Combining Genres: How Practice Matters

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Abstract

The notion of a genre system typically connotes sequences of interrelated communicative genres. This paper suggests that we can find other types of relationships among genres. Data from a field study in a large emergency room illustrates how doctors, nurses, and clerical staff routinely combine document genres not only in sequences, but also in accumulations achieved by proximity or through movement. The combinations of genres add flexibility to the ER staff’s genre use and allow them to employ individual genres for several purposes. The data allows us to explore how organizational members manage the tension between continuity in genre expectations and a need for flexibility in regard to paper-based and digital media. In addition, it demonstrates how end-users often tinker with genres’ materiality and form in the process of affording or constraining combinations among specific genres.

1. Introduction

Modern organizations typically employ a large array of information systems, some digital, others paper based. State-of-the-art digital media often coexist with systems introduced decades ago [14]. Nowhere does this ring more true than in healthcare settings. In most hospitals one finds a hodgepodge of information systems, some new and many old. In a typical emergency room, for instance, the doctors may have one electronic record system developed by a local physician with a knack for computers, while the nurses recently implemented another system bought from a large vendor. The administrative system is an older legacy system as are parts of the laboratory system. In addition doctors, nurses, and clerical workers in the emergency room daily engage with a large number of preprinted forms, paper-based records organized in large folders, whiteboards, email systems, and so forth. The question arise: how do we conceptualize the relations among the many different systems routinely used by organizational members as part of their communicative actions?

A growing body of research in organizational communication and information systems research draws on the notion of genre to study how media are used in organizational communication, and with what consequences. Most of these studies focus on individual genres [4, 8, 10, 12, 19]. Some studies, however, explore the interdependencies among multiple genres. Typically, these studies describe those relations among genres as sequentially organized [5, 9, 18].

For the exploratory field study reported here, I use a similar genre lens to examine how doctors, nurses, and clerical workers structure their use of multiple genres in healthcare settings. By focusing on how healthcare providers combine genres as part of their communicative practices, I find that sequentially-organized genres represent only one of several ways in which doctors and nurses combine genres into larger genre systems. I illustrate how doctors and nurses connect genres through sequence or accumulation. I argue that a focus on genre combinations allow us to explore how organizational members manage the tension between continuity in genre expectations and a need for flexibility and change. Furthermore, it highlights how a genre’s materiality and form affords and constrains combinations with other genres. After positioning my analytical framework in relation to existing genre research, I provide details from my study to discuss the genre combinations I observed in an emergency room (ER) and their use in practice. I conclude by suggesting some practical and research implications of my findings for the use and design of digital medial in organizations.

2. Genre and practice

Over the past two decades the notion of “genre” has made its way into the organizational communication and information systems literature [1]. This body of work largely draws on a pragmatic and practice-oriented view of genre as pioneered by Bazerman [5], Bakhtin [2, 3], Miller [11], Swales [15]. Where traditional conceptions of genre have largely been a taxonomy-oriented endeavor, referring
to regularities of form and content to categorize spoken and written discourse, recent theories approach genres as the classification of communicative or rhetorical practices. Genres are classified as they emerge from the pragmatic perspective (rather than syntactic or semantic) of everyday interactions. This approach insists that the ‘de facto’ genres, that we have names for in everyday language, tell us something theoretically important about communication. In effect it seeks to explicate the knowledge that practice creates [11: 155]. Along these lines, Yates & Orlikowski [16, 17] define a genre as typified communicative action invoked in response to a recurrent situation. In pragmatic terms, people engage genres to accomplish social actions in particular situations, characterized by a particular purpose, participants, content, form, time, and place.

Central to a practice-based genre theory is the premise that human communication is suspended in a tension between continuity and change. The perceived fixity of communicative genres is integral to discourse communities striving to structure reliable day-to-day interactions. At the same time, communication and genres are in a process of constant change, as new electronic media emerge, daily practice evolves, and social relations change [20]. Bakhtin describes these opposing tendencies as centrifugal and centrifugal forces which are at work on any communicative act, in any medium [3]. This tension often poses a problem for genre studies emphasizing genres as the centripetal force in this equation, offering some fixity with their socially-recognized purpose, participants, content, time, and place expectations. In these situations it becomes difficult to articulate how a genre can be associated with more than one purpose and content expectation. As suggested by Miller [11] and Bergquist & Ljungberg [6] it is not uncommon for genres to have collections of communicative purposes. To address this issue let us turn to how the literature describes relations among genres.

