Dentist Patient Relationship: A Cultural Historical Theoretical Approach

by

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Dental Surgeon, Universidade Federal de Santa Maria, Brazil, 2003

A Thesis submitted in Partial Fulfillment of the
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ABSTRACT

This thesis is about ethics in the dentist-patient relationships. Using cultural-historical activity theory and discourse analysis as theoretical and methodological frameworks, I investigate (a) how ethics emerges in dentists’ discourse when they talk about dental-patient relationships; (b) how dentists deal with conflicts that emerge in their interaction with the patients; and (c) how a dental clinic is organized and works on a daily basis. I also discuss the implications of a theory of unknowability of actions for dentistry practice. My database is composed of dentists’ narratives during videotaped interviews, and an ethnographic study in a private dental clinic in Canada. I conclude that ethics is embodied in the dentists’ actions; that the development of phronesis helps dentists to solve conflicts in the workplace; and that the trajectory of the dental treatment is conducted in states through a complex division of labor and often in more than one activity system.
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Chapter I

Introduction
In this chapter I (a) briefly present my personal motivation for engaging in this research; (b) outline the three studies and the discussion paper that constitute this thesis; (c) provide definitions of important terms used throughout this thesis; and (d) provide a glossary containing brief descriptions for some important concepts for the purpose of assisting readers unfamiliar with the theoretical framework that undergirds this thesis.

1.1. Personal Motivation

The research program I developed over the last two years, the results of which constitute this MA thesis, emerges from my personal experiences as a dental student. Being a student of dentistry allowed me to see patients in empathic ways, as individuals who needed special care to relieve their pain and suffering. Although many of my peers may have seen patients as mere objects of their learning, I was always driven by the patients’ emotions and personal problems that caused their dental disease.

During my undergraduate studies, I noticed that my dental school was mainly concerned with teaching the technical aspects of dentistry. For example, we were taught how to do dental implants or how to do dental veneers; but little attention was given to the social and ethico-moral aspects of dentist-patient relationship. I took courses about how to relate to patients and about how to understand dentistry as part of a broader society. But even here, in my opinion, the time amount allocated to these courses was minimum and our discussions in these classes were limited to the role of dentistry in the society and not specifically in the relationship between the dentist and the patient. However, these courses taught me about social problems in dentistry and how dentists have to see their patients more broadly, from a sociological point of view, which was enough to raise in me an interest in social dentistry. I was being driven by an important
topic. I knew that I needed to know more about social dentistry and how educational related topics concerning social dentistry should be taught to dental students.

When I finished my undergraduate degree and I moved to Canada, I began to read an increasing number of articles about dental education. I found that there was an emphasis on the shortage of dentists who are specialists in educational related areas, such as, for example, curriculum studies, to teach at the various dental educational institutions in Canada. Reading those articles, I also became aware of the importance of ethics in dental education, a topic which dentists currently are not pursuing to a sufficient degree in the graduate programs throughout Canada and worldwide.

The decision to do an MA in education did not come to me without challenges. Admittedly, when I decided to do my MA program focusing on education and ethics, some of my friends told me that I would lose my skills as a dentist and forget everything I have learned (they were referring, obviously to the technical knowledge associated with dentistry). Such comments hurt me, especially because (a) I already was nervous about conducting research in an innovative area in dentistry and (b) I would be studying in a different faculty, in a different country, where English was my second language. My friends did not know that doing an MA in this area would allow me to be a better dentist; I thought that I would be able to understand my patients in a broader way, a way that was not taught to me at dental school. From the beginning of my MA I understood that I was one of the few dentists breaking and crossing boundaries between two different disciplines (education and dentistry), and that boundary crossing would be necessary to improve dental education in the future and it would also provide me with a better understanding of dentist-patient relationship, a topic that every dentist should know.
1.2. Outline of the Studies

In this thesis, I present three distinct yet interrelated empirical studies and a discussion paper that deal with this important and under-investigated topic in dental education. These studies were or will be presented at international conferences and were or will be submitted for publication in renowned peer reviewed journals. The three empirical studies and the discussion paper present in this thesis deal with the topic of ethics in dentist-patient relationship.

In my first study, “Ethics in the Mouth: Features of Discourse in Dentists’ Talk about Critical Incidents in their Praxis,” I analyze videotaped interviews with dentists, identifying patterns in the dentists’ narratives about critical incidents that have occurred in their practice. Through a microanalysis of the dentists’ speech, I identified discursive features (micropatterns) that happened more frequently when the interviewees are talking about possible ethical problems that have happened in their practice. These micropatterns include shifting agency (stance, footing), pauses, broken sentences, and verbal markers of uncertainty. Grounded in cultural-historical activity theory, I discuss how ethics is embodied, becoming an inherent part of actions elaborating on the notion of language as action performed within an activity system (the interview).

The second study, “Ethics in Dental Practice: An Activity-Theoretical Perspective,” investigates the transitions practitioners undergo when they move from dental school to their job in a dental clinic and their learning in the workplace. I analyze dentists’ use of ethical principles as they engage in practice providing a theoretical explanation for the gap they experience when moving from the school to the workplace. The data for this study is comprised of videotaped interviews with dentists. I analyze this
data following the principles of *Interaction Analysis* using cultural-historical activity theory to analyze patient-dentist relationship as presented by the interviewed dentists in their narratives about dental praxis. The results of this study show that dentists can and do learn ethical principles when working in their dental clinics and interacting with patients. My findings and the implications derived from them are of especial interest for curriculum planning and development in educational institutions. I suggest that theoretical discussions *about* ethics are not enough to provide practitioners with the skills necessary to work ethically when interacting with patients. From these findings I suggest a complementary approach to teach ethics in dental schools.

The third study in this thesis is concerned with the complexity of division of labor in a dental clinic, specifically, and the complexity involved in the dental treatment, often requiring multiple visits to multiple offices, more generally. In “An Ethnographic Study of Dental Practice,” I analyze the complexity of the dental clinic activity system and how members of this activity system relate to each other and with other different activity systems (different dental offices). The dental clinic (dental office)—though it appears to be similar to the activity system of the dental school—differs from the latter in various aspects. I analyze one clinical case that happened during my observations in my ethnographic study and I use cultural-historical activity theory to understand how conflictual situations between patients and dentists can arise in the activity system of the dental clinic.

In chapter 5, I present a theoretical discussion paper entitled “The Unknowability of Actions and the Development of Phronesis in Dentistry Practice,” which presents a theory to explain the relation between intended and situated action. This theory, which
derives from dialectic of actions and operations, explains why we cannot know an action while it is being performed—because the action is composed by unconscious elements called operations. Therefore, dentists cannot anticipate the outcomes of their actions with any degree of certainty. I began the paper articulating the activity-theoretical framework and explaining why actions cannot be known until after they are completed and then I describe the results of my research on the development of practical wisdom in dental practice according to this approach. I end this discussion paper by outlining some implications to dental education and dental practice, including the responsibility of the dentist from a legal point of view.

These four chapters, although representing different stages of my research endeavor during my MA program, are interrelated and, consequently, they collectively have implications for dentistry in general, and dental education in particular, which I articulate in chapter 6.

1.3. Theoretical & Methodological Frameworks

Throughout this thesis, various concepts are used which bear crucial importance for understanding the focus of my theoretical background. In this section I provide a brief sketch of the key concepts used in some or all of the studies that constitute my thesis. More detailed descriptions are provided in the four chapters.

1.3.1. Cultural-Historical Activity Theory

This thesis is grounded in a theoretical approach that takes "activity" as its smallest unit of analysis. Cultural-historical activity theory (Engeström, 1993; Leont’ev, 1978) enables me to analyze action and interaction inside an entire activity system. Activity theory states that the smallest unit of analysis, in which the subject participates,
is the activity. The activity includes not only the subject (i.e., the individual or collective subject that acts) but also the object (i.e., the motive that drives the activity), and, most importantly, all the factors that mediate the relationship between subject and object (e.g., community, tools, rules, division of labor) (Figure 1.1).

![Diagram]

Figure 1.1. Represents a dental clinic as an example of the smallest unit of analysis in cultural-historical activity theory.

Applying cultural-historical activity theory to the analysis of work in dentistry, I can take what happens in a dental office as an entire activity system where actions are directed towards the object. In an ethical dental office the dentist, the patient, and all the dental staff who relates with the patient collectively make part of the subject. The particular form of realizing a dentistry activity system (e.g., doing a root canal in a patient) is driven by the object (the dental treatment); this activity is completed by means of a series of goal-directed actions. Here, the transitive relation between subject (dentist, patient) and object is irreducible, as are the various mediating relations involving other aspects of the activity system. For example, the division of labor mediates who does
what: the dental staff effects the patient's appointment; the patient chooses among treatment options (root canal); and the dentist works on the tooth to get at the tooth pulp chamber. This latter action is driven by the goal of clearing access for removing the infected part of the tooth (the pulp). Subsequently the collective subject continues with other goal-driven actions to try to achieve the outcome of the activity (the patient's health).

In activity theory the aspects of the system mediate the relationship between subject and object—but these aspect cannot be thought independent of the activity that in fact defines them. For example, dentistry tools are one of the aspects that mediate the activity; in the case of a dental clinic, the tools include the dental instruments used to perform a root canal treatment or the patient's chart where information in form of written text is stored for future use. Moreover it should be noted that every activity system has its own rules; in the case of a dental office, the rules governing it are the code of ethics and the professional standards that dentists and other members of the activity system are held to. The relevant community includes any person who would have interest in the object (dental treatment), such as for example, the patient's family, other dentists, lawyers, etc.

A dental clinic, as any other activity system, has a division of labor, which implies a horizontal distribution of tasks among the various participants in the activity, that is, different members of the dental office, such as dentists, dental assistants, and dental hygienists; but it also includes the patients from whom specific actions are required for the dentist to be a dentist. In addition to the horizontal division of labor, there are also hierarchical divisions along the lines of power and status, with responsibility and decision-making distributed differently in the activity system.
In this way all the elements of the activity system must be analyzed in relation to one another, as they *mutually* constitute each other. Thus, the dentist and the patient mutually presuppose and define each other: they have to collaborate *as* patient and *as* dentist and therefore *reproduce* their respective roles to make anything like a dental treatment work. The main interest in cultural-historical activity theory is the relation of the acting subject to the object of its actions. In cultural-historical activity theory there is a differentiation among activity, actions and operations. Actions are performed consciously and toward a goal, but they are made up of operations, which are unconsciously performed and, when properly sequenced, form an action. Actions and operations therefore presuppose each other. The same presupposing relation binds actions and activity. Thus, actions presuppose the activity that they bring about, they are designed to realize the activity—a dentist acts in the way she does because dentistry is concerned with providing dental health. But the activity of providing dental health presupposes the actions; a dental health system only exists in and through specific actions that realize it. Therefore to understand an action performed in one activity it is necessary to take in consideration all the elements that mediate the relationship between the subject (the agent of the action) and the object (the motive that drives the action).

1.3.2. Discourse Analysis

In this thesis I use discourse analysis as method for analyzing and interpreting the videotaped interviews that I conducted with dentists. Discourse analysis is a method to investigate *how* people talk about something rather than (exclusively) to reveal *what* they are talking about. The method therefore focuses on the analysis at the discourse level and not on the content level of the narratives (Bavelas, 2002). Studies in discourse analysis
focus on the way people narrate their experiences, examining the ways beliefs are organized, produced and made intelligible to others (Roth, 2005). Discourse analysis was especially important during the analysis of my interviews, because it allowed me to focus on how the interviewees were talking, and go beyond what they were talking about.

1.3.3. Interaction Analysis

To conduct the analysis of this thesis I followed the principles of Interaction Analysis (Jordan & Henderson, 1995). Interaction Analysis is an interdisciplinary approach to investigate the interactions of human beings with each other and with their objects in their environment. Following the principles of interaction analysis, the data is analyzed both individually and collectively for the purpose of generating hypotheses about the meaning of events observed. To get me started, and to ascertain that my analysis meet the highest scholarly standards, I periodically engaged in collective analysis together with my supervisor. I watched segments of the interviews with my supervisor or other members of our research group. As soon as someone sees something interesting in a videoclip or in an interview transcript, we discuss the episode or segment until nothing more remains to say. In this way, we generated assertions that I later confirmed or disconfirmed as I went through the entire dataset that I had collected. This collective analysis is a powerful tool to neutralize one’s preconceived notions as an individual researcher, insofar as it minimizes the researcher’s tendency to just see what they are conditioned to see or even what they want to see. In this way, assertions are grounded in events and the transcripts objectively available to a group of people. Interaction analysis therefore is consistent with the assumption that knowledge and action
are fundamentally social in origin, thus knowledge is not seen as located in the heads of individuals but as situated in the social interaction that is happening.

1.4. Glossary

To further assist the readers of my thesis, I prepared a glossary where I briefly describe important concepts that I used in my thesis.

**Confidentiality** relates to human research ethics. When the term is used it means that the identity of the research participants is known to a limited number of researchers who will not reveal any information about the participants including their participation. The term is sometimes confused with anonymity, which means that the identity of a research participant is unknown even to the researcher himself.

**Code of Ethics** are the standards that members of the dental profession should follow when practicing dentistry. Usually the national dental association of each country writes the code of ethics as an ongoing dialogue with the society, therefore the code is subject to revisions and changes through time. Although ethics and law are related, they are not the same; ethics is related to moral principles that the dentist must answer for.

**Data** is a material used to support a research claim, that is, the data used in my thesis to support my theory consists in the excerpts I clipped from videotaped interviews with dentists and fieldnotes and observations from an ethnographic study in a dental clinic. Data are to be distinguished from *data sources*, a term used to denote the materials from which data are constructed. A videotape or an interview transcript constitutes a data source.

**Dialectical relationship** When two entities have a dialectical relationship it means that they mutually presuppose each other, that is, they just exist because of the
existence of the other. For example, activity and actions have a dialectical relationship, that is, an activity just exists because there are actions, but actions just exist because they are made to perform an activity. To provide another example, dentist and patient mutually presuppose each other because of the particular place they take in the transitive relation in which one treats the ailment of the other.

**Discursive features** are the micropatterns I identified as moments in which ethical issues come to be indexed prior to the speaker’s conscious awareness, these micropatterns were used more often by the interviewees when they are facing conflicts. I identified different discursive features used in these situations; they were shifting agency (or footing), pauses, broken sentences, and verbal markers (words) of uncertainty.

**Ethics** is a branch of philosophy that tries to understand the nature of morality, analyzing right actions from wrong actions. In this thesis the term ethics is extensively used. When I talk, think, and write about ethics of dentist-patient relationship I imply an association with the term “responsibility.” Through a cultural-historical activity perspective, the action a dentist performs inherently has an ethical component, that is, actions produce a chain of reactions in and through others. In this sense, actions always are accompanied by responsibility.

**An ethnographic study** is a study where the researcher does a description and interpretation of the social group studied observing the behavior of the group members. The ethnographic study is realized through participant observation in which the researcher spend a time in the field to understand how are the daily actions of the group observed, studying the meanings of behavior, language and interactions of the group. In
this thesis, the field where I conducted my ethnographic study is a dental clinic where a
general dentist works everyday.

Fieldnote is any kind of note the researcher produces during the beginning of a
research project. Three different types of fieldnotes were used in this thesis; observational
fieldnotes, which I collected during the period spent in the ethnographic study; and
theoretical fieldnotes where the notes had comments on theoretical aspects related to the
situation being observed; and methodological field notes where the notes related to the
research design of the project.

