
↑ ↓	indicate respectively rising and falling intonation
(.)	indicates a brief pause, lasting less than a second
(3.2)	indicates the duration, in seconds, of a pause (e.g.: 3.2 sec)
:	following vowels indicates elongation of the sound
(( ))	indicate the actions performed while speaking
{ }	indicate whispered or bad audible utterances
/ /	one word or more in slashes indicate a possible transcription
___	one or more underlined syllables indicate higher tone of voice
→	indicates that talk continues without interruption on succeeding lines of text

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