2.1 Relations among genres

Studies focusing on relations among genres fall into two groups; those studying genre relations in relatively stable environments, and those studying genre relations in situations characterized by change. In the former case, one finds two key terms attending to the relations among multiple genres in stable situations: genre set and genre system [5, 9, 18]. A genre set represents the full range of genre types invoked by a particular discourse community. For instance, one can talk about the genre set that ER doctors employ in the course of their work. An ER doctor produces only a limited number of document types which are related but distinct.

The genre set, however, signifies only one side of a multi-party interaction. For example, the ER doctors’ documents usually refer to information provided by the laboratory and radiology department; the ER nurses write their discharge instructions to the patient based on the ER doctors’ discharge summaries. The notion of genre system characterizes this full set of genres that instantiate the participation of all the parties in the ER. The genre system is the full interaction or sequence of events enacted as patients move through the ER. More generally, genre systems are interrelated genres that interact with each other in specific settings. In Bazerman’s words: “Only a limited range of genres may appropriately follow upon another in particular settings, because the success conditions of the actions of each require various states of affairs to exist” [5:98]. Such a sequential perspective is clearly articulated in Yates & Orlikowski’s adoption of the concept, where a genre system is “a series of genres comprising a social activity and enacted by all the parties involved” [13:2]. The concept proves to be helpful when studying how people use sequences of communicative actions to coordinate their activities over time and space. Nevertheless, we could expect other types of generic intertextual occurrences in organizational settings.

In situations of change, studies of genre relations typically focus on the transition of paper-based genres to computerized systems [4, 8, 10, 12, 19]. This process is often described as a mixing of existing genres in an effort to merge socially recognized genres with the capabilities of electronic media. Yet, those studies rarely explore how this mixing takes place and what specific relations among genres are involved. Yates & Sumner [20: 795], for instance, show how software designers rarely begin designs from a blank screen, but modify and combine existing genres at their disposal. In the process of combining the form and purposes of two or more genres a new genre may emerge and become accepted by members of the community. Central to this mixing of genres is the affinities and constraints associated with the materiality of a media. Electronic systems tend to be considered more plastic than traditional media and thus afford combinations among genres not previously conceivable [20].

In short, when it comes to stable and continuous situations we find relations among genres organized into sets associated with specific discourse communities and, when more than one community is involved, genres are sequentially organized. During change, we learn that materiality and technical features of a particular media play an important role
in how designers and users mix existing genres. Yet, one could expect many other types of intertextuality and genre combinations beyond sets and sequences. In our exploration the existing literature gives us direction.

2.2 Combining genres

The practice-oriented perspective driving contemporary genre studies suggest that any further exploration of relations among genres takes communicative actions as its point of departure. It is the relations among genres that emerge from people’s daily routines that offer theoretically important insights. Here, the notion of “genre combinations” better signifies a practice-oriented emphasis than simply referring to relations among genres. It helps us focus on how people use genre combinations to accomplish social actions. Studying “relations among genres” connotes an abstract analytical perspective, whereas “genre combinations” draws attention to people’s practices and how they do and not bring some genres together as part of their routine activities. It becomes central who combines genres, when and where.

The social, situated and conflictual nature of practice allows us to build a dynamic perspective on genre combinations. First, we must approach genre combinations as existing in a tension between continuity and change, between centripetal and centrifugal forces. In other words, genre combinations are potentially both stable and unstable entities.

Secondly, studies of genre combinations may explain how a genre can be a force of continuity in a community but still be associated with more than one purpose and content expectations. Genre combinations may not necessarily be part of the creation of new genres but could demarcate a range of genre expectations associated with different but stable situations. What are approached as central participants, times, places, content in one combination may be peripheral in another. This does not mean that genre combinations do not serve as stable and socially recognized communicative actions. Organizational members do read genres and genre combinations to find coherent sets of center-periphery relations corresponding to the practice in which they engage [7]. Yet, what may be considered peripheral elements of a document in one combination may be swept to the center of attention in another situation and vice versa.

Another way to make the same point is by articulating the relation between genre combinations and genre systems. A genre combination can be part of a genre system if it is a typified communicative action, characterized by a particular purpose, participants, content, form, time, and place. As one genre can serve several genre combinations a genre system can be made up of several sub-systems each with their set of typified communicative action.

Third, we can expect a genre’s materiality, including its technical features, to offer both constraints and affordances in regard to the types of combinations appealing to a discourse community. Digital media offers flexibilities and constraints in terms of who can combine what genres when and where.