Learning takes place when there is a change in forms of participation or
expanded opportunities for action. Learning depends on the activity, context and culture
in which it occurs. Learning depends on the social interactions that the student or person
is facing, that is, learning is not taken in abstraction of the context and it is not
intentional. Rather, learning is situated in the activity in which the participant belongs,
that is, learning arises out of individual and collective activity. It is recognizable,
Describable, and subject to theorizing in and as changes in a person’s patterned ways of
acting.

Practice is a patterned form of action, not as it is lived but as articulated and
described through narratives. For example, when the interviewees narrate the actions they
performed in their workplace, during videotaped interviews, they are telling me examples
of their practice.

Praxis is the lived work and experience of engaging in forms of human activity,
that is, the doing of work and the living of life.
Responsibility may be understood in two different spheres, the juridical one and the moral one. It can be said that law limits our obligation, because sometimes we are responsible for only what we do—not for what we should do or could have done (Fletcher, 1966), that is, “in civil law, responsibility is defined by the obligation to make up or to compensate for the tort one has caused through one’s own fault and in certain cases determined by law; in penal law, by the obligation to accept punishment” (Ricoeur, 2000, p. 11). The term responsibility goes beyond the limits established for its juridical use: “you are responsible for the consequences of your acts, but also responsible for other’s actions to the extent that they were done under your charge or care, and eventually far beyond even this measure.” Moreover, in being morally answerable for what we initiate, we are responsible for the situation in which we find ourselves (Levinas, 2004). We are responsible for the process that goes beyond the limits of our foresight and intentions, and that carries on even when we are no longer present there. In this sense, my analysis of the interviewees’ narratives, for example, takes into consideration this ethical dimension of responsibility.

Unconscious means that something is “not consciously, intentionally reflected upon,” or “unpremeditated,” “unplanned” performances. Of course, a person may become aware (consciously aware) of these performances as soon as they have performed them. We can change gears without having to think about moving the stick shift (thus, unconsciously); but when we learn to drive a manual car, moving the stick is done consciously.
Chapter II

Ethics in the Mouth: Features of Discourse in Dentists’ Talk

about Critical Incidents in Their Praxis
2.1. Introduction

Many professionals in the service industry, because of their interactions with others, face an inherently ethical component in every single action; even during videotaped interviews about their praxis, these persons may feel their ethical responsibility. In this study I interviewed dentists and I found that their speech is characterized by ethical and moral principles while they were talking about difficult situations that happened in their clinical practices. Analyzing the way that the interviewees narrated difficult moments and the actions they have taken, I found that there are particular micro patterns in the way dentists produced their narratives. The micropatterns (discursive features) typically included shifting agency (or footing), pauses, broken sentences, and verbal markers of uncertainty. The purpose of this paper is to contribute to an understanding of the production of communicative action in the process of talking about what was difficult in human-human interaction, here represented by ethical issues during dentists’ clinical practice.

In his non-reductionist approach to cognition, Maurice Merleau-Ponty (1945) noticed that language does not express a thinking that is closed within itself but rather constitutes the subject’s taking of a position in a world of significations. The entire body generally and the phonetic gesture specifically realizes, for the speaking subject and those that listen, a particular structuration of experience, a particular modulation of being, investing the surrounding world with signification. I begin this paper with this fundamental assumption: when persons talk they take an orientation with their whole being to produce explanations of the narrated events; this situation is also true when a person talks during videotaped interviews. In my analyses of dentists’ talk I noticed that
when they talked about difficult situations and moments in their own dental praxis some features of their discourse changed. That is, while talking, dentists take an orientation in the discourse when an ethical issue is encountered, and this orientation is represented by hesitations and concerns.

As persons take orientation during the narration of an event, Merleau-Ponty’s perspective leads me to expect these orientations to show up as features in the narrative of an event that is characterized by an ethical problem. These discursive features may demonstrate how difficult it is for persons to find an orientation in the episodes narrated, that is, a person will break the speech making pauses, shifting the agent of the action or will use verbal markers that demonstrate uncertainty, orienting him/herself during the narration of the event. Following David McNeill (1992) and Lev S. Vygotsky (1986), I expect these features to be integral to the communicative act: in the majority of time a sign of trouble or conflict is expressed through the use of these discursive features during the dentists’ narration. In a set of videotaped interviews with dentists, I noticed that the use of these features might attenuate the responsibility of the agent of the action during the event narrated.

The participating dentists were asked to narrate their experiences and relationship with patients during their professional clinical practice. From their narratives, I identified and analyzed all those instances that involved ethico-morally difficult situations; I found that these episodes were characterized by the frequent use of discursive features (patterns of words or sentences used on the interviewees’ discourse). The discursive features identified in this study are shifting agency (or footing), pauses, broken sentences, and verbal markers of uncertainty. The following excerpt provides a characteristic example of
a discursive feature. In Episode 2.1, Fraser, a dentist with two years of working experience, talks about his patients.

Episode 2.1:

01 F I had lots of, it is because I had lo-, it happened more,  
02 one of the biggest problems that we have there, it is that  
03 sometimes the patient, doesn’t does not understand exactly  
04 what you are saying, the patient wants something, and then  
05 you do not do exactly what the patient wants then he starts  
06 to make trouble, do you understand me?

In this narrative an ethical issue related to the dentist-patient relationship emerged in the conversation, that is, the patient’s understanding of the treatment options (lines 02–06). But how and why did this ethical issue appeared? When the problem (line 02) appears in the conversation for the first time, Fraser shifted agency from “I” to “we” (“I had lots of... one of the biggest problems that we have there “ [line 02]). This shift from “I” to “we” as well as the shift to “you” later on (“the patient, doesn’t does not understand exactly what you are saying” [lines 03–04]) is denoted by the term footing (Goffman, 1981). A shift in the agent of an action can be seen as a way to avoid having to take responsibility for something, in the narrative, in the ethical situation being presented.

In this chapter I am concerned with how “dental ethics” as a concrete realization of some (few) possibilities of the more general and abstract concept of ethics in dentistry emerges during interviews. I am interested in understanding how it can be identified in the deployment of discursive features. These discursive features are easily perceived during analysis as occurring more frequently when the interviewees are narrating problematic situations that happened during their practices. Far from implying that these discursive features constitute purposeful and conscious discursive strategies employed by
the interviewees, I use cultural-historical activity theory to explain the emergence of these discursive features as features that happen unconsciously within the interview setting, which I consider as an entire activity system. Thus, I interpret the abundant use of these discursive features as instances in which the interviewees embodied the inherent situated ethical component present in each action (Bakhtin, 1993), including speech, which I here consider as a form of thought (McNeill, 1985).

2.2. Theory

In this study I am concerned with the identification of micropatterns (discursive features) that occur when dentists narrate episodes from their praxis in which they identify some ethical problem. I draw on cultural-historical activity theory as a general framework for articulating my account, because this theory clearly correlates the sense of (discursive) actions with the current activity in which human agents are involved—the sense of an utterance during dental praxis therefore may differ from the sense of the same utterance during an interview because of the different object-motives of the two activity systems, dental praxis and interview. In this study I analyze face-to-face interviews involving two persons, the interviewer and the interviewee, both dentists, who presumably know the ethical aspects of dental practice from similar perspectives.

When two persons talk, one of them will articulate thoughts and express feelings whereas the other listens (Goffman, 1981). The listener is not passive but actively responding to the speaker, forming an understanding of the talk as it unfolds, making the unfolding understanding available through “back channeling” (Bavelas, Coates, & Johnson, 2000). Thus the unfolding talk is a collective achievement involving both participants. Moreover, in this interaction the role of the speaker and the listener is
interchangeable, and there are some aspects in the conversation that are unperceivable by others, that is, the speaker and the listener produce and reproduce the same (form of) activity. This common orientation is not accessible to an outsider insofar as there are previous events and actions that unfolded during the conversation that were available only to the participants. Also it is expected that while speaking, the person uses the rule of sincerity, where the acting subject will mean what he or she says and thereby contribute to establish public discourse on a basis of trust (Ricœur, 2000). The analysis of the speech therefore allows me to understand how interactions produce and reproduce complex social world. That is, the way in which the interviewees use their discourse provides me with clues to the sense of their actions (speech acts), here connected with an ethical component.

Discourse analysis constitutes a method to investigate how persons talk about something rather than exclusively focusing on what they are saying, that is, allows me to analyze the form in addition to the content of talk (e.g., Bavelas, Kenwood, & Phillips, 2002). In this way I can arrive at an understanding of the situated nature of talk and how talk is adapted to the particulars of the (form of) ongoing activity that participants produce and reproduce. This is important because participation does not have to be made thematic in the discourse so that it would escape, for example, traditional conversation analysis. In fact, articulating that one is participating might be considered inappropriate because it is a fact that goes without saying (Garfinkel, 1967). Some sociologists, therefore, have taken issue with conversation analysis suggesting that it does not and cannot get at those issues that determine an activity from the outside (Smith, 1990). Employing discourse (and conversation) analysis within the broader approach that also
theorizes each situation as part of societally mediated activity allows me to bridge what sociologists dichotomized as micro- and macro-approaches (Roth, 2005). Cultural-historical activity theory is one such theory that allows me to analyze interviewees’ speech as contextualized within the interview (talk-in-context), helping me to understand not only what is narrated, but also why the narration was produced in a certain way.

In cultural-historical activity theory, societally motivated activity constitutes the smallest unit of analysis, to which utterances and other forms of communicative actions are subordinated (Leont’ev, 1978; Rossi-Landi, 1983). An activity includes not only the subject (i.e., the individual or collective subject that acts) but also the object (i.e., the motive that drives the activity), and, most importantly, all the aspects that mediate the relationship between subject and object (e.g., community, tools, rules, division of labor). The activity system as a whole is the smallest unit of analysis so that its various aspects cannot be understood as independent elements as they mutually presuppose and constitute each other. Thus, the object of an interview is the production of an interview protocol (recorded and transcribed talk). There is a clear division of labor so that participants acting in ways inconsistent with this division are accountable: When physics professors invited as experts on graphing begin to ask whether the information they provided is correct, then they also have to account for the fact that they asked such a question (Roth & Middleton, 2006). That is, the relation between the interviewer and the interviewees is mediated by rules (e.g., those governing face-to-face communication) or by the division of labour (the interviewer is expected to ask all the questions, the interviewee to produce answers).
An activity mediates the goal-oriented actions that realize it, but, at the same time, only actions realize the activity. The two levels of analysis therefore are dialectically related. Similarly, unconscious, contextually determined operations realize actions, but actions provide the conditions that determine the operations. That is, the relation of action and operations is dialectical because the two terms presuppose each other. Therefore, the way in which interviewees answer an interviewer’s questions makes sense only inside the activity system of the interview. I interpret the interview as a complete activity system where the interviewees’ narratives make sense only when I take into consideration all of the elements that constitute this social activity.

2.3. Methods

This study is part of a larger ethnographic research program concerned with the transition dental practitioners undergo when they cross the boundary from dental school to the workplace. This study contains videotaped interviews with dentists and a nine-month ethnographic study of the daily practice of a busy dental office, mainly following a dentist around during his practice with patients to understand the ethics in his decision-making. In this chapter I focus on the videotaped interviews with dentists and its respective transcripts. I am not concerned with the degree of consistency these narratives have with the events narrated, which I take to be an empirical matter. I analyze the interviewees’ speech, identifying the features in the interviewees’ discourse associated with moments in which they talk about critical, ethico-morally difficult moments of their dental praxis.

Therefore, the database for the present study consists of individual videotaped interviews with seven dentists who have different levels of practical/clinical experience
that ranges from having recently graduated to decades of working experience. The participants were chosen on a first-come-first-serve basis following a call for participation. The interviews were structured in a way that allowed the participants to produce their life narratives (Polkinghorne, 1988), where they had the opportunity to talk about particular experiences related to dentist-patient relationships. This format allowed participants to express themselves to the extent that they thought the topic required. Each interview lasted about one hour. All interviews were transcribed and the transcripts became part of my database. The transcripts were edited for anonymity, with alterations to proper names (individuals, cities, countries) that appeared in the accounts.

To conduct my analysis I followed the principles of *Interaction Analysis* (Jordan & Henderson, 1995), an interdisciplinary approach to investigate the interactions of human beings with each other and with their objects in their environment. Following the principles of this method, the data is analyzed both individually and collectively. During the collective analysis, a group of interested analysts participates in generating hypotheses of the videotapes and transcripts; in the present instance, the initial analysis sessions involved the other members of my research laboratory. We watched the interviews and read the transcripts commenting on everything that one considered interesting; in this way, we generated assertions that I subsequently confirmed or disconfirmed through further viewing of my data. This approach allows me to neutralize preconceived notions that I have, insofar as it minimizes any tendencies for confirmation bias.
2.4. Discursive features

In talking, a speaker takes an orientation and stance, which is reflected in the form and content of what is being said (Merleau-Ponty, 1945). It might be assumed that particular features in the form and content of talk are present when the topic of talk concerns ethically difficulties—lie detectors precisely exploit this situation, whereby telling a lie is assumed (as in courts of law) to bring about measurable physiological changes in the speaker. After identifying moments during interviews where dentists talk about difficult moments, I noticed four discursive features that the participants used in these situations: shifting agency (or footing), pauses of 0.3 seconds or more, broken sentences, and verbal markers of uncertainty. In the following subsections, I provide descriptions of these micropatterns. Interviewees usually use more than one discursive feature simultaneously when they are narrating possible ethical conflicts; thus pauses, for example, occurred in 97 percent (average) of all ethical episodes narrated by the interviewees (Table 2.1). The other patterns appeared less frequently, but in any case with a frequency of 58 percent or more.

Table 2.1. Frequency of different discourse features during ethically charged talk for 7 speakers

<table>
<thead>
<tr>
<th>Number of episodes</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pauses</td>
</tr>
<tr>
<td>54</td>
<td>97</td>
</tr>
</tbody>
</table>

2.4.1. Crafting Answerability

When the interviewees face a conflict during the narration of their previous actions as practitioners, they make use at times of an alternative discourse that enable them to distribute responsibility among the members of the social situation they are
narrating. This kind of discourse may be described as “delegated discourse” where the speaker re-presents “others,” including him/herself making the responsibility of the discourse distributed among persons present in the social event that they describe (Argenter, 2006). In my interviews this delegated discourse occurs, for example, by means of a shift in agency. Shifting agency or footing (Goffman, 1981) occurs when the interviewees change the agent of the action. This occurs, for example, in the change from first person pronoun in the singular to first person pronoun in the plural (i.e., “I” to “we”,”) or from first person pronouns in the singular or plural (“I” or “we”) to second person pronoun (“you”). In the latter case, where the speaker is not represented among the ones involved in the situation, the discourse also is denoted by the term “surrogated discourse” (Argenter, 2006). In this paper I use the term “shifting agency” for both types of situation. Shifting agency is exhibited in the following episode¹, featuring Monica, a dentist with 2.5 years of experience as a general practitioner, talking about her job at a university hospital.

**Episode 2.2:**

01 M With the patients at the university hospital (1.84) it’s like
02 [nationality] patients so they kind of believe (0.81) and
03 respect the dentist so I don’t have (0.86) problem working
04 there the only problem is that (1.12) we had to work (0.83)
05 hard and (0.45) we spent only half an hour per one patient-
06 I Uh hum.

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¹ The following transcription conventions have been used:
(1.84): The length of the pauses in seconds is numerically represented between parenthesis;
[Nationality]: Bracketed words constitute substitutions to maintain confidentiality;
lo-: The n-dash “-“ signals sudden stop of talk;
(...) Transcript edited for analysis purpose;
I: the capital “I” stands for the interviewer’s speech whereas the capitalized first letter of the interviewees’ names (for example, “M”) stands for the interviewee’s speech.
In this episode, Monica describes a situation that she experienced as problematic ("the only problem is that" [line 04]). She tells her interlocutor that she does not have enough time to talk to her patients when she is working at the university hospital. She further explains that she only has 30 minutes to work on each patient (line 05); that period of time is not sufficient ("which is not enough" [line 07]) to talk and treat a patient in the way that she would like to. In this situation Monica reflects about her actions enacted at the university hospital, realizing that she has not spent enough time with her patients, which she considers to be a problem.