3. Research Setting and Methods

To explore the genre combinations enacted by the doctors and nurses of a large urban emergency room (ER), I draw my empirical case from a 15-month, multi-sited ethnographic study where I followed pediatric nurses, doctors, and secretaries in their daily work. I spent approximately 2000 hours in five primary care clinics, one ER, and two hospital wards, focusing specifically on the practices that go into documenting patients care as they move within and across healthcare settings. These documenting practices included the recordings made on various note cards, preprinted forms, on-line record systems, and whiteboards. My unit of analysis was the work practices of doctors and nurses in documenting patients’ care. Practice-oriented theories framed my understanding of the how doctors and nurses produce and consume documents and guided my analysis of transcribed interviews, collected documents, hand written and typed field notes.

In an attempt to limit the scope of the present paper I focus on the corpus of document genres utilized in the ER. I found comparable use of genres in all the other setting involved in this study. Even within the ER one finds different document genres consulted, depending on a patient’s illness and where the patient is coming from. A trauma patient brought to the hospital straight from an accident involves more documentation than an infant with bronchiolitis. For the purpose of this article I select the genres used when an infant girl, Emily, is sent to the ER by her primary care clinic. I choose this case as a representative of a genre system repeated countless times daily during the winter months. The case is qualitatively representative in the sense that it reflects the majority of documenting practices by the ER staff.

4. Results

To present my data on genre use in the ER, I identify first two distinct types of document
combinations among the ER staff members: sequential and accumulative, where the latter is achieved through either proximity or movement. These two combinations are empirically derived and characterize distinct but not exclusive communicative practices. One document, as we will see, can be combined in both ways. Secondly, I present a vignette from an ER staff meeting illustrating how doctors, nurses, and clerical workers continuously rework genre combinations in the ER. Each empirical section is followed by an analytical summary.

4.1 Combining genres through sequence

One finds several sequentially-organized genre systems in the ER. Some follow the specific work flow of individual occupational groups or teams, others track the patient’s trajectory through the department. The genre sequence associated with Emily’s care, an infant with bronchiolitis, represents the vast majority of cases seen in the ER and is summarized in Figure 1.

![Figure 1. Sequentially organized genres](image)

Emily has been sick for several days and is send to the ER by her primary care doctor. Ahead of Emily he faxed an “expect sheet” summarizing her history and his recommendations. The triage nurse working at the entrance to the ER picks up the expect sheet and places it in a bin with other expect sheets. Half an hour later Emily and her parents arrive at the triage desk. The triage nurse grabs a preprinted form known as an “ER Flowsheet” and starts recording Emily’s history. The triage nurse sends Emily’s mother to get registered in the hospital’s administrative information system. Meanwhile, a triage nurse assistant examines Emily and enters her vital signs in the Flowsheet.

After a long wait a nurse calls Emily into the main ER. The nurse places her in an exam room, signs Emily up on a large Whiteboard, and assigns a doctor and a nurse to Emily. The Whiteboard summarize all patients and staff currently in the ER. After another wait, the nurse assigned to Emily enters the exam room. She takes Emily’s history, examines her, and records everything in the Flowsheet initiated in triage.

When the doctor finds time to examine Emily he uses his own document genre, the temporary note, to summarize his work. In an order sheet he records the medication, tests, and other activities to be carried out by the nurse. Past midnight the ER the doctor, assisted by a senior physician, decides to admit Emily. The doctor writes up Emily’s history in an electronic record system, the ER chart, which is subsequently signed off by the senior physician. The nurse draws on her own notes in the Flowsheet to write up an admission sheet which she sends off to the inpatient ward where Emily will spend the next two days. In short, the ER staff enacts a document genre sequence.

These eight documents genres constitute a highly institutionalized genre system. Each genre and their sequence compose a coordinated, interconnected set of communicative actions associated with a specific purpose, content, form, participants, time, and place of interaction. The genre system accomplishes the highly complex interaction of coordinating and recording Emily’s care as she moves through the ER involving several different professional groups. From an organizational standpoint we learn much about the collaboration and distribution of task in ERs by examining this sequentially organized genre system. Nevertheless, the sequential organization of genres constitutes only one type of genre combination found in the ER. To illustrate these other types of combinations I will in the following analysis focus on one of the eight document genres described above: the nurses’ ER Flowsheet.

4.2 Combining genres through accumulation

The second type of genre combination I identified involves the accumulation of documents, which allows the users to make assessments about a single patient’s status or the status of a system involving many patients and staff members. For instance, a doctor’s accumulation of specific Flowsheets, test results, and provider notes on an individual patient allow him or her to make important decisions about diagnosis and care. Doctors and nurses achieve accumulation through proximity or movement among document.

4.2.1. Accumulation achieved by proximity. Doctors, nurses, and administrators combine all the various document genres outlined in Emily’s case in piles, folders, bins, racks, and records, some with
documents of the same genre, others with diverse genres. The nurses’ Flowsheet is a good example.

One finds Emily’s Flowsheet in four different locations in the ER. First, the triage nurses place it in a rack outside the triage examination room with Flowsheets of other newly arrived patients. The triage nurses sort these Flowsheets according to how urgent they perceive each patient’s case in relation to the other newly arrived cases. In doing so, the rack serves as a tracking device for newly arrived patients and an itinerary for the triage nurses’ unfolding work. Secondly, Emily’s Flowsheet is moved to a Gray Rack in the main ER holding all the Flowsheets on patients ready to enter the main ER. Again, the ER staff arranges the sheets according to the patients’ perceived urgency, as well as other work flow concerns, such as by what team the patients should be seen (e.g. urgent or non-urgent care, orthopedic, etc.). This adds up to a tracking device of the waiting room and an itinerary for future activities. Who should the nurses call in next and how fast should the ER staff work to open up new examination rooms? One evening a nurse flips through the Flowsheets placed in the Gray Rack, mumbling:

“Vomiting and fever, vomiting and fever, vomiting and fever. They all seem to be vomiting with fever tonight. I only look at the section specifying their chief complaint,” she explains to the ethnographer. “Only if the kid seems really sick do I look over vital signs.”

The nurse picks out a couple of Flowsheets from the left hand row of the rack and places them on the right hand side. The two patients are now in line for a room in the non-urgent ambulatory side and not the main ER. Depending on workload and how swiftly each team works, the nurse moves patients between teams such as the urgent and non-urgent side.

Third, when Emily finally enters the main ER her Flowsheet is moved to a bin outside her exam room. Here it gets combined with other documents pertaining to her care, for instance, the order sheet, test result print outs, etc. In combination with these other document genres the Flowsheet serves as an itinerary and coordination device for the collective activities of the nurse and doctors caring for Emily.

Finally, the Flowsheet ends up in Emily’s medical record chronologically compiling all her encounters with the hospital. Each institution keeps its own unique organization of the record reflecting, not so much the patient’s care, as the work practices of staff members, the organizational design, and the needs of the institution. An infant starts out with an empty medical record and depending on the child’s health it fills up slowly or quickly. Doctors and nurses often assess a patient’s general health status simply on the thickness of the medical record: “Oh, she is a three binder.”

The physical layout of a department plays an important role in the combination of documents. The ER functions around three document-dense areas: the charting room, the triage and registration desk. Flowsheets can be found in each of these places in addition to a host of other genres. In the charting room, the doctors constantly scan the Whiteboard, the Gray Rack, residents’ EM Charts and Temporary Notes spread around the terminals before deciding what patient to see next or what resident to help out.

Finally, ER doctors with access to the hospital’s online system combine current and past ER Charts, test results, etc. in much the same way as they flip through a paper-based medical record. At any hour one can observe interns and residents bent over computer terminals with a number of temporary notes, test results and other documents spread around the keyboard as they work on their online ER Charts.

4.2.2. Accumulation achieved by movement.

Doctors and nurses achieve accumulation of distributed documents by moving from document to document. Routinely ER staff members move from document to document in an effort to combine elements of each document. Rounds in the ER illustrates the process. Five to six times a day the senior doctors and a few nurses gather in front to the Whiteboard. In a highly institutionalized pattern they then walk not from patient to patient, but from the Whiteboard, the registration desk, the chartroom and bins of documents throughout the ER, including the gray rack, bins with expect Sheets, Flowsheets, order sheets, or patient medical records. The senior doctors and nurses focus their attention on the overall flow of patients through the ER. How many patients are currently in the waiting room? How far along are patients in the individual exam rooms? What exam rooms can quickly get freed up? What doctors and nurses need help? In the words of a senior doctor:

“Number one, you should pay attention to flow [during rounds] – who are the sick kids and whether the interns, residents, and fellows, have their patients seen or need various levels of help and instructions.”