The potential ethical problem involved in Monica’s situation is that when a dentist has to work too fast with the patient, dentists will not have enough time to explain to patients their oral health problem. When patients do not understand their oral health problems they are not in a position to choose the best treatment options available for them. Therefore, they will need to rely on the dentist’s opinion about the best way to deal with their own oral health problems. Dentists need to explain to their patients their oral health status placing the patient as one of the acting subjects in the activity system, making sure that their patients understand the options available for them. When dentists
do not have time to talk to their patients and explain to them their problems and possible treatments, they alone may decide what is best for the patient, thus objectifying the patient. This can infringe the patient’s autonomy, constituting a potential ethical problem.

Analyzing how Monica describes her past actions, that is, an analysis at the discursive level, I notice that Monica shifts agency from an account in which she talks about herself (“I”) to one in which she talks about the staff as a whole (“we”): “so I don’t have problem working there the only problem is that we had to work hard” (lines 03–04), emphasis added. That is, at the content level she describes a problematic situation (“the only problem is that” [line 04]), and at the discursive level she shifts agency from “I” to “we” (“we had to work hard” [lines 04–05], “so we cannot talk much with the patients” [lines 07–08], “we had seven to ten [patients] in the morning per dentist yeah and we had like eleven dentists” [lines 14–15]). This shift of agency could imply that the problem Monica is describing is not her problem alone, (“I don’t have problem working there” [lines 03–04]), but a general problem at the collective or institutional level (“the only problem” [line 03]). She speaks of a problem in a neutral way, as an isolated entity that is not directly dependent on her actions. There are constraints on her job (“we had to work hard” [line 04]) that generate the problem.

From lines 10–15 Monica justifies her action of not spending sufficient time with her patients. She says that every morning they have a queue of persons to be examined (“every morning they lined up in queue” [line 10]) and they had to work with “seven to ten in the morning per dentist” (line 14), that is, she suggests that the problem derives from sources other than her actions. Every morning the dentists at the university hospital are confronted with a line-up of patients to be examined; it takes time for those patients to
go to the hospital for their dental appointment, and sometimes patients can spend hours just to get a dental appointment. Thus, the dentists have the option to work on an excessive number of patients per morning, instead of sending the patients home without the required or desired dental care. This option, however, implies that the dentists spend less time talking to patients, because they have more patients that need dental treatment.

Among all the ethical problems identified in all of my interviews, a shift of agency appears in 75 percent of the ethically charged episodes and there is a variation of appearance across individuals. For example, one interviewee shifted agency in 9 of the 10 ethical episodes narrated, but another interviewee shifted agency in 28 percent of episodes; the latter dentist did not usually use shifting agency when he narrated ethical or non-ethical episodes. In the database, shift in agency occurred about seven times more frequently when the interviewees talk about a possible ethical problem than when they narrated other events in which ethical conflicts are absent. In the clear majority of instances, therefore, when there is a narration of an ethical conflict, shifting agency is present in the discourse: narrations of ethical conflict in dental practice are characterized by the presence of shift agency.

2.4.2. Stop, be Aware, Continue the Trip

Pauses constitute a second discursive feature identified in this study. A pause is defined as a temporary break of speech or as a period of silence between words, which is not perceived as a natural pause in the rhythm of the conversation. Pauses that are expected in the sentence, such as pauses that correspond to the end of an utterance are not counted here. Rather, the pauses I included here as discursive features occur in the middle of an utterance, where a comma would not usually exist. These pauses indicate, for
example, the interviewees’ uncertainty about how to answer the interviewer’s questions. As participants speak at different rates, to make the pauses comparable across participants—a 0.50 second pause for a slow speaking person appears smaller than the same pause for a very fast speaking person—the criterion I used to count pauses was based according to every interviewee during the interview. Therefore a pause is relative according to the interviewee analyzed, that is, the time length of a pause in one interviewee who speaks fast may not be a significant time length of a pause for an interviewee who speaks slowly. Pauses occurred in nearly all episodes. I return to episode 2.2 to articulate how pauses were deployed during talk about ethical issues.

In line 03, Monica explains that she does not have problem working at the university hospital. After uttering, “have,” she pauses for 0.86 seconds before continuing the sentence (“I don’t have (0.86) problem working there”). That is, she interrupts her discourse flow by pausing, hesitating and reflecting about what she is narrating. The presence of a conflict is evident in her hesitations; she makes an abundant use of pauses that breaks the flow of her narration.

2.4.3. Un-finishing the Evidence

In my analysis, the narration of ethical conflicts is characterized by restarts with new topics without completing the previous utterance; I denote this instances as “broken sentences.” That is, the participants do not finish the logical sequence of the first sentence, creating a break in their discourse. In my database, these breaks generally are followed by a pause. Consider episode 2.3. In this episode, I asked Matt, a dentist with eight years of experience, how he felt when using technical language to explain the treatment options to his patients.
Episode 2.3:

01 I And did you feel better when you talked like this?
02 M I feel yeah.
03 I In that time?
04 M And perhaps (0.44) no (0.88) let me see I felt better (0.6)
05 it could be- I felt more professional, uh more (0.99) dentist
06 because I was using words that perhaps no one else would know
07 (0.48) but I also was sinning because I was using a word that
08 the patient was not understanding at all

Matt explains that he felt “more professional” (line 05) when he used technical language to communicate with his patients, but he acknowledges that he was “sinning” (line 07) because the patient did not understand anything (line 08). He reflects on his past action, understanding that the effect of the action on the other (the patient) has not achieved the desired outcome (i.e., the understanding of the treatment option). I observe an example of a broken sentence when Matt says, “And perhaps, no let me see I felt better it could be” (lines 04-05). He does not finish the first sentence (“and perhaps” [line 04]), which is thus considered a broken sentence. In fact, Matt immediately denies what he started saying, before actually articulating it (“no” [line 04]). He then repeats the interviewer’s assertion in a lower volume of voice (“I felt better” [line 04]) and starts a new sentence, “It could be- I felt more professional” (line 05).

Broken sentences also happen when the participants are not talking about ethical conflicts, but when they narrate an ethical episode 80 percent of these episodes were characterized by the presence of broken sentences. The use of this feature was two times more frequent when interviewees describe ethical situations than when they described non-ethical situations, allowing me to include broken sentences as a characteristic
discursive feature in the narration of ethical episodes. The use of this discursive feature also varied among the interviewees, for example, one of the dentists broke his sentences in all the ethical episodes while another broke his sentences in just 66 percent of his episodes.

2.4.4. Constructing our Speech Through Doubts

A fourth discursive feature in this study exists in verbal markers of uncertainty. I describe explicit verbal markers of uncertainty as terms that denote the participants’ lack of certainty. That is, when the participants are answering the interviewer’s questions, they may use terms such as, “let me see,” “I don’t remember,” “it could be,” “I guess,” “I don’t know,” “perhaps,” “maybe,” and “probably.” My analysis disregards implicit verbal markers such as “uh,” “right,” “yeah,” or “um.” The use of these verbal markers was found in 57 percent of all of the ethical episodes in all interviews, with variations across individuals ranging from 100 percent use to individuals who just used these verbal markers in 17 percent of ethically charged episodes. In some episodes, an increasing use of these verbal markers (over two times more frequent) was noted when the interviewees talk about conflicting ethical situations.

In Episode 2.3, Matt uses more than one discursive feature at the same time. In addition to broken sentences, and pauses, when Matt uses “perhaps” (line 04) he also uses a verbal marker of uncertainty, which denotes the reflective nature of the narrative. That is, the interviewees are narrating previous actions, but as they do so, they also re-evaluate their actions, which is evident in the lack on certainty with which they account for the facts in their narratives. When Matt says, “no, let me see, I felt better, it could be” (lines 04–05), he uses several verbal markers of uncertainty, which hints at the reflection on
how he is presenting the events to the interviewer. In this example, the presence of verbal markers of uncertainty, characterizes the narration of an ethical episode, that is, Matt faces an ethical conflict, which he is aware of, and then, as a result of this awareness, he unconsciously\(^2\) breaks his sentences more frequently.

2.5. Discussion

The results of my analysis show that there are certain discourse features that appear with higher frequency during instances when speakers talk about moments of their professional praxis that involve ethical difficulties. In this section, using cultural-historical activity theory, I explain how the discursive features emerged and became part of the interviewees’ speech, and, most importantly, why all of these discursive features appeared more often when the interviewees were narrating an ethical charged situation.

As outlined above, activity theory distinguishes three levels of events: activity, action, and operation. These three levels mutually presuppose and constitute each other. That is, activities are constituted by actions, and, at the same time, an activity determines the action performed, insofar as an action makes sense only within the activity system it constitutes. A similar dialectical relation exists between operations—which are performed unconsciously—and actions, which are conscious, goal-oriented performances within the activity. Operations are directly dependent on the context that condition them, that is, the actions and its goal. In this study, the interviewees’ narrations constitute (communicative) actions. The interviewees’ speech is not only a form of thought, a

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\(^2\) Here, it is important to clarify what I mean by “unconsciously.” From an activity-theoretical approach, the discursive features I describe in this study are performed on the level of operations, which are “unconsciously” enacted. I explain this point further in the following sections. For now, however, it may be sufficient to say that by “unconscious” I mean “not consciously, intentionally reflected upon,” or
positioning in the world, but is also an action, which at the same time is determined by
and determines the activity system. The activity system in this case is the interview,
whereas the discursive features I identified in this paper constitute operations.

When narrating events from their praxis, the interviewees' goal is to communicate
*something* (what the interviewer requested them) to *someone* (the interviewer). *What* they
intend to communicate is a function of the activity system (the interview), and so is *how*
they communicate it. Speech actions, however, are achieved through the performance of
operations (Leont'ev, 1971), in this case, words that form sentences, and prosody (how
they communicate it). Whereas the narration pursues a conscious goal, the choice of
words, their sequencing, and the production of the sounds that are heard as words are
performed unconsciously, determined by the current state of the unfolding
communicative act. Thus, it is unlikely that the dentists consciously choose to shift
agency or that they consciously choose to pause more often and to use words that denote
uncertainty. These features happened unconsciously but they are subject to be determined
by the current condition, including the general orientation that the speaker is taking
toward the event itself. It is also necessary to take into account the fact that the action
occurs within an activity, that is, the narration occurs during an interview. For instance,
when the interviewees stop their sentences and continue talking about something else,
this happens at a level not accessible to them consciously. As they become aware of the
ethical situation, their preoccupation expresses itself in the unconscious production of the
utterance.

*unpremeditated,* "unplanned" performances, although, of course, the person becomes aware (consciously
aware) of these performances as soon as they have performed them.
Analyzing the interview using cultural-historical activity theory in addition to discourse analysis allows me to understand why the use of discursive features happened more often when the interviewees were narrating an ethically, conflicting situation. Considering an utterance as an action subordinated to the activity system (interview) as a whole, the interviewee’s utterances are equivalent to tools that mediate the concrete realization of the activity. What is said is no longer evanescent, but it is permanently recorded and made concrete for future use and analysis. Therefore, the interviewees express responsibility not only in the action of narrating the events, but in the way in which they do so, as well as for the events per se, as these become collectively accessible through the interviewees’ narrative. Furthermore, at the very moment that the interviewees narrate these events, the preoccupation with the ethical issues expresses itself in particular discourse features. The nested hierarchy of activity theory allows me to understand how awareness of ethical issues is reflected in the unconscious production of utterances. Communication can be thought of as a form of action and a form of thought (McNeill, 1985), it demands responsibility from the speaker. Therefore an ethical dimension is inherent in and constitutive of speech acts; ethics is the condition for the possibility of speaking, or more accurately, of the “saying-beyond-said” (Ponzio, 2006, p. 192).

My analyses show that the interviewees produced discursive features such as shifting agency, pauses, broken sentences, and verbal markers of uncertainty much more often at moments in which they identify a potentially ethical problem than in other moments of their narrative. The narration of these ethical episodes is characterized by the use of the discursive features, and through their occurrence and within an activity-
theoretical approach I am able to understand how ethics is integral to speech acts that contribute to constitute activity systems (interview) that in turn motivate the actions (speech). This illustrates how language is used to construct versions of the social world that have relevance in and pertain to the current situation, i.e., the activity system of the interview.

However, I am careful not to imply a reverse direction of the claim that every time the participants use these discursive features they are facing an ethical conflict. Instead, I argue that when the participants narrate experiences that encompass an ethical dimension, they use these discursive features more often. As a counter example, consider the following episode, where Ronald, a dentist with 20 years of working experience, uses a discursive feature where ethics is not an issue in the situation.

Episode 2.4:

01 R yeah, I would say that the sss a a the most challenge job is
02 a receptionist job (...) because she has to deal with the
03 patient much more often then we do clinically so every
04 appointment that we have at the back with the patient she
05 might have to deal with him (1.15) you know four or five
06 times that (...)

In this example, Ronald shifts agency from “I” to “we” (line 03) and he makes a pause in the middle of his discourse (line 05), but in this case the shifting agency and the pause are not related to an ethical situation. Here the shift in agency is congruent with what Ronald narrates, that is, when he uses “we” he refers to his colleagues, as he works in a dental clinic with two other dentists. Similarly, when he pauses, Ronald in fact recollects a reasonable numeric frequency with which his receptionist has to deal with the patients (line 05). He does not denounce his responsibility in this situation, and the use of
the discursive features, which in other instances is present in conflicting situations, constitute nothing more than a requisite for the narrative.

However, when a potentially ethical conflict is embedded in the situation being narrated, the interviewees' discourse shifts and there is an increase in the use of discursive features. I recognize these as markers of an inherent sense for the ethico-moral nature of the situation. At the very moment they utter the words, dentists articulate their accountability, in the interview setting and for the interviewer or anyone else who may listen to the tapes, for the actions they may or may not have enacted during their practice, for which they are in the process of producing accounts. The videotapes provide a sense that the interviewees know at some level what was ethically right or wrong in the context of their practice, so much so that they are able to reflect upon their previous actions and their current action (narration). This is consistent with my notion that ethics is indeed embodied in the dentists' actions, even at the level of the narrative. What people do, their actions, any kind of action, is mediated by the elements in the activity that people are immersed in; therefore analysts should analyze interviews taken into consideration the entire activity system of the interview as well as its social components or contextual aspects.

The results presented in this chapter are useful for future research that uses interviews in the area of general ethics and discourse analysis, insofar as it provides analytic and theoretical tools that combined help elucidate why interviewees narrate their past experiences in a certain way. This study also contributes a new perspective through which researchers are able to understand how actions/narratives unfold and how new topics or ideas emerge in the interview setting.
Chapter III

Ethics in Dental Praxis: An Activity-Theoretical Perspective
3.1. Introduction

"University taught me little of what I needed to know in the classroom; most of what I learned was by teaching" (Middle school teacher). "This is possible in theory, but not in the practice of the classroom" (Middle school teacher in response to a university lecture).

Theoretical knowledge about some practice—including teaching, dentistry, nursing, and designing and building structures—generally develops after the practical knowledge of the practice has established itself for some time (e.g., Roth, 2002). In my introductory quotes, practitioners “complain” about the gap between the two forms of knowledge, which formal education in most fields is unable to bridge. Although dental education as education in other practical fields includes clinical practice, new practitioners experience a gap as soon as they move from their formal education into their first job. In this and subsequent jobs, the newcomers develop forms of knowledge that they were unable to acquire in the formal educational setting, not just because the training time is so short and crammed with things to learn but, as I suggest here, as a principal feature of the difference between formal schooling and everyday work. That is, as they move into the largely unsupervised workplace, newcomers cross a boundary, as indicated in the first quote. More so, when experienced practitioners return to formal education for some additional courses, they again undergo another boundary-crossing experience, as indicated in the second quote.