Details on individual patient cases as described in, for instance, the Flowsheets are only discussed to the degree that they inform the doctors and nurses about the overall flow of patients through the ER. Patients are not examined but the team may ask a patient if they have already been in x-ray or other procedural issues, which may affect the length of their stay in the ER. Through their combination of all these documents the team develops a picture of the entire ER and what bottlenecks they can expect in the near future.
4.3 Analytical summary

Emily’s Flowsheet gets combined six times in the course of her trajectory through the ER, as summarized in Table 1. For each combination the socially recognized purpose, content, form, participants, place and time changes. The Flowsheet is associated with the ER nurses and Emily (who) when it is part of a sequentially organized genre combination tracking Emily’s trajectory through the ER. One would never see a physician add information to an ER Flowsheet.

The socially recognized purpose of the genre (what) is to record and track the nurses’ care of one particular patient, e.g. Emily. The nurses use the Flowsheet genre every time and place (when & where) they interact with Emily. The content expectations are clearly defined (what) and embedded in the layout of the format (how). Clearly demarcated sections each outline distinct content expectations, such as, patient information & history, vital signs/interventions, mechanism of injury, diagnostic studies, discharge score, discharge observations, and discharge teaching.

As the Flowsheets get combined and recombined again and again the content and format of the physical document obviously stay the same. Yet, as indicated in Table 1, the genre expectations change. What is considered central participants, content, times, and places in one combination becomes peripheral as doctors and nurses engage the Flowsheet in other combinations. For instance, when Emily’s Flowsheet is placed in the Gray Rack it is read in relation to other Flowsheets in the rack. The participants are no longer just the nurses and Emily but all patients in the waiting room (who) and the purpose changes from the tracking of ER nurses care for Emily to a tracking and prioritizing of patients in the waiting room. The users are no longer ER nurses but also doctors and clerical staff who will rarely look at the details of the information captured in the sheet but simply try to access the needs of the current patient body in the waiting room in relation to one another (what). See Table 1 for a comparable argument can be made for all the other combinations of Emily’s Flowsheet. In short, as typified communicative actions all six genre combinations are part of the ER’s larger genre system.

<table>
<thead>
<tr>
<th>Name:</th>
<th>Combining Genres through:</th>
<th>Accumulation (achieved by):</th>
<th>Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why</td>
<td>Sequence</td>
<td>Proximity</td>
<td></td>
</tr>
<tr>
<td>Recording &amp; tracking ER nurses care for Emily</td>
<td>Nurse Flow</td>
<td>Prioritizing newly arrived patients</td>
<td>Coordinate Emily’s care while in exam room</td>
</tr>
<tr>
<td>Prioritizing newly arrived patients</td>
<td>Triage Rack</td>
<td>Prioritizing and sorting of patients in waiting room</td>
<td>Clinically</td>
</tr>
<tr>
<td>Patients in waiting room</td>
<td>Gray Rack</td>
<td>Emily, the nurse, &amp; doctors assigned to her</td>
<td>All ER patients &amp; ER staff</td>
</tr>
<tr>
<td>Emily’s encounters with institution</td>
<td>Bin</td>
<td>Emily &amp; all care providers</td>
<td>Urgency, recourses needed &amp; available</td>
</tr>
<tr>
<td>Urgency, type of care required</td>
<td>Record</td>
<td>ER doctors &amp; nurses’ activities &amp; observations</td>
<td></td>
</tr>
<tr>
<td>Urgency of chief complaint</td>
<td>ER Round</td>
<td>Emily’s encounters with institution</td>
<td></td>
</tr>
<tr>
<td>When</td>
<td>When nurses care for Emily in the ER</td>
<td>When waiting to get 1st exam</td>
<td>While in main ER exam room</td>
</tr>
<tr>
<td>While waiting to enter main ER</td>
<td></td>
<td>While in main ER exam room</td>
<td>5-6 times a day</td>
</tr>
<tr>
<td>Where</td>
<td>Where ER nurses care for Emily</td>
<td>Triage desk</td>
<td>By charting room</td>
</tr>
<tr>
<td>Outside Emily’s exam room</td>
<td></td>
<td>Outside Emily’s exam room</td>
<td>Where documents are located</td>
</tr>
<tr>
<td>All documents compiled on Emily’s by institution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Document format outlining nurse activities</td>
<td>How</td>
<td>Sorted in rack with other flowsheets</td>
<td>All documents compiled on Emily by institution</td>
</tr>
</tbody>
</table>

Extending Bazerman [5] and Yates & Orlikowski [18-20] we can argue that these six genre combinations constitute a more detailed and full history of the communicative events guiding Emily’s care. The intertextual relations are not only organized sequentially but also through accumulation achieved by proximity and movement. Each genre combination constitutes another sub-purpose in the overall genre system and the individual genres. For each combination the socially-recognized type of
interaction changes without necessarily taking away the purpose of the individual genre or other genre combinations.

For instance, while Emily’s Flowsheet is located in the bin outside her exam room the nurse and doctors assigned to her care use it to coordinate their activities. Simultaneously, it can become part of the ER round genre. In this way, doctors and nurses routinely and swiftly alternate between different readings of a document genre depending on the combination that fits their current practices. What may have been considered peripheral participants, times, places and content at one point in time may become the center of attention or vice versa.

4.4 ER Meeting Case

Genre combinations and expectations about their purpose, form, content, participants, time and place is the subject of ongoing negotiations and alterations which monopolize most departmental staff meetings, whether in the ER, inpatient wards or the primary care clinics. When a genre changes or a new one introduced it inevitably leads to changes in genre combinations and what materiality of a genre best support the various combinations. In this section I will describe one typical ER staff meeting, followed by an analytical section. In this ER meeting, five nurses, two secretaries, and two physicians discuss, among other things, how best to call attention to new orders so as to improve coordination among doctors and nurses.

In the ER library the nursing manager, Joyce, starts the ER staff meeting. As an experiment, the department recently put up red and green flags mounted on the doorframe of the red team’s patient rooms. The doctors promoted the initiative. Usually when doctors write orders to nurses they place them in the bins found outside each patient room. In the red team, the doctors are supposed to flip out a red or green flag and thereby signal to the nurses that they have an urgent or ‘emergent’ order pending. However, the flags do not seem to have the intended effect. Often red flags are displayed for a long time seemingly without anybody taking notice.

The discussion first turns to whether it is reasonable to make the orders, and thus nurses’ work, visible to everybody. Clara, an older nurse, describes how she missed a red flag the other day. The patient’s family finally called it to her attention. “I felt awful!” Clara concludes. The other nurses all agree. The flags make them feel exposed by having pending work tasks made visible not only to colleagues, but also to the patients’ families.

John, a senior physician attempts to justify the system. It is difficult, he argues, to find people, even doctors: “At night I give everybody [i.e., doctors] a phone. Then we can reach each other all the time and don’t have to go hunting. I receive calls in the restroom.” William, an ER doctor, suggests that the core problem is not that people cannot find each other but that the nurses should move around less. They should spend more time in the patients’ rooms. William argues: “The nurses spend a lot of time in front of the Whiteboard, while the docs run around like headless chickens.” Clara points out that the house-officers spend a considerable amount of time in the charting room. William insists: “Often it’s impossible to find out when one nurse has taken over from another nurse. We need to get people back into the patient rooms where they belong, not sitting in front of the Whiteboard or in the glass box [charting room].”

As in all other meetings, discussion of one document genre quickly leads to its relation to other document genres and how a combination of several document genres may alleviate the pending problem. Sharon suggests that they place the flags on the Whiteboard. The group discusses whether the Whiteboard is already too cluttered. Jimmy, a secretary, brings up an idea. They allocate a slot for each team on the Whiteboard where a magnetic flag would indicate pending orders. If they rotate the information on the board 90 degrees they would make space for such fields. The suggestion is soon pushed aside by yet another idea from William, the doctor. He proposes placing all the orders in racks under the Whiteboard. Each team should have their order box. The senior physicians and the chart nurses can see if a team is getting behind on their orders or if there are any urgent orders hanging, he explains. They would not have to walk from door to door when rounding. William suggests and closes his discourse by arguing that it would help nurses detect when colleagues needed help. John likes the idea and expresses the often-heard technological dream: “What we need is a patient tracking system like all modern hospitals. One that will show you flags and time of order, labs [laboratory results], everything.” Clara responds: “Give us a 100 years and we will have it.”

Changing the combinations of document genres often leads to undesired consequences for other carefully combined document genres. As a response to William, Joyce tersely points out that bringing the orders to the Whiteboard would further take the patient chart apart. “You need the order with the Flowsheet.” William agrees. As it is, the chart already gets spread all over the ER. The secretary manager and Jimmy nod their heads in agreement. They know
the problem. Daily they gather the charts when patients leave the ER, sort and send them to the records department.