The purpose of the empirical case study reported here is to investigate the transitions practitioners undergo as they move from dental school to their job in a dental clinic and their learning in the workplace. My secondary purpose is to provide a
theoretical explanation that not only accounts for the currently experienced gap but also is fruitful in that it can be used to suggest viable alternatives to teaching approaches used nowadays to teach ethics to health practitioners. As I began to interview dentists and conduct observation in a dental clinic, the ethics of decision-making and of dentist–patient interactions became salient as dimensions where there are substantial changes as new dental practitioners move into the field. In this study, I am therefore concerned with the trajectories of development along which individual dentists develop ethical practice and the gap practitioners currently experience in this respect between their formal educational settings and the workplace.

3.2. Theory

3.2.1. Ethics in the Dental Curriculum

Dental ethics has been studied for some years now (e.g., Ozar & Sokol, 1994; Rule & Veatch, 1993), especially in its relation to the doctor–patient relationship (e.g., Charles, Whelan, & Gafni, 1999). Dental ethics courses are part of the curriculum of most dental schools, and recently there has been increasing discussion about the content and efficacy of these courses in changing students’ behavior (e.g., Koerber et al., 2005). In dental ethics courses, students learn important ethical issues related to patient care, such as, for example, patient’s confidentiality, information about risks and benefits of a dental treatment, patient’s autonomy, objective critique about the work of other dentists, and when to decline to provide a dental treatment for a patient (Jenson, 2005). However, there also have been suggestions that ethical courses are not successful in changing students’ behaviors (Bertolami, 2004), mirroring similar phenomena in other practical fields such as teaching (Roth, 2002). This may be due to the fact that dental ethics
courses focus on theoretical knowledge, or, even when based on case studies, these courses do not offer opportunities for the students to develop other types of knowledge that are intrinsic to dental praxis.

A recent review of teaching methodologies used in dental schools (Berk, 2001) revealed how ethics courses are taught in these institutions. One of the methods used is case-based learning, which provides students with opportunities to analyze "true patients' cases," intended to help them understand dental ethics from a more contextualized and concrete perspective. However, I argue that some of the cases used in schools are too obvious. A case description is inherently less complex than the praxis it indexes, and it is already structured in ways that give clues to the more or less correct way of dealing with the issues. When practicing in dental offices, however, dentists are constantly confronted with ethically ambiguous situations that call for immediate decision-making. In fact, in dental praxis events do not look like or explicitly call for ethics, which is embedded in the social and material configuration of the situation as a whole. The distinction I attempt to make salient is the same that exists between physics as known by a soccer player, who knows to pass the ball to the other soccer player despite rain, snow, and slippery ground, and physics as known by the physicist. In the first case, physics is embedded, embodied, and actually lived, whereas in the second case it is explicit and formal knowledge about kicking the ball.

A second method of teaching ethics is through a narrative approach, by means of stories, an approach also known in other practices such as education (Connelly & Clandinin, 1990). The stories used in this approach present patient's emotions, as well as

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3 I distinguish between practice, a patterned form of action that can be articulated and described, and praxis, the lived work and experience of engaging in forms of human activity.
cultural and social contexts that may influence dentist–patient interactions. Although in this case students have the opportunity to “consider the overall context of ethical dilemmas,” the stories are fictional in the sense that they do not include students’ own cases, their first-hand experiences with patients.

Ethics in dental schools has also been studied through workshops, small groups, or through Problem-Based Learning (PBL) classes. In the latter case, students receive a problem from the instructor and work in small groups to talk about their own views of the problem, aiming to solve it or to reach consensus about it. This is a student-centered teaching technique that promotes critical thinking among students, and that is widely used in medical and dental schools. Nevertheless, although this format is conducive to reflection and debate, to the extent that the cases discussed do not include students’ first-hand experience, this approach still does not take advantage of the opportunity to engage students in self-reflection, that is, in discussing and reflecting about their own practices. The gap that exists when students move from school to workplace is made larger by the absence of opportunities to analyze one’s own actions and the appropriateness of these actions in different situations. Through my theoretical approach I provide here a new and different appreciation of ethics in the context of school and workplace, and in the transition between the two, pointing out possible reasons why current dental ethics curriculum may be insufficient for teaching dental students to act ethically.

3.2.2. Actions and Activity

In this study, I am interested in the transition from school to workplace, and particularly in how dentists learn ethical principles in practice (dental clinics/workplace). I analyze the patient–dentist relationship drawing on cultural-historical activity theory
(CHAT), which considers the activity system as the smallest unit of analysis (Leont'ev, 1978). Thus, to use an example from the healthcare field, two health stations, all 16 doctors, all staff, the instruments and facilities they use, and all patients serviced together constitute one activity system (Engeström, 1993). Within this system, no element must be analyzed independently from its relation to all other elements, some of which are depicted in Figure 3.1 for a hypothetical dental clinic. In activity theory, tools mediate the relation between subject and object, neither of which can be understood independent of the other. Additional aspects in an activity involve, for example, rules, division of labor, and community, all of which interact towards the accomplishment of an outcome. The object motivates the subject’s actions. Each activity system is embedded in different social, cultural and historical contexts, with different objects and outcomes, thus the actions performed in the activity system differ from one activity system to another.

Activities are constituted by sequences of goal-directed actions. Activities and the actions that constitute them mutually presuppose one another. This is so because, on the one hand, activities only exist in and through the series of actions that accomplish them; on the other hand, actions are accomplished because (the image of) an activity already exists. Formal schooling constitutes one activity system; students go to dental school in order to get a degree. A dental practice constitutes a different activity system; dentistry is a legitimate societal practice in order to earn a living by contributing to a common good. These different in-order-to relations lead to the very different nature of knowing and learning in the two activity systems.
Figure 3.1. This figure represents the structure of the activity system in a dental office where the dentist is working on a patient. Tools together with other components of the activity mediate the relationship between the subject and the object of an action.

An action involves different forms of knowledge. There is theoretical knowledge that allows the dentist to decide what to do—for example, making a decision between doing a dental implant or a fixed bridge. Then there is the practical-technical knowledge of doing the dental implant surgery. Currently, dental education and its associated practical internship do a good job in preparing future practitioners in both forms of knowledge. Unavoidably, practitioners gain additional technical knowledge (or “skills”) the longer they work. Each material or verbal action has another component much less attended to in formal schooling—the effect of the action on the recipient (e.g., Austin, 1962). More so, because the action has an effect on the recipient, there is not only a special kind of knowledge associated with the possible effect some technical action has but also a special responsibility (ethics) that goes with each action (Bakhtin, 1993). Formal school settings and everyday unsupervised praxis differ exactly in this
point—doing the right thing at the right time. Traditional schooling does not teach this form of knowledge that—since Aristotle—we know as phronesis (Ricoeur, 1992).

3.3. Methods

This chapter is concerned with the changes that occur when individuals move from dental school into after-school practice, focusing particularly on ethics. The seven dentists participating in my study have graduated from Canadian dental schools or are currently enrolled in graduate programs at these institutions, with exception of one participant, who studied and worked outside Canada. The interviews were videotaped and conducted individually and on a first-come-first-serve basis after the invitation to participate had been e-mailed to potential participants. During the interviews I attempted to elicit participants’ ways of describing their transition from dental school to the workplace; these interviews were structured such as to produce life narratives (Polkinghorne, 1988), where the dentists had the opportunity to narrate particular experiences related to dentist–patient relationships. Thus, participants were given opportunities to express themselves to the extent that they thought the topic required. All interviews were transcribed and the transcripts constitute part of my database.

I analyzed data both individually and collectively, in which case I drew on the precepts of Interaction Analysis (Jordan & Henderson, 1995). In interaction analysis, I meet with my supervisor and other researchers (in my case, the members of my research group) interested in the analysis of social interaction. I played the videotape until a participant indicated that something interesting occurred. The videotape was then stopped and the event discussed, frequently leading to the replaying of the episode. All individuals present are invited to contribute their views about what they have seen in the
episode and what they understand to have happened. The discussions are generally so rich and revealing that never more than a few minutes of recorded conversation are analyzed in the course of a two-hour analysis session.

In each session, we generated initial assertions (claims, hypotheses), which I subsequently sought to confirm or disconfirm in the remainder of the database, a procedure known as constant comparison (Corbin & Strauss, 1990). The different life histories of the people on our research group provide me with different analytic horizons, which may lead me to different understandings of what is being said during the interviews. These different perspectives are used to critically investigate and mitigate my hidden assumptions that I brought to the interpretation (e.g., Jordan & Henderson, 1995; Roth, 2005).

3.4. Becoming (as) a Dentist: Learning Ethics in the Dental Office

Becoming a dentist is a process that begins in formal school settings (university, internship), continues after dentists have been licensed and begin their own practice, and goes on throughout their professional lives. In this section, I provide sample analyses of dentists’ discourse, demonstrating the shift in their actions that accompanies the shift in activity systems when dentists leave school and start their own practice, and the ethical implications related to these shifts. From my empirical data I noticed that when dentists change activity systems they experience conflicts, the resolution of which involves changing their actions. This changing of actions is based on a different form of knowledge that dentists acquire in the workplace, known to the ancient Greeks as *phronesis*.
3.4.1. Activity Systems and Actions: a Mutually Presupposing Relationship

My analysis shows that dentists have the experience of crossing a boundary when, after receiving their degrees, they move from school and internship into their professional practice. Although patients receive proper treatment both during the internship (dental school clinics) and independent practice, these are, from my perspective, different activity systems that inherently distribute knowledge in different ways. In this section, I articulate the experience of boundary crossing in terms of the shifting knowledge distributions in the two activity systems. I then exemplify the development dentists undergo while working without tutelage in a new setting.

3.4.1.1. Crossing the boundary.

From the narratives elicited during my interviews, and from my own experience as well, I could discern dental school as a place where students develop a specific set of explicit skills and knowledge that they are expected to exhibit on tests and in supervisory relations. This expectation is also true when students are taking ethics courses, where they are expected to learn ethics from classroom environments (e.g., Koerber et al., 2005). The purpose of traditional schooling is to transmit and make students exhibit knowledge in explicit form. At school, therefore, students are considered experts if they are able to do dentistry, that is, to perform actions that prove to themselves and to others that they have learned what it takes to be a good dentist, including the familiarity with field-specific language; also in dental schools technical knowledge is emphasized over other kinds of knowledge (Koerber et al., 2005). My interviews showed that the new dentists continued to exhibit their knowledge in their dental practice after school, giving rise to problems in their relationships with patients.
Being a good dental student, however, is different than being a good dentist, and some of the actions that would result in good grades at dental school may not be the right or best action to be taken in the dental office. Take, for instance, the case of Matt (8 years of experience as a general practitioner) who talked about his professional relationship with patients in the following way:

Episode 3.1:

01 M In the beginning, in the beginning really there were too
02 many technical words, because of a simple reason, because I
03 thought that if I used more formal words, I could give the
04 impression that the treatment was better, or something like
05 that, or that I knew more about it, using more, you know,
06 more formal words and so on (...) And even, it was I think
07 it was two years after I've opened the office, that I
08 started to use more, more normal terms, like, normal for the
09 patient ...

Even though in dentistry courses dentists learn that they should not use technical language with patients, dentists find sometimes difficult to refrain from using technical terms with their patients. In this episode, Matt articulates how he had used “too many technical words” with his patients (lines 01–02) when he had first started his own practice. Therefore in one way Matt did in his new setting what he had been required to do at school: he exhibited knowledge rather than explained to the patient about his/her dental health; that is, he continued to be in the mode of the dental school, where his career progress depended on being able to talk about practice in a particular way, which he used to talk to his classmates and professors. He achieved this by using technical vocabulary; this field-specific vocabulary was evidence to others that he “knew
dentistry.” But by using technical vocabulary abundantly in the new setting, Matt failed to use a language that would have allowed the patients to talk with him about the relevant treatment options. However, whereas Matt exhibited appropriate school knowledge, he failed to exhibit knowledge appropriate in the situation, which would have consisted, for example, in a different action, using language that would have allowed the patient to make an informed decision about alternative treatment options. Patients are not informed when they are confronted with vocabulary that they do not understand. It is exactly at this point that dental ethics takes a practical turn.

The difficulties in finding the right ways of talking with patients also was salient when the patients were better informed or when they disagreed with Matt regarding the treatment options:

Episode 3.2:

01 I How did you feel when he [patient] did not agree with you
did you feel...?
02 M I don’t know, I cannot say, but I think it is part of the
dental care, I do not. I would say that in the beginning,
in the beginning when I opened the office, I don’t know, I
felt frustrated let’s say like that, I don’t, then I didn’t
know whether I couldn’t express what I was thinking about
the treatment, or whether I was incompetent in professional
terms.

In this episode, Matt articulated the frustration he felt, which also involved self-doubts about his knowledge: Was it that he did not express himself well enough? Was it that he was incompetent?
Both episodes provide evidence for the changes experienced by practitioners; they thereby articulate the existence of an invisible boundary between dental school and professional practice. By using technical language inaccessible to his patients, Matt’s (discursive) actions were concerned with describing certain treatment options. What they did not address were the effects any (speech, physical) act has on its recipient. In a proper theory of action, this effect has to be taken into account (e.g., Ricoeur, 1992). More so, the person acting has an ethical and moral responsibility for his or her action (Bakhtin, 1993). If patients do not understand the differences in the treatment options because of the technical language, then they cannot make informed decisions. From an ethical point of view, Matt’s advise formulated in technical language therefore becomes problematic. His (verbal) actions were not the right actions for the situation. What has happened between his experience in dental school and especially during the internship and his own practice?

I can find answers and explanations for dentists’ experiences (here exemplified by Matt) when I compare the new activity system of the workplace (represented in Figure 3.1) with the activity system of the internship during dental school (Figure 3.2). The dental school experience is characterized by a particular form of division of labor, which mediates the relationship between the dentist-subject and his or her object (bold-lined triangle). The hierarchical supervisory relationship has two substantial effects on what happens. First, in his or her actions during the internship, the dental student not only treats patients but also exhibits knowledge, making it available for the supervisors and others responsible to assess performance. That is, the dental students not only display knowledge and skill for the sake of treating patients but also for the sake of exhibiting
knowledge and skill. However, different “for-the-sake-of-which” relations change the nature of knowing (Heidegger, 1996). The second of these for-the-sake-of-which relations takes precedence over the first and the patient is, from the student’s perspective, merely an object of his or her actions.

Figure 3.2. Representation of the activity system in the dental school setting. In this activity system, the dental intern’s actions on the patient (object) are mediated by the supervisory relationship (highlighted in the diagram), which affects in particular the responsibility aspect of an action.

Second, because of the mediational relation, the knowledge related to right action is present, though not located in the student. Because of the (hierarchical) supervisory relationship, which comes with a particular kind of responsibility on the part of the supervisor, right action exists in the activity system as a whole, and therefore also in the action towards the patient. Thus the ethical responsibility is enacted in the system.

In the move to his own practice, Matt continued what he had done before. The patient continued to be the object of the activity, but now the ethical responsibility previously available in the internship system is no longer present. With the absence of the
supervisor, the skill and technical knowledge Matt embodies are still present, but the knowledge associated with right action is no longer present. In Episode 3.2, Matt expressed this absence of some knowledge when he talked about feelings of incompetence. That is, Matt experiences a contradiction, which arises from knowing that he has all the appropriate skills and technical knowledge while also knowing that these skills and knowledge alone are insufficient.

The differences between dental school and independent dental practice reside in the presence or absence of the supervisor. This introduces changes in the mediated relations within the system, which constitutes our irreducible unit of analysis. In this system, the knowledge required for right action is present and comes to be enacted to the benefit of the patient in the mediated relation. When the newly graduated dentists move into their own dental offices, this ethical knowledge required for right action no longer is present in the new system, though everything else (tools, rules, community) may very well be the same. How does the ethical knowledge required for right action come to exist in the new system? I answer this question in the next section.

3.4.1.2. Developing ethical practice in and through everyday dental praxis.

My research shows that in and through the experience of everyday dental praxis, new dentists develop and learn to enact ethical practice. This is also clear in Episode 3.1, where Matt talked about the changes that had occurred after he had worked for two years. At that time, Matt had found a way of communicating with his patients, in part by “using lay vocabulary.” These changes are important in at least two ways. First, changing the way in which he communicated with his patients enabled the latter to make informed decisions and to participate with the dentist in finding appropriate treatment. Now, his
actions have become *right actions*, embodying an ethics of care and responsibility. Second, this newfound relationship changed the activity system itself. In the old system, dentists worked on patients, who were literally the patients (in the sense of being passive recipients) of actions and therefore the objects in the activity system. In this old system, patients became objectified and treated more as objects. In the new system, patients and their respective dentist collaborated, putting the former in the position to act (make decisions). That is, in the transition from the earlier into the new activity system—here exemplified in Matt’s situation—the patients have moved into the subject position (Figure 3.3). In addition, the treatment, which previously was Matt’s prerogative, now has become the real object of activity.

![Diagram](Image)

Figure 3.3. When a dentist works with a patient, the patient becomes one of the acting subjects, and consequently, the treatment becomes the object. The patient is no longer objectified, now the dentist and the patient are able to take decisions together acting towards the same object.

Changing the vocabulary allows a conversation with the patient, and therefore also transfers control over not only the conversation but also the decision-making process and the subsequent actions to be performed. The goal of this action is the patient’s
comprehension, which implies that the patient now occupies a new position in the activity system, that is, the patient will be able to participate in the decision-making process to choose the best treatment to be performed. The object of this new activity system is to treat the patient, but from a starting point where both dentist and patient are able to make decisions and choose the best treatment option. Here then, right action is not the sole responsibility of the dentist but is exercised in the dentist–patient relation and therefore in the activity system as a whole.

3.4.1.3. Right Action and Identity.

The conflicts dentists experience when they cross the boundaries between school and workplace may actually involve many different aspects of dental practice. One aspect often overlooked and under-theorized is that of identity. In activity theory, identity is understood to be a byproduct of agency—every time we act we not only do something but also provide others with evidence for who we are. When we are patients, a dentist becomes a “good dentist” when he or she provides us with confidence in the treatment chosen, injects in a way that does not hurt, or does a restorative procedure that will not fail in a short period of time. From the dentist’s side, too, identity is related to actions—already in the previous episodes, I showed how Matt related his dentist identity to exhibiting school knowledge. He used the communicative problems in his relationship with patients to make self-attributions about his identity as a dentist. My next episode further provides evidence for such changes when new dentists move from dental school to their practice. Ronald, a dentist with 20 years of experience, talks about how his actions changed once he moved from dental school to dental office.

Episode 3.3:
R: I would take on more things earlier in my career than I do now (…) I would know in the back of my brain that this is going to be a problem patient (…) because this patient would come back ten times, a little sore here, a little sore there, why the tooth is like this? And those people you never ever please, so un-..., it’s like marrying that patient, so I guess that’s really what it was a- at the beginning my, I had, my ego needed to be fed, my ego needed to be fed, to think that I could lin- win this patient.

I: Do you know why do you think it was

R: Oh, dental school

I: the ego?

R: My dental school (…) had a very, I don’t know how to say it politely, a very poor education style (…) for dental students (…) Fear, threats, and perf- and, and drilling, drilling in perfectionism, all of the three are terrible for dentists (…) [Perfectionism] that is good, to learn that and to strive for that, but to have the threat of failure upon your head at every level if you don’t meet, meet that clinically, that builds a lot of guilt and shame in dental students (…) So that when they graduate, they come out, not all of course (…) but I was young and I was influenced by these “ghosts” [professors](…) I don’t wanna paint that that was the whole school (…) I think that that [dental school] is maybe why I had that bit of an ego, when I graduated, because I actually thought that I needed to be successful on every patient that came in, like turning away a patient was my failure.
Right after graduation, Ronald thought that “turning away a patient was my failure” (line 29). In the beginning of his work experience, he was acting as he did during dental school, where he was evaluated based on his ability to treat all the patients that would come to the clinic (“I thought that I needed to be successful on every patient that came in” [lines 27–28]). However, once in a different activity system, his actions produced different effects on the patient recipients. At the beginning of his career, his “ego needed to be fed” (lines 08-09), that is, he believed he could only be a successful dentist if he was able to treat every patient. His identity as a successful dentist was a function of his ability to treat every patient. Turning down cases would have meant that he did not have the knowledge or was technically not capable and that he was a lesser dentist. Turning down a patient was an action that not only recommended the patient to seek help elsewhere but also constructed his identity as a lesser knowledgeable and even incapable dentist.

With experience, however, came the realization that he had limitations; he could not, and should not treat every patient that came to him. Not being able to treat a certain patient did not mean that he was a bad dentist, but only that the case was too complex for a general practitioner. When he insisted on taking the case, the “patient would come back ten times, a little sore here, a little sore there (lines 03–06),” and he would “never ever please” (line 06) this patient. Ronald’s decision of referring the patient to a specialist demonstrates that he acknowledges his full ethical responsibility towards his patients. He recognizes his own limits and informs the patient about the existence of dental specialists who would be able to deal with the patient’s particular situation. Furthermore, when referring his patients and acknowledging his limits, Ronald is using the principle of non-
maleficence ("do no harm") in his practice; he is protecting his patients from harm, thus being congruent with the code of ethics that regulates the profession. Ronald’s change of actions was a result of the development of practical wisdom, which is intrinsically related to the activity system in which he is now involved. Tied to this practical wisdom—phronesis—are issues of identity, for now he was able to experience himself as a successful dentist although and perhaps because he was turning away a patient when he recognized that his technical knowledge or skills were insufficient.

3.5. Discussion

Shifting from school to workplace, dentists confront a different activity system, where previous actions defined only in terms of technical knowledge and skills become inadequate. Right action involves more than knowledge and skills—it involves knowledge of the effects an action will have on the recipient as well as the responsibility the agent must have for these effects. I consider these additional aspects of right action to be a form of knowledge that Aristotle called phronesis. This form of knowledge also constitutes a central aspect of an individual dentist’s identity. Phronesis is present and enacted during the dental school clinics, but it is embodied in and brought to bear by means of the hierarchical relationship to the supervisor. When dentists move to their independent dental practice, they are confronted with, and constitute part of, an activity system where most often phronesis is not yet embodied. Dentists have to develop it—and as I showed in this chapter—do in fact develop it in and through concrete everyday praxis.

I exemplified my findings in the case of Ronald and Matt. Both had experienced the absence of phronesis that would enable them to perform the right actions. It is exactly
the absence of this knowledge that they experienced as a gap (boundary) between school and everyday work. Once they realized that their actions were inadequate, they changed their actions, thus changing the entire activity system. However, what caused Ronald and Matt to acknowledge the inadequacy of their actions in the first place, and what allowed them to decide on which course of action would be the right one to take was the development of practical wisdom, that is, phronesis. Once dentists develop phronesis they not only become able to make the right decisions (McGee, 1996) but they also change the activity system to de-objectify their patients and include them as acting (decision-making) subjects. In fact, because dentists and patients now have (an interest in) a common object—treatment—their activity system is characterized by solidarity, which, by definition, is the quality on the parts of collectives of being perfectly united in some respect.

I now have the conceptual tools in place to theorize the process of becoming a dentist, beginning with the moment when a prospective dentist enters dental school. In their first lecture classes, students encounter technical knowledge about various aspects of dentistry—Aristotle denoted this form of knowledge that by episteme. When they shift from lectures and laboratory exercises to dental school clinics, they start working on patients for the first time. Therefore, they are now developing technical skills, which Aristotle referred to as techné. Episteme and techné are the mainstays of dental schools, and dental students generally do well in developing these forms of knowledge. My activity-theoretical approach concludes that in dental school clinics phronesis is present in the system; thus the patients still benefit from it. But the new practitioner does not
embody this form of knowledge; they come face to face with the absence of this knowledge as soon as they move out of dental school and into their own practice.

Dental students therefore face two transitions during their academic and professional lives, characterized by shifts from episteme to techné, and from techné to phronesis, respectively. The first transition occurs between lecture halls and laboratory to the dental school clinic. The second transition is experienced between the dental school clinic and the workplace, where dentists are fully responsible for their actions and the ethical component must appear in the dentists' actions. The second transition in particular is not only salient in the absence of knowledge required in right action but also in the way this absence shapes actions actually taken and therefore the identity of the individual dentist. The identity is affected one more time as phronesis involves a new relation to fellow human beings; it consists exactly in the opening up of the space for patients to become fellow subjects. Without having the space to fully develop this argument, phronesis and the opening up of space are therefore also the grounds for and results of a sense of solidarity that develops between dentist and patient in this newfound relationship deeply characterized by care.

3.6. Conclusions and Implications

Learning occurs in many places. But what we learn in one place, for example, in formal school settings, may not bear on what we do in another place, for example, at work in particular or everyday life more generally (Lave, 1988). In this chapter, I investigated the gap dentists experience when they move from school into the workplace and the development they undergo after they start working. I (a) provided evidence for and discussed these experiences and developments, and (b) theorized these experiences in
terms of cultural-historical activity theory, which, for present purposes, I combined with a philosophical approach to the ethics of action. My special interest was in understanding an important part of dentistry practice that pertains in particular to the dentist-patient relationship: ethics, which I have come to understand as integral to dental phronesis. Through the analysis of interviews and using a recent reframing of activity theory that includes emotions and right actions (Roth, 2006), I investigated learning ethics in the workplace.

Cultural-historical activity theory constitutes a new (theoretical) tool for dental educators; it allowed me to successfully theorize important gaps in the experiences of prospective dentists as they move through varied educational settings. Because cultural-historical activity theory forces me to look at each activity system as an irreducible unit, I came to understand the changing nature of the dentist–object relation when the dentist changes setting. Thus, when an individual is doing a dental prosthesis in the dental school, there exists a mediated relationship between the student, patient, and supervisor and a different motive—exhibiting dentistry knowledge. When the same individual does a dental prosthesis immediately after graduating, the activity system has changed, as the supervisor is no longer present. Although exhibiting (academic) knowledge is no longer necessary, newcomers continue to display it and, in doing so, create a contradiction in the sense that there is an impediment to the patient’s understanding, and consequently, in arriving at a treatment that truly is the right one, both from the dentist’s and from the patient’s perspective. This conflict only dissolves as the dentist develops the phronesis required in such situations, which, in part, means involving the patients themselves in decision-making.
Ethics as a discipline has been incorporated to the formal curriculum in many dental schools. Nevertheless, I suggest that theoretical discussions about ethics are not enough to provide practitioners with the skills necessary to work ethically when interacting with patients. My analysis showed that dentists learn to enact ethical principles while in and through everyday practice at work in their dental clinics while interacting with patients. It is in praxis that ethical practice develops, “for its acknowledged validity is conditioned not by its content, taken in abstraction, but by its being correlated with the unique place of a participant” (Bakhtin 1993, p. 48, emphases in the original). Thus, teaching ethics as an abstract theoretical body of concepts cannot achieve the desired impact on the individual students, as their unique places as participants are not taken into consideration. Even case studies do not introduce this dimension, which can be experienced only in the face-to-face interaction with real patients.

This has implications for the practice of dental education. I suggest a complementary approach to teaching ethics, which might involve, for example, pairs of students working together with patients. In this collaborative working experience, one student might be doing the dental treatment while his/her colleague would be observing and taking field notes about ethical dimensions of the relationship between dental student and patient. These field notes could include, for example, the way in which the student is talking to the patient. To be able to analyze these field notes, ethics courses should provide students with basic notions about ethnography and discourse analysis (widely used in the fields of psychology, anthropology, and sociology, for example), thus enabling students to take advantage of theoretical and analytical frameworks to better
understand their own practice. Analysis and discussion could take place in small group meetings, similar to current teaching methodologies already used in dental schools.

The approach proposed here is a complementary approach to teaching ethics that could help students learning to be ethical through a critical analysis of their own everyday practices, even though it still is in the confines of the dental practicum. As this analysis would involve the students’ own work, this would be more meaningful than when students judge the practices of others, like in case based learning or any teaching approach that use cases from other practitioners to be ethically analyzed. To learn to be ethical in dentistry practice, and any other practice for that matter, students of dentistry need to experience first-hand the situations and principles that are to be ethically considered. Dental school clinics experience combined with ongoing seminars that engage dental students in discussions of the ethical dimensions of their present and future work may allow them to appropriate phronesis before graduation, because they will become aware of the ethical implications of their own actions, which could foster a change of behavior. Dental schools might offer opportunities for the students to analyze their own experiences on the dental clinic from an ethical perspective promoting the development of phronesis.
Chapter IV

An Ethnographic Study of Dental Practice
4.1. Introduction

Private dental practices are getting bigger and more structured by the day. The old fashion clinics, where the dentist worked alone with his patients, are gone; and the dental clinics increasingly are organized such that various individuals need to work together in a carefully designed division of labor to provide the required dental treatment for their patients. Yet although dental clinics are organized and structured for the purpose of operating more efficiently, problems in the area of dentist-patient relationship may arise, creating conflicts that may place patients in a disadvantaged situation. Although one might expect that the incidence of these conflicts should decrease with a dentist’s development of practical wisdom (phronesis), as stated in chapter 3, conflicts may arise in any dental clinic, and with any dentist, from newly graduated to more experienced and accomplished dentists.

In the present study, I aim to understand (a) how and why conflicts and contradictions emerge in the activity system of the dental clinic and (b) how these conflicts are solved. Through an ethnographic study in a successful and busy dental clinic in Canada, where I observe and take field notes of the daily actions of the dentist–patient–staff relationships, I pursue these questions using cultural-historical activity theory as a framework, elaborating on the notion of a dental clinic as an activity system, where various different professionals work in diverse roles within a complex division of labor. In this chapter, I present a case study based on my ethnographic research in one dental clinic. The study exemplifies potential conflicts that often occur in dental clinics, analyzing the actions of the various participants within the broader context of the activity system and the complexity and challenges inherent in the system.
4.2. Theory

In this chapter I once more use cultural-historical activity theory to analyze the situation described during my ethnographic research. I use activity theory because it allows me to understand the events I observed in the dental office in a holistic way, where I cannot reduce the unit of analysis to any individual or any part of the activity system. That is, activity theory requires the analysis of human cognition as essential for studying the activity, where cognition is distributed, mediated by artifacts, culture and social relationships and not in the head of individuals (Miettinen, 1998).

Activity theory came from the cultural-historical school of psychology (Leont’ev, 1978). According to this theory, tools, rules, division of labor and community mediate the transitive relationship (i.e., action) between a subject and an object; the object guides the subject in a direction and motivates the subject’s actions, therefore the actions are contextualized and dependent on the social situation in which they occur (Roth, 2006). Cultural-historical activity theory requires activity as the unit of analysis; this societal activity is analyzed through the relationships that mediate the subject-object actions; and, as human activity, it is multifaceted and rich in variations of content and form. To understand any form of action, it is necessary to take into consideration all the irreducible facets of an activity that make this action possible: the parts inside the activity cannot be understood independently from each other (Figure 4.1).