The conversation moves to the issue of communication and liability. Sharon articulates a sentiment often heard among nurses. She worries that the flags become “a substitute for communication.” Nurses strongly feel that by communicating an order with a flag, and not through paper and face-to-face interaction, nurses lose the option to question and give input on an order. In their daily work, nurses check the calculations of doctors’ orders, suggest alternative possibilities, or simply want to know the rationale behind a particular order so as to be able to answer parents’ questions. The flags bring them a step further away from care decisions.

William insists on the need for flags. “We need to find a more efficient way to handle orders – handle them in a timely manner.” He argues that it is a legal matter. “If somebody gets hurt, lawyers will sift through the entire system and records and look at how effective it is.” Clara and Sharon, restless in their chairs, get a little defensive. They do not find the system to be as defective as William paints it. “Anyway, it’s the nurses’ responsibility when the doctors have written their orders,” Sharon suggests. William disagrees: “The physician is always responsible. If the nurse does not take his order he should have done it himself.” Joyce seems surprised: “I always thought that when the doctor writes the order he pushes the responsibility to the nurse.” William: “No, it’s always the physician’s responsibility. I have only seen two cases where nurses were held responsible. If they intentionally ignore the order or if they give the wrong medication or dose.” A brief silence follows. Jimmy doodles on an abandoned flowsheet.

Joyce takes steps to end the meeting. She suggests that they should let the experiment with the red team flags go on for a bit longer. “It has not really been tested yet.” She stresses that the flags should not be a substitute for communication among nurses and doctors. John adds his two cents: “The flags are just a substitute until the day we all have phones operated into our ears.” Joyce closes the conversation by suggesting that they look into the possibility of adding “order boxes” under the Whiteboard. With many issues raised and few resolved, the group leaves.

4.5 Analytical summary

At first glance, the meeting stands out as a typical unorganized work place meeting, which in fact is how many ER staff members feel and why they do not bother to show up. Nevertheless, the jagged course of the dialogue points to the multiple concerns that staff members have in the combination and use of their many document genres. To ensure the coordination among doctors, nurses, and secretaries, these groups continuously tweak the combinations of their many document genres and their purposes, participants, place, time, content, and form.

One can divide up the meeting in four phases, each emphasizing a particular aspect of the ER genre system. First, the nurses call attention to the participants (who) in the use of the new order flag genre. By mounting the flags on the patient room door frames the genre inevitably includes patients and their relatives as participants in this new genre. The nurses are concerned about the patients’ active involvement in the nurses’ communication with doctors.

Secondly, the doctors evoke the original purpose of the order flags, to free doctors from having to find nurses when giving an order (what). They want to change their interaction from a synchronous face-to-face interaction to an asynchronous interaction mediated by the flags and the order sheet. The younger doctor, William, argues that the problem is not that patients have access to the flags but that the nurses prefer to spend time in document dense areas around the whiteboard and not in the patients’ rooms.

Third, all the meeting participants attempt to solve the tension by envisioning changes to the combination, form, location, and participants involved in the order and related genres. For instance, various combinations with the whiteboard are discussed, which would involve changes to the layout (how) of the whiteboard and possible also the flags. Another option is to combine all the order sheets in bins under the whiteboard (where). This would change the genre expectations from being a tool to coordinate between a doctor and a nurse caring for one patient, to involving all the nurses and doctors (who) in monitoring how busy each team in the ER is (what) at any given time (when). Yet, bringing the order sheet to the whiteboard would break up the highly valued combination between the Flowsheet and the order sheet. Neither doctors nor nurses are sure if they are willing to give up such an important combination.

Finally, taking apart all these genre expectations brings the discussion to the core of the relationship between doctors and nurses and their division of labor: who is ultimately responsible for the order and who would get penalized if the communication breaks down? The nurses worry that by turning the communication about orders into an asynchronous interaction they will lose an important role in patient treatment. In short, as doctors and nurses negotiate the genre expectations and combinations associated with
the order sheet, they also debate the social relations governing their responsibilities, power structures and communicative practices.

Thus the ER staff cannot introduce a new genre or make changes to an existing one without renegotiating its socially recognized purpose and the social order on which the communication builds. Discussions of a genre’s possible combinations with numerous other document genres are central in these negotiations. This leads to discussions of several genres and their interrelated genre expectations. The materiality of a particular genre is often drawn into the debate of possible combinations among genres.