In the division of labor of the activity system there is a horizontal distribution of tasks among members of the community, and also there is a vertical division of power and status (Engeström, 1993). This also is the case in a dental clinic where different staff members of the dental clinic accomplish different tasks that together make the system.
This division of labor also leads to power and status hierarchies in the activity system of the dental clinic.

Figure 4.1. Illustration of the aspects within the smallest unit of analysis in cultural-historical activity theory.

The division of labor in a dental office is sequential so that each action can be understood as moving the system from one state into another. This is much like the actions of a short-order cook create states in the kitchen allowing the cook to manage many different orders simultaneously because all the cook needs to remember is the conversion of the system from one state to another (Agre & Horswill, 1997). The memory for where in the process a particular order exists is therefore encoded in the system. In the dental office, the members of the activity system therefore can accomplish the tasks in and as separate steps, where each member works after the other member completes his or her task. For example, the dentist will do his work after the dental hygienist finishes her task, that is, the dentist will look at the dental chart that was made available to him through the dental hygienist’s work, and she will write in the dental chart after the patient answers the health care questionnaire, and only after the receptionist have given to her the patient’s dental chart, and so on. Therefore, in the dental care trajectory there are states that need to correlate and work together to achieve the outcome of the activity. In this sense, activity systems have particular states and a change in states
corresponds to the patient being treated by different professionals. The activity system is moved to a different state because a new person takes over the next task to be performed in the activity system.

In modern societies tasks are complex and certain outcomes are only achievable if multiple activity systems work together. Activity systems are not alone, there is a network of them sharing the same object; activity systems do not stagnate: they are moving, changing constantly and are characterized by inner contradictions (Engeström, 1993). In this way, the understanding of an activity system requires an analysis of (a) its simplest original structural form; (b) its dynamics and transformations, in its evolution and historical change; (c) its aspect to be a contextual phenomenon, demonstrating the relations between the individual and the outside world; and (d) its nature as a cultural mediated phenomenon (Engeström, 1987).

When different activity systems work sharing the same object, as it happens when different dental clinics work in the same dental treatment with the same patient, they create a network of activity systems, and the motives of the participation of these activity systems in the network are based on the history of each participating activity system (Saari & Miettinen, 2001). In this connection many things happen at the same time. The systems also affect each other. For example, an action has re-actions and what happens in one activity system may entirely affect the neighbor activity system. This means that one action shapes the other, and the decision-making process in one activity system is shaped in and through the decision-making process in the other system (March, 1999). In a network of connected activity systems each system has its own perspective and contribution to the trajectory of the activity (Engeström, 2001a).
One alternative way of analyzing the network of activity systems is by considering the inner contradictions and dialogical interactions within the activity systems of each participant of a network (Engeström & Escalante, 1996). Contradictions are not the same as problems or conflicts; they are historical accumulated structural tensions within and between activity systems (Engeström, 2001b). Analyzing any human activity, four layers of contradiction may be discerned: primary contradictions occur within each of the components of the same activity system; secondary contradictions occur between the constituents of the activity system; tertiary contradictions occur between the old activity and the evolution of the new activity system; and finally quaternary contradictions happen between activity systems in a network of activity systems (e.g., Roth, 2006). In this study, I am particularly concerned with quaternary contradictions, the ones that happen between the central activity (general dental clinic) and its neighbor activities (periodontal dental clinic). Using cultural-historical activity theory I am provided with the means to locate and articulate contradictions designing concrete collective actions to remove these contradictions changing and moving the activity system forward.

In the past, activity theory researchers have theorized the patient to be the object in the activity system (e.g., Engeström, 2001b). Sometimes the patient can be part of the object—literally when the surgeon objectifies the subject, working, for example, on the tooth rather with the patient. Most of the times, however, dentist and the patient constitute a collective subject working together towards the same object: the treatment. Insofar as the object of the activity defines the activity and expresses the motive and
purpose of the activity in our society, the patient becomes part of the subject instead of object of the activity.

4.3. Methods

Ethnography is a very well established methodology among qualitative researchers in the area of anthropology and education, but it is a new methodology for doing qualitative research in the area of dentistry. Nowadays dentistry is getting deeper on the aspects of social relationships trying to answers questions like how and why an event happened within a broader social context (e.g., Bedos et al., 2002). Qualitative research, as opposed to quantitative research, tries to answer questions like those; it tries to understand why social interactions and social events occurred in a specific way. In this chapter, I developed qualitative research from a database composed of an ethnographic study in a dental clinic, and using activity theory as analytical tool; all new concepts in the area of dentistry.

For this chapter, my database is composed of the field notes that I produced during an ethnographic study in a dental clinic run by a family dentist who has 25 years of working experience in general dentistry.

The ethnographic study in the dental clinic occurred over the course of a nine months period, in which time I followed a dentist as he interacted with patients and staff members. On average I spent three hours per visit, once a week, on the dental clinic. I went to the dental clinic during mornings or afternoons, at different times, participating also in three monthly staff meetings on the end of the day, where all the dentists and staff members discussed the problems and concerns related to the dental clinic.
I produced my field notes positioning myself behind the dentist, observing the dentist-patient interactions. In other situations, I also took field notes in the waiting room, observing how patients arrived at the dental clinic, and how the dental staff interacted with them. At other times, I remained in one operatory room throughout the treatment—from the time the patient arrived to the time he or she left the clinic. Being present at the clinic at different times and days of the week, and also accompanying different people in the clinic, allowed me to observe interactions between staff members among themselves and also their interactions with patients at different situations.

To analyze my data, I read and re-read my field notes after the day I conducted my ethnographic study. I read the daily field notes together with my past field notes to observe patterns that happened in the dental clinic during all the time I was there. After I selected those patterned actions, in my next visit to the dental office I tried to observe whether those patterns would continue to happen or not, confirming or disconfirming my hypotheses about those actions.

4.4. Contradictions in a Dental Clinic

In this chapter, I describe the dental clinic based on the patterned actions that I observed during my ethnographic study, and I describe, analyze and discuss a particular case I observed in the dental clinic, which may be a situation that happen frequently in dental clinics in general.

4.4.1. Life in Dr. Paul’s Dental Clinic

In Canada, “dentistry is not a small business anymore,” Dr. Paul (pseudonym) told me once. As I enter Dr. Paul’s dental clinic, I immediately see the receptionist in the front desk, Mrs. Grey (pseudonym) (A in Figure 4.2). “Good morning, Mrs. Grey, how
are you today?” “Good morning, Diego, how’re you? Dr. Paul is in the operatory room, go ahead.” Dr. Paul is a dentist, one of the owners of the clinic. He shares the ownership of the clinic with Dr. Sandra (pseudonym), and there are also two more associate dentists working in this clinic. With four dentists and more than 12 staff members, I have to agree this is certainly not a small business anymore.

From my observations I found that Mrs. Grey, the receptionist, is the first person with which the patients interact, either on the phone, when they call to make an appointment, or in person, when they come for their first visit; at this time, the patients are requested to complete a questionnaire with basic information about their dental health status and history. After I talk to Mrs. Grey, I go to the kitchen to leave my personal belongings in the kitchen table. Entering the kitchen (D in Figure 4.2) I see a dental assistant drinking coffee during her break, Mrs. Shirley. In this dental clinic there are six dental assistants who work helping the dentists in different ways. Mrs. Shirley (pseudonym), for example, works as a chair-side dental assistant, helping the dentists when they are working with the patients. When Mrs. Shirley is working, I have noticed that she positions herself at the left side of the patient and hands the dental instruments to the dentist as needed. Chair-side dental assistants like Mrs. Shirley also make company to the patients when they are waiting, for example, for a dental impression to get cured, or for the freezing (anesthesia) to achieve the desired effect. They also isolate the patient’s teeth using the rubber dam and take x-rays when the dentist requests them. At the end of each session, the chair-side dental assistants clean the dental operatory room, and sterilize the dental instruments in the dental laboratory (H in Figure 4.2). Mrs. Shirley may also work as a receptionist during some days of the week.
When I leave the kitchen I have only my notebook with me. I pass through all the operatory rooms (B in Figure 4.2), looking for the one where Dr. Paul is working. In the very first operatory room there is Mrs. Leith (pseudonym), a dental hygienist, working on a patient. “Hello Diego, you are back! It’s so nice to see you!” Mrs. Leith always introduces me to her patients. “Mr. Black (pseudonym), this is Diego, you know, he is a dentist from Brazil, and he is doing his master’s program at UVic.” Dr. Paul’s dental clinic has three dental hygienists; I noticed that they usually call the patients in the waiting room (F in Figure 4.2), and guide them to one of the operatory rooms. During a patient’s first visit, the dental hygienists also get some more information from them, which they add to the questionnaire part of the dental chart that the patient had completed. Socializing with the patients is also one of the tasks performed by the dental hygienists; they usually ask questions about the patient’s family and personal life, “How
is Mrs. Black doing, Mr. Black? And your son Logan, how is he?” If it is the patient’s first visit, and a dental treatment has not yet been planned, the dental hygienist proceeds to examine the patient and provides preliminary findings that she writes down on the patient’s chart for the dentist to take a look at it later. As I watch this interaction, I know from my experience observing people in the clinic, that Mrs. Leith may write that, for example, Mr. Black has an overhanging filling on his second molar or that he has gingivitis or another dental problem. Usually when a treatment plan is already in place, I observe the dental hygienist describing to the patient what will be done in that session, “Mr. Black, today we will do scaling and root planning in the upper jaw, I hope we can finish this today.” Mrs. Leith and the other dental hygienists conduct the maintenance and the first part of the dental treatment (Phase I), which usually includes scaling and root planning, as well as teaching the patients how they should brush their teeth, “You should use a softer and smaller tooth brush, you see [pointing to the patients’ mouth - patient is holding a mirror] this part of your tooth is not being cleaned very well, you should pay attention when you are brushing your teeth in this area, so you will be able to maintain it clean.”

From my observations, I discern that in these preliminary procedures, the patients already interact with at least two staff members, who collect important information that will eventually be used in the patients’ dental treatment plan. This information is recorded on the patient’s chart.

When Mrs. Leith finishes the dental treatment on Mr. Black, she walks to the next operatory room, where Dr. Paul is working on another patient, and leaves a post-it note in the cabinet, that reads “Mr. Black.” This note functions to communicate to the dentist the
patient’s name and that he or she is waiting in the other operatory room. Sometimes, instead of using these notes, I noticed that Mrs. Leith walks to the operatory room and tells to Dr. Paul directly, “Can you take a look on Mr. Black when you finish here please?” But when Dr. Paul is not in an operatory room, but instead he is in his office (C in Figure 4.2) or in the kitchen, for example, the dental hygienist communicates that there is a patient waiting for him through an electronic device that works like an interphone; its composed of a little electric box with lights of different colors, each color representing a dental hygienist, a dental assistant, or a dentist. A light flashing is a signal that the person associated to that light is needed in one of the operatory rooms.

After talking to Mr. Leith, I pass through the other operatory rooms, saying hello to the other dental hygienists, and I finally find Dr. Paul working with his patient in the last operatory room. Dr. Paul is a very empathetic dentist; he has 25 years of working experience and is a very skilled and successful dentist. Mrs. Johnson (pseudonym), a chair-side dental assistant is helping Dr. Paul today. There are four dentists working in Dr. Paul’s clinic, including him. Every dentist has its own patients and schedule; therefore, when the dental hygienist works with a patient, she knows the dentist who will conduct the further treatment necessary in that particular patient. I observe Dr. Paul working with his patients positioning myself behind his back. In Dan’s case (pseudonym), Dr. Paul was finishing a dental filling and he asked the chair-side dental assistant, “Mrs. Johnson, can you please remove the rubber dam for me while I will take a look at Mr. Black?” “Yes, doctor.” Then Dr. Paul explains to Dan, “Mrs. Johnson will remove the rubber dam and I will be here in five minutes,” to which the patient answers with a gesture with his hand (thumb up). Dr. Paul heads to see Mr. Black, the patient that
Mrs. Leith was working on. I follow Dr. Paul, taking fieldnotes about everything I see and hear, paying special attention to his interaction with Mr. Black. “Hello Mr. Black how are you? (Shaking hands)” “I am fine and you?” “Oh, I am terrific! Did you see how’s the weather? It is wonderful out there! So let’s see how your treatment is going?” The patient smiles and the dental hygienist tells, “I finish with the scaling and root planning in the upper jaw, I think you can begin replacing the fillings.” Dr. Paul examines Mr. Black’s mouth “Can I see his x-rays?” The dental hygienist types Dr. Black’s name on the keyboard on the counter beside her. The digital x-ray shows up on the screen, which is attached to the patient’s dental chair. Dr. Paul examines carefully the x-rays. “Okay! We can start that,” he says. “Mr. Black we can see that this filling has an infiltration, because of a gap that exists between the filling and the tooth. You can observe that by this shadow that we see in the x-ray (he magnifies the x-ray and points to the shadow with the mouse pointer). If the filling stays like this you will have a problem in the future, maybe you will end up having to do a root canal, so I suggest that we replace this filling for a new one.” Mr. Black asks, “When could we do that?” “You will need to schedule a new appointment with the front desk, she will look for a good day for you, ok?” Mr. Black agrees with him and Dr. Paul says, “see you soon, have a wonderful day! (Shaking hands).” Dr. Paul leaves the operatory room and returns to Dan, the patient on which he was working before. This time I decided to not follow Dr. Paul and stay in this operatory room to observe Mr. Black and how the remaining of his treatment will proceed.

Mrs. Leith adds the new treatment plan in Mr. Black’s chart while he gets ready to leave, as she has already explained to him that they have finished for today. “Okay Mr.
Black, you have to go talk to the business assistant on the front desk now to schedule another appointment with Dr. Paul, you can take this (hands him his dental chart) to her.”

Mr. Black goes back into the reception area, to the business assistant’s desk, Mrs. Heart (pseudonym) (E in Figure 4.2). “Hi, I need to replace a filling, and I need to schedule an appointment.” He hands her his chart. As she greets him, she takes the chart from him, opens it, and reads the information on it. “Ok Mr. Black, (reading his name on the dental chart), lets make this appointment, which day would be better for you?” “Next Monday is fine.” “Ok, we have space, is ten a.m. good for you?” “Yes, that is good.”
Then, Mrs. Heart looks into Mr. Black’s chart for the information about his dental plan. During the time that I spend on the dental clinic following Dr. Paul and his patients I noticed that it is common for Canadian patients to have dental plans, insofar as dental treatments in Canada are very expensive. Each dental plan, however, has a different policy and coverage, and it is Mrs. Heart’s task to look into each patient’s dental plan policies to know what the plan covers. “Mr. Black, I will confirm with your dental plan how much they will cover for this treatment, but it looks like they cover seventy five percent of fillings, which means you will need to pay just twenty five percent of the total cost, that is, twenty five dollars, but I will confirm with them before we start the dental treatment, okay?”

Mr. Black’s situation did not involve extensive dental care, but I have observed that if patients need extensive dental care, during the patients’ second visit, the business assistant provides them with specific details about the financial part of their dental treatment, explaining what aspects of this treatment plan their dental plan will cover. For example, if a root canal in a molar tooth is covered, or if a resin-composite filling is not
covered, the business assistant is the person who explains this to the patient, making sure he or she understands how much he or she will have to pay. Once the patient had agreed to the amount he or she will pay, the treatment begins, which usually includes several visits.