5. Discussion

The analysis of genre combinations demonstrates that sequentially-organized genres only constitute one possible dimension of a genre system. Combinations through accumulation achieved through proximity and movement among documents highlight other important structures of the ER’s genre system. Thus, a perspective on multiple genre combinations opens up a new perspective on information system design and implementation.

First, sequencing and accumulation of genres each point to ways in which doctors and nurses organize, create, and use medical information. Medical information systems would gain by integrating both types into the design. Allowing users to choose among multiple combinations of electronic genres brings us back to the issue of continuity and change in communicative practice and systems design. A focus on genre combinations offers one strategy to achieve flexibility. Genre combinations allow organizational members to use genres for multiple purposes and add new layers of genre expectations. These intertextual readings can, in many situations, get established without changing socially-recognized expectations associated with an individual genre. This allows genres with a long history to remain viable as doctors and nurses continuously adopt them through combinations to fit current needs. At the same time genre combinations serve as a central part of system users’ everyday work practices. As illustrated by the ER meeting, the introduction of even simple genres such as the flags has a ripple effect throughout the department’s genre system, potentially affecting several other genres through new or altered combinations.

Secondly, the ways in which doctors and nurses accumulate documents by way of either proximity or movement further highlight the close relations among the temporal and spatial organization of communication and the materiality of a given media. In other words, media choice plays a central role in what types of genre combinations are possible or desirable for particular organizational settings. In the ER meeting we saw how the staff play with what materials the flags should be made of and what affordances and constraints each form offers in regard to genre combinations and expectations, i.e. should the flags be made of plastic and mounted on the patient room door frames close the bin with Flowsheet or turned into magnets and combined with the Whiteboard?

Digital media offers great flexibility in terms of when and where genre combinations can take place. Yet, it can alter the types of combinations possible. Making Flowsheets and other ER documents used during ward rounds available in digital form would allow doctors and nurses to combine these documents in the comfort of the charting room, for instance. However, it may eliminate other important but less explicit document combinations or make unavailable the visual and auditory stimuli of sick children and their family members afforded by the walking rounds. In addition, digital media often require some degree of skill and training to establish new combinations among existing genres. One often does not find such skills broadly available in healthcare settings. In the ER meeting we notice that discussions of electronic media and digitally facilitated combinations are conspicuously absent. Only the attending doctor, Paul, articulates a couple of technology dreams, which his colleagues instantaneously push aside as unrealizable (i.e., “give us a 100 years”) or simply ignore. In order to realize combinations involving digital media the ER staff would have to collaborate closely with members of the hospital’s IS department. IS staff would most likely have to play a central role in ER staff meeting and beyond. It is here that genre combinations are discussed and if meeting participants cannot judge what types of combinations are realistic they are likely to get dismissed without much considerations. The involvement of IS staff, however, would require major organizational changes in the relations between the IS department and the rest of the hospital. In the present hospital, the IS staff live in a trailer literally at the fringes of the hospital grounds. They could not have been more marginal to the daily workings of the hospital and its many genres and genre combinations. In summary, genre combinations may add to system designers’ understanding of what makes some systems successful and other failures. Genre combinations offer a window into organizational members’ daily work practices and could offer clues to how a new system may interact with those established practices.
6. Conclusion

In this study, I have identified two types of genre combinations that the ER staff used to enact their communicative activities: genre combinations through sequence and accumulation. These combinations were derived from routine work practices among the staff members in an ER and all stood out as central to their daily communication and coordination. Several implications emerge out of these findings. First, genre combinations allow us to study how organizational members manage to balance the tension between, on the one hand, a need for broadly recognized and established genre expectations, and on the other hand, a need for flexibility and continuous adaptations of a genre system to an evolving environment. For instance, genre combinations allow us to understand how and why a genre can be associated with more than one purpose as suggested earlier by Miller [11]. Secondly, studying genre combinations further our understanding of the intricate relationship between genres and their materiality.

The notion of genre combinations may serve as an analytical device when examining the affordances and constraints of new or emergent digital media. Here, a comparison with existing or past genre combinations in a particular organizational setting may offer valuable insights to the feasibility of future designs. The importance of genre combinations and their materiality stretch into organizational design and the implementation of digital media. A materiality of a particular genre or media should not determine the spectrum of possible combinations but should be seen in relation to the other genres employed by a discourse community and the technical skills and organization of the discourse community.

7. References