Reflecting on Dr. Paul’s dental clinic, I notice that a busy dental clinic, such as his clinic, creates a complex division of labor in the activity system, where each member deals with a different task in multiple interdependent sites. In the division of labor of the activity system of Dr. Paul’s clinic there is a horizontal distribution of tasks among the various participants in the activity, which implies that a complex intercommunication process needs to take place to achieve alignment among all the different tasks that are simultaneously performed in the dental clinic. Moreover, there is also a vertical, hierarchical division of power and status, with responsibility and decision-making distributed differently in the activity system.

4.4.2. Trouble in the Dental Office

While I am in the waiting room I see Mr. Smith (pseudonym) entering Dr. Paul’s clinic. He goes directly to the front desk to talk to Mrs. Grey. They greet each other and Mrs. Grey says that Mrs. Shirley will call him very soon. Mr. Smith waits in the waiting room reading a magazine. Mr. Smith is a male patient who is about 65 years old. From his chart, I get that the dental treatment that Dr. Paul plans to conduct in Mr. Smith is an upper denture supported by dental implants. According to Dr. Paul’s findings, Mr. Smith needed an evaluation from a periodontist before they start the dental treatment. So today, Mr. Smith is back from the periodontist’s office.
Mr. Smith waits for about ten minutes reading a magazine until Mrs. Shirley calls him, Mr. Smith gets up from the couch and greets, Mrs. Shirley, who then conducts him to the dental chair and sits him down there to wait for Dr. Paul. After a few minutes, Dr. Paul approaches the dental chair, he sits in his stool smiling and shaking hands with Mr. Smith, “Hello Mr. Smith, it is good to see you here! How are you doing?” Mr. Smith says, “I am doing great, I just came back from the periodontist. He suggested me that I could do a few more dental implants and then I would not need a denture anymore, I thought it was a good idea, what do you think Paul?” Dr. Paul replies, “Absolutely! We can do that, it’s your choice, but we will need to change our plans, I will examine you again to see how many bridges and fixed prostheses will be necessary to do in this new treatment.” Mr. Smith smiles and agrees; I notice that he seems happy with the perspective of not having to use dentures anymore. Dr. Paul examines Mr. Smith’s mouth. Meanwhile, Dr. Paul explains to Mrs. Shirley how he will use the dental implants to support the fixed prosthesis, and how many fixed bridges he will need to do on Mr. Smith. Mrs. Shirley writes on Mr. Smith’s dental chart the specific places where the prostheses will be done and where and how many fixed bridges will be necessary in the case.

When Dr. Paul finishes the oral exam, Mr. Smith inquires, “I want to have these prostheses soon, when can we start doing that?” Dr. Paul says, “We could start tomorrow, it is up to you.” Mr. Smith agrees with him and again they shake hands and say goodbye. Dr. Paul leaves the operatory room to see another patient.

In the meantime, Mrs. Shirley repeats Dr. Paul’s explanations about the new treatment to Mr. Smith, showing him the dental chart where she recorded this
information, "You will need to have five fixed prostheses and four bridges, and these will be right here (pointing to a diagram of the mouth so Mr. Smith can see). It will be great, you won't need to use dentures anymore." Mr. Smith then inquires about the approximate costs of the new treatment, "Can I have an idea of how much will this cost?" to what Mrs. Shirley replies, "I think it will cost around fourteen thousand, but you should confirm this price with the business assistant in the front." When Mr. Smith hears the price, he almost jumps from the dental chair, "This is ridiculous, let me see this (he asks for the dental chart from Mrs. Shirley and look through it), this is around ten thousand dollars more expensive then before! I can buy a condo with that! How this can be so expensive, I am not rich!" Mr. Smith is upset, he raises his voice as he speaks to Mrs. Shirley; suddenly, the perfect treatment option, which would allow him to get rid of his dentures, is not so perfect anymore, is not even viable. Mrs. Shirley calms him down and explains why the price is higher, "You see, Mr. Smith, the price is higher because you need to have fixed bridges and fixed prostheses, they cost more then one denture. In your old treatment plan, it was necessary to do just one prosthesis, the denture, and now you need more dental prostheses and this also means that you need more dental appointments to do this treatment plan, it will take longer, we will need more sessions." Mr. Smith irritably asks if he can have any kind of discount, "Can I have a discount? Nobody told me that this treatment could be so expensive, why you didn’t tell me about this price before? You just tell this now, after I’ve changed my treatment plan, and this one is so expensive! What can I do? What will my dental plan cover? How much more will I have to pay?" Mrs. Shirley tries to soothe him, "Mr. Smith, I am not in charge of the financial aspects of the
dental treatments, I think you should talk to Mrs. Heart, the business assistant about that, she is in the front desk, I’m sure she’ll be able to explain this to you.”

I follow Mr. Smith and Mrs. Shirley as they leave the operatory room and head towards the front desk to talk to the business assistant. As they approach the desk, Mrs. Shirley talks to Mrs. Heart, handing her Mr. Smith’s dental chart, “Hello Jane, this is Mr. Smith, he was planning to change his treatment plan, he would do a denture supported by dental implants, but after Mr. Smith had returned from the periodontist’s office, he asked to do fixed bridges and fixed prostheses instead of denture. But now the price is too high and he complains that nobody told him that his treatment could cost substantially more, so he would like to talk to you about this.”

Mrs. Heart, Mrs. Shirley, and Mr. Smith continue standing up around the desk. Mr. Smith angrily tells Mrs. Heart, “Nobody told me that my dental treatment would be that expensive! And now I come here in the clinic and you tell me that I will need to pay this for my dental treatment? I am not rich, do you know? This price is ridiculous! I can buy a condo with that!” Mrs. Heart says, “Mr. Smith the price is higher because you are doing more prostheses than you would do before, these prostheses are more expensive, so the final costs are higher in this kind of treatment plan.” Mr. Smith argues that he received no information at all about that, “But why you did not tell me about that? The periodontist did not tell me that either, but just now you are telling me that the treatment will be this expensive!”

Mr. Smith is very agitated; he raises the volume of his voice, almost shouting at Mrs. Heart. Other patients in the waiting room notice that something is happening and start looking towards Mrs. Heart’s desk. After almost ten minutes complaining to the
business assistant, Mr. Smith says, "I will not do this dental treatment, I do not have enough money to pay for it, and I know my dental plan will not cover everything, so I want to go back to my first treatment plan and do dentures. I want to know if I can go back and proceed with my first dental treatment plan? Can I do the dentures?" "Okay Mr. Smith, I will ask Dr. Paul if you can go back to the dentures," and Mrs. Heart excuses herself from her desk. As we wait for Mrs. Heart to return, I observe Mr. Smith. He appears angry, leaning against the desk, with his arms crossed over his chest, looking out of the window and to the waiting room. Two minutes later, Mrs. Heart returns and tells Mr. Smith, "I talked to Dr. Paul, and he said that there is no problem, we can return to the first treatment plan and you can still have the dentures instead of the fixed prostheses, so it will be the same price we have discussed before, no problem." Mr. Smith says, "Okay, fine," bids Mrs. Heart and Mrs. Shirley goodbye, and leaves the dental clinic looking disappointed. Mrs. Heart and Mrs. Shirley continue talking, in whispers, and I go back to where Dr. Paul is working on another patient.

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In this narrative, Mr. Smith is a patient whose dental care required him to visit two different dental clinics for receiving the treatment required by his situation—which is not unusual for more extensive dental treatments. As a consequence, Mr. Smith experiences a personal trauma in the transition between two dental offices. Initially, he expected to be able to live without dentures. Although he has been interacting with various employees in both offices, he was unaware of the actual cost he would have to incur with the alternative dental treatment (i.e., bridges and fixed prostheses). All of a sudden, he found himself confronted with costs so exorbitant that he could not afford
them with the means available to him. That is, in the communicative process, that engages him with the employees of two different offices, a communicative breakdown has occurred such that Mr. Smith did not construct an understanding of the situation required to make an informed decision about the treatment option. Although he appeared to be aware of the nature of the alternative dental treatment, bridges and fixed prostheses, which would have allowed him to attain a better quality of life, he was not aware of the costs he would have to incur personally because the dental insurance plan would not cover them. Mr. Smith was in a situation where as a patient he would have signed an informed consent without really understanding all that is implied by their options. Not in the least, this gives rise to an ethical dilemma and conflicts like the one Mr. Smith experienced.

The contradiction arises as a result of the complexity of the communicative process and the division of labor existent in the two settings where Mr. Smith participates. To understand and theorize what has happened, I draw in the following subsection on cultural-historical activity theory to articulate why this situation in particular and such situations more generally can arise.


In the case described above, the patient (Mr. Smith) requires extensive dental treatment. In addressing himself and coming to the dental clinic, he enters an activity system and, in fact, becomes a constitutive subject in it. In the clinic, he interacts with different staff members who work in Dr. Paul’s dental clinic. The dental clinic, however, does not work alone but, in cases as Mr. Smith, seeks and enacts a division of labor with
another, entirely different activity system: the periodontal clinic. That is, Mr. Smith interacts with two different activity systems that work toward one and the same outcome: Mr. Smith’s oral health. Ideally, in order for the dental treatment to be efficient it is necessary to have perfect coordination between these two dental offices, each of which constitute an activity system in their own with appropriate actions performed within this system. But, because real life is not a checker board with highly constrained moves, a lot of work has to be expended to make the coordination and therefore the enactment of the treatment work.

The purpose of this section is to (a) articulate the problem faced by Mr. Smith and the conflict within the activity systems, and (b) to explain why this problem arises in the dental clinic. The problem described in this chapter affected all the interactions that exist between dental clinics and the members who work in these dental clinics, and my theoretical approach explains why these kinds of problems may be considered systemic conflicts inherent in one or the other activity system or in the articulation between the two. That is, why these kinds of problems result from the structure, including the complex divisions of labor that exist in the combined system.

Taking part of two activity systems, Mr. Smith is confronted with different rules and members of each activity system. In the first activity system, Dr. Paul’s dental clinic, Mr. Smith deals with the different staff members, that is, he interacts with the community members of the dental clinic: his first contact is with the receptionist, just one of the multiple interdependent sites that make the dental clinic. The receptionist’s task is to receive Mr. Smith and to ascertain that everything is ready for Mr. Smith to receive the
care required before the next person in the division of labor can take over: the dental assistant.

Mr. Smith is asked into the dental operatory room by the dental assistant, who also has her own set of tasks, according to the division of labor and rules of the activity system. In this case she leads the patient to the operatory, where a dentist or dental hygienist will work with him. For the staff members in the dental clinic, this division of labor is quite clear; in fact, each one of the staff members knows what their tasks are, and how they should perform them. The activity system can be thought of as being in different states depending on where the patient is at the moment. The lifeworlds of the people in the clinic are interconnected and the next state a patient has to attain is given by the previous state—it is because of such connections that individuals can accomplish tasks much more complex than any received cognitive theory can model (Agre & Horswill, 1997). Thus, for example, the receptionist does not lead the patient to the operatory room, because this is the task of the dental assistant or dental hygienist; but the presence of the recently arrived patient has been signaled so that the dental assistant’s next move will be to bring Mr. Smith into the pre-assigned operatory room. Similarly, the dental hygienist does not make decisions about the dental treatment to be executed on a patient; this is the dentist’s role in the activity system.

Therefore, the dental hygienist conducts her part of the dental treatment only after the dentist has decided on what should be done in the patient’s mouth. Another important task of the dental hygienist is related to the production of artifacts, which become tools that circulate all around the dental clinic, and even across different activity systems. For
example, the dental hygienist writes down the findings from preliminary evaluations about the patient’s oral health in the patient’s dental chart (Figure 4.3).

![Figure 4.3. Schema of the patient’s teeth to write the preliminary findings about the patient’s oral health](image)

This chart is then made available to the dentist, and more information is added on it as the dentist proceeds to evaluate the patient and decides on the treatment plan to be conducted (Figure 4.4).

![Figure 4.4. Representation of the dental chart where the dentist writes the diagnosis and the treatment plan, and the business assistant will complete with the fee estimate.](image)

This information is shared among different participants in the activity system, and it constitutes a tool for different people to perform their respective tasks. For instance, the business assistant uses it to calculate the costs for the dental treatment according to the
information contained in the patient’s chart, and it is her task to discuss with the patient
the costs of the treatment and how these costs are distributed between healthcare provider
and the patient. Ultimately it is at this point that the patient decides whether he can afford
the chosen treatment. Figure 4.5 illustrates how the members of this complex division of
labor relate to Mr. Smith in Dr. Paul’s dental clinic.

As a staff member in this activity system, it is understood that members have their
own specific tasks and responsibilities. In each act, they produce and reproduce the
division of labor that makes this activity system: the dentist conducts his part of the
dental treatment relying on the fact that the dental hygienist conducts her part, and that
the business assistant explains the financial aspects of the treatment to the patient, and so
on. Because the system as a whole changes state as the patient moves along the treatment
trajectory, any single individual does not have to monitor the system as a whole. Given
the generally high qualification of each individual for their area in the entire division of
labor, trouble, if it arises at all, may arise precisely at the moments of change of state,
when patient moves from one domain associated with one set of individuals to another.

Figure 4.5. The complexity of the division of labor in Dr. Paul’s dental clinic and their relation with the
patient who needs to interact with two different dental clinics at the same time. Dotted lines represent
communication that may or may not happen, full lines represent communication that always happens.
At the same time that the division of labor is generally understood by staff members and dentists, the roles of the various participants in the activity system are interdependent and interconnected. That is, for the dental hygienist to perform her task she needs first to have the dentist's diagnosis and the agreed upon treatment plan, as well as the health questionnaire that the patient answered in the first visit. Reciprocally, the dentist needs to have access to the patient's chart, which the dental hygienist prepared, to evaluate the patient's case and provide a diagnosis and dental treatment plan. The dental assistant, in turn, is able to conduct the patient to the appropriate dental operatory based on the notes in the dental chart, where she knows what dental treatment will be made and which dentist or dental hygienist will be working with the patient on that specific day. The receptionist schedules the patient for the first time with the appropriate dentist, relying on the patient to describe the chief complaint concerning his or her oral health. Therefore, whereas each participant in the activity system of the dental clinic clearly has a specific task to perform, the various tasks each one of them performs are interrelated and interdependent. This makes the division of labor in this setting even more complex, although from the perspective of the dentist and the staff members, this is a fairly uncomplicated aspect of their daily work, which they take for granted and perform with relative ease, as I have observed during my visits to the clinic.

Communication in this complex activity system is made even more complex by the production and circulation of artifacts, such as the patient's chart, for example, which become crucial tools for other members to properly perform their tasks. In this way, the members of this activity system not always communicate directly with one another (dotted lines in Figure 4.5), but instead rely on artifacts to obtain important information
that is required for their work; in fact, the patient is the only person who directly communicates with all the members of the division of labor in the activity system, though not with all at the same time. In a sense, therefore, the articulations of the system come about in and through the patient trajectories.

This means that for the patient the activity system may be experienced in a way quite different from that of dentists and dental staff. The patient does not experience the division of labor as such, that is, beyond the obvious role he plays as patient versus the roles played by experts (dentist, hygienists, assistants, etc). The patient is on a trajectory that might be ascribed to him or her, and this trajectory provides an organization of the experience as one: a visit to the dental clinic. The patient goes to the dental office to receive a dental treatment and follows the instructions and submits himself to the care of different professionals not necessarily being aware of the specific tasks that each one of these professionals perform in the division of labor of the activity system. For instance, in Mr. Smith's case, he asks the dental assistant about the treatment costs of his newly agreed upon dental treatment plan, instead of asking it to the business assistant, who is the person in charge of the financial aspects of the treatment plan. Mr. Smith is unaware of the complex division of labor that exists in the dental clinic behind the scenes, but he is confronted with it when the dental assistant observes that she is not the person with whom he may discuss the costs of the treatment. In this situation it becomes evident that the patient and the other members who work in the dental clinic experience the activity system in quite different ways. This is an inherent conflict in the activity system, and when another activity system overlaps this one, as in the case of Mr. Smith, this conflict can become even more apparent.
Because Mr. Smith’s case needed extensive dental care, he was requested to attend another dental clinic, the periodontist’s dental clinic, which constitutes a different activity system. That is, Mr. Smith crossed the boundary between two different activity systems, as he moved back and forth between Dr. Paul’s clinic and the periodontist’s clinic. Mr. Smith moves freely as a subject between two activity systems, making one of the multiple connections that exist between these two activity systems (Figure 4.6). Based on the account provided so far, readers may already expect possible conflicts that may arise. On the one hand, Mr. Smith still is on a personal trajectory, which allows him to experience the events as “the treatment.” It is his experience that integrates the various actions that are performed by very different individuals within and between the two activity systems. The health care professionals, however, move the respective systems into the next state without concerns what happens before or after. Thus, the general dental clinic is in a holding pattern with respect to this patient (Mr. Smith) until he returns. Any of its staff is unaware of what exactly happens to Mr. Smith and the conversations he has had until he returns to the office, at which point his presence makes the system move through a particular sequence of states.

Figure 4.6. Illustrates Mr. Smith as the participant of two different activity systems where he is part of the collective subject, and where providing him a dental treatment is the object of both systems.

When patients need to have dental treatment in two different dental offices, the information contained in the artifacts produced in one activity system need to flow from
this activity system to the other. In Mr. Smith’s case the decision that is made by him and Dr. Paul is modified later on by Mr. Smith and the periodontist. This information is brought back to Dr. Paul’s clinic in the format of a verbal communication between Mr. Smith and Dr. Paul. The patient, however, is not aware of the complex division of labor existent in Dr. Paul’s dental clinic; thus, he simply relates his conversation with the periodontist to Dr. Paul, inquiring about the possibility to change his dental treatment plan. According to the rules and the division of labor of the activity system, Dr. Paul is the person in charge for such a decision to take place—that is, Mr. Smith should indeed talk to Dr. Paul if he would like to change his treatment plan, as Dr. Paul is the expert on the oral health aspects of the case.

Because the states of the dental offices that define Mr. Smith’s trajectory are connected but independent, the patient in fact crosses boundaries, though from his perspective it is one and the same visit or an enchainment of visits. Importantly, in the boundary crossing across activity systems performed by the subject (i.e., Mr. Smith), one of the main system components is modified, that is, the treatment plan (a crucial tool in the activity system of the dental clinic) originally decided upon and normally constitutive of the direction the patient trajectory takes is changed. The dentist and the dental assistant implicitly understand the extension and the repercussion of this change and they know that they need to change their actions to adjust to the change in the treatment plan. The change in trajectory requires Dr. Paul, as he explains to Mr. Smith, to re-examine him. However, as the patient, Mr. Smith is not aware of the implications of the change. The dentist says that the treatment modifications can be done; in fact, he considers this new treatment to be more advantageous and therefore wants to do proceed with it. But the
patient does not know that because of this change he has engaged a different trajectory defined by different series of states of the entire activity system.

In this case, the differences in how the activity system is experienced by the different participants mediates their actions in different ways; while the dentist and staff members continue to play their respective roles, simply envisioning a different trajectory of the patient defined by a different set of clinic states, the patient perceives the activity system as being still the same: he is on his treatment trajectory. The dentist and the staff members take for granted all that is imbued in the change of the treatment plan, including the substantial difference in the costs of the treatment, and adjust to this change by redirecting their actions, which now should fit the new activity system. The patient, on the other hand, does not identify the repercussions of the change in the treatment plan until he decides to inquire about treatment costs. In this case, the conflict arises as a result of the inherent contradiction of the activity system, its particular organization that normally works, but with articulations across which the different participants do not precisely know what is happening.

In Mr. Smith’s case the conflict started by an external source, the decision made in another dental clinic (periodontist’s clinic). That is, when Mr. Smith and the periodontist decided to change the treatment plan they may have not addressed an important component in the decision making process, the effect that their actions would produce in the other activity system (general dental clinics). The artifacts that they produced in the periodontist’s clinic crossed the boundary from one activity system to another, and this completely changed the activity system of Dr. Paul’s dental clinic.
4.5. Discussion

Dr. Paul's dental clinic is a typical example of how a dental clinic works in the major cities of Canada. This way of working is a very efficient way to work with a high number of patients at the same time, where a larger number of patients can receive the dental treatment without requiring a long time in the waiting list of dental clinics. However, this also means that there is a highly complex division of labor in this clinic, which causes the different actions performed within this activity system and even in neighbor activity systems to depend on each other, constituting states of the dental care trajectory.

During my ethnographic study, I observed that patients experience the dental clinic differently than the dental professionals, which is evident in the case I described in this chapter. They act as if they were the object of activity rather than a co-participating subject. I consider the dental treatment and not the patient as the object, because the dental treatment appears to the dentist and to the patient as a task that needs to be done to overcome the dental problem that the patient is facing. The reduction of the subject to the dentist alone leads to the minimization of the richness of a dental care activity in the activity system of the dental clinic. In this sense when multiple activity systems work together (network of activity systems—different dental clinics), the activity system of the general dentist and the specialist's dental clinic provide complementary work for the common object—the dental treatment—of both activity systems.

In the case described here, we notice a gap in the information process among members of the same activity system and among members of different activity systems as
well as, for example, the general dental clinic and the periodontal dental clinic. The question here is, “What can be done to bridge this gap?”

One of the disadvantages of having a complex division of labor in the dental clinic is that the patient needs to deal with different professionals that sometimes may not be aware of the patients’ needs and the way in which the patient experiences the dental care. Thus, breakdowns in the information may happen, as these professionals do not communicate with the patient outside of their particular dimension of work. That is, the dental treatment involves three dimensions that are parallel to each other and must be considered together when deciding what treatment is the most appropriate for each patient. These dimensions are (a) the technical dental aspects; (b) the financial aspects; and (c) the time related aspects of the dental treatment. Each one of these three dimensions includes tasks performed by different professionals in the dental clinic that, although interdependent, may be experienced by these professionals as separated from the other dimensions. For instance, all the actions the dentist performs are situated in the first dimension, that is, the dentist is concerned and in charge of the technical aspects of the desired dental treatment. He explains to the patient what can and cannot be done in the dental treatment according to the patients’ oral health and his technical ability to perform the dental treatment. The dentist does not explain to the patient aspects of the treatment related to the other dimensions such as, for example, the financial aspects or the time length necessary to conduct the desired dental treatment; he knows other members of the activity system will perform these tasks. The business assistant, on the other hand, performs her role in the activity system concerned with the dimensions of the financial aspects of the dental treatment; she is not concerned with the technical aspects of the
dental treatment. Similarly, the receptionist is responsible to schedule how many visits are necessary, making sure that the dentist will have enough time allocated to perform the desired dental treatment; thus, her role in the division of labor falls within the time dimension of the dental treatment (Figure 4.7).

Dental Treatment

Figure 4.7. In the dental clinic, the division of labor causes the dental treatment to be developed in different states, where each staff member performs different actions upon which the other staff members’ actions are built. Thus, the receptionist’s task allows the dental hygienist to do her task, which allows the dentist to perform his task, and so on. This same division of labor allows each staff member to play his or her role in the dental clinic within a specific dimension of the dental treatment: The business manager’s role falls within the financial dimension of the dental treatment, whereas the dentist’s and the dental hygienist’s roles include technical aspects of the same dental treatment.

I suggest that when a dentist or any other member of the activity system explains the dental treatment for the patient it is necessary to integrate the three dimensions that are involved in the dental care if conflicts like the one I described here are to be avoided. When patients go to a dental clinic to receive a dental treatment they are aware that they need to have financial capabilities to pay the dental treatment, and that the desired dental treatment will depend on their oral health conditions and availability to go to the dental
clinic. However, patients are not aware that in the dental clinic the division of labor causes each member of the activity system to perform their tasks exclusively within the realm of one of these three dimensions, which are therefore, from a staff point of view, dissociated. This dissociation may contribute to the emergence of conflicts in the activity system.

We also need to focus on the quarternary contradictions that may arise from the relationship between different dental clinics (activity systems) working on the same object: the treatment. Dentists should understand that a collaborative work is done between activity systems. In the episode narrated in this study, Mr. Smith needed to work with a general dentist and a specialist dentist (periodontist), thus who is responsible and who decides for the treatment to be done is a mutually subject composed by the general dentist, periodontist and the patient. That is, the decision-making process is affected by the conditions in these collective activity systems as much as the decision-making process shapes the activity systems, that is, they mutually presuppose each other.

In Mr. Smith’s case, the dental treatment agreed upon between him and Dr. Paul was questioned later on when Mr. Smith visited the periodontist. This considerably mediated events in Dr. Paul’s activity system: a conflict emerged when the patient discovers that he has been in the dark about the costs of the form of treatment he had opted for. When the problem arose, the activity system faced a quaternary contradiction (between dental clinics). The conflict started by an external source, the decision made in another dental clinic (periodontist’s clinic), that is, when Mr. Smith and the periodontist discussed about the possibility of modifying the treatment plan, they did not talk about the other important dimensions that are related to the decision making process. They did
not talk about the financial aspects of the dental treatment, and because of the strict
division of labor in Dr. Paul’s office, this aspect of the dental treatment was not
immediately made available to the patient in Dr. Paul’s clinic either.

To minimize the possibilities of a conflict emerging, dental professionals should
explain to patients the tasks that each member of the activity system will be conducting
on them. The patient does not know that each member of the activity system performs
and is responsible for a specific dimension of the task (technical, financial or time aspects
of the dental treatment); the patient may ask about costs to the dental assistant, as it
happened in Mr. Smith’s case, not knowing that this aspect of his dental treatment is not
part of the dental assistant’s role in the dental clinic. Therefore, when talking to patients,
dental professionals might want to involve patients more actively in shaping the treatment
they are subjected to. For dentists this means going beyond their immediate roles in the
division of labor to articulate to the patient all the different and interrelated aspects that
constitute the dental treatment. For example, in the case I described here, Dr. Paul,
besides performing the evaluation of the technical part of the dental treatment and
assuring Mr. Smith that, from a technical point of view, the new treatment plan was
feasible, could also have explained to Mr. Smith that the change in the treatment plan
involved and was subjected to other aspects of the dental treatment, which other members
of the activity system were in charge of. That is, by viewing the dental care in its entirety,
the dental professionals are enabled to communicate with the patient including all the
three dimensions of the dental treatment, also making explicit to/for the patient the
complexities of the division of labor in the clinic, thus minimizing the possibilities of
occurrence of major conflicts.
4.6. Conclusion

In this study, I used cultural-historical activity theory to analyze the situation observed during my ethnographic study in a non-reductionist way, where I understand an action according to all the mediated aspects that make this action occur. I introduced the idea of patients as one of the acting subjects in the activity system of the dental clinic, demonstrating that a dental clinic belongs to a network of different dental clinics sharing the same object—the patient’s dental treatment. I also demonstrated that each activity system has a complex division of labor that creates states and breakdowns in the relationship with patients. The patient may see his or her trajectory in the dental clinic as a continuous pathway, whereas the dentists and the dental staff experience it as a segmented sequence of events, the completion of one precipitating its successor. In a system where each person performs different yet interdependent actions, and where each action is part of a different dimension of the entire dental treatment, conflicts are bound to happen, even if only because of the complexity of the system. In this chapter, I articulate how and why such conflicts arise, providing a better understanding of dental clinics as complex activity systems. This knowledge may help dealing with such conflicts in the future. My study is of special interest for dental practitioners and dental schools.

Dental schools may want to assist their students to understand that a dental office is not an isolated island among other dental offices. Dental practitioners and dental students should understand the relationships that exist among dental offices and that external factors mediate the decision-making process of a dental treatment. It may be of great benefit to dental students to be constantly aware of the organization of dental clinics as multilayered networks of interconnected activity systems rather than as a pyramid of
rigid structures dependent on a single center of power. Special emphasis might be given
to the points about the relationship between different dental clinics (general and
specialized dental clinics) and different members of the division of labor (dental staff). A
deeper understanding of how dental clinics work within a more social and dialectical
approach, as presented here, may help dentists and future dentists to understand how
patients may be treated during their dental treatment, understanding how responsibility
and ethics are distributed and shared in the workplace, and viewing contradictions as
good resources to move their dental clinics in a better direction.
Chapter V

The Unknowability of Actions and the Development of Phronesis in Dentistry Practice
5.1. Introduction

In a recent analysis of research scientists at work, Roth (in press) investigated the relation between intended and situated action demonstrating the impossibility in principle to know an action while it is being performed because the action is composed of unconscious elements called operations. We know what we do after an action is completed, through the products that result from the action. We therefore cannot anticipate the outcomes of our actions with perfect certainty, leading us to revise the description of what we have done after the fact. Roth shows that this is especially the case when we operate in unfamiliar domains, at the cutting edge of what we know; as we become familiar, our situated actions come very close to our planned actions and the actual outcomes approximate those that we intended.

If this analysis of practical actions is valid, this has considerable consequences for the practice of dentistry and dental education. We then must rethink the way in which practitioners engage in interaction with their clients, the rules governing their practices, the ethical standards guiding these practices, and how we make legal decisions concerning the boundary between practice and malpractice. In sum, these results would have an effect on the entire set of societal rules and relations that are currently associated with any profession, including, but in no way limited to, dentistry. The results would be of particular relevance to beginning dentists, who have little practical experience and practical wisdom. I begin this chapter by articulating an activity-theoretical framework, which explains why actions cannot be known until after they are completed and then I describe the results of my research on the development of practical wisdom in dental practice. I end this chapter outlining some implications that arise from this work.
5.2. Activity-Theoretical Perspective on Practical Action

My research is epistemologically grounded on activity theory (e.g., Engeström, 1993; Leont’ev, 1978), which allows me to analyze action and interaction inside an entire activity system. As presented in chapter 2, in activity theory, the smallest unit of analysis is the activity, which includes not only the subject (i.e., the individual or collective subject that acts) but also the object (i.e., the motive that drives the activity), and, most importantly, all the mediating factors between subject and object (e.g., community, tools, rules, division of labor). Figure 5.1 diagrammatically presents the main elements into which an activity system can be decomposed—all the while understanding that none of these elements may exist outside its relations to all other elements. The axis of main interest is constituted by the relation of acting subject to the object of its actions; the other elements mediate the relation between these two. But, to reiterate, none of these elements can be thought independently of all the others because they mutually constitute each other. To concretize the nature of an activity system, I provide an example.

In a dental activity system, the subject is the dentist and the object is the treatment of the patient. The tools are the instruments the dentist uses to perform a series of actions that constitute the final dental treatment. The rules that mediate this relation are, for example, the code of ethics, professional standards, principles and guidelines for practice, and so on. The community in this activity system involves the dentist’s and the patient’s family, ethicists, lawyers, insurance companies, and everyone else interested in or affected by the actions performed inside this activity system. Finally, the division of labor, which assigns specific roles to dentist, staff, patient, etc., mediates the subject–object relation.
Figure 5.1. Representation of the activity system.

An activity is constituted by actions, and the object motivates the subject’s actions. Therefore, when the activity systems are different, the actions that constitute these systems also differ. Inside the activity system, actions are performed consciously and always toward a goal. Actions, however, presuppose the activity that they bring about; that is, the activity is constituted by actions, which in turn, make sense only inside the activity system they constitute. The relation between activity and action is one of sense (Figure 5.2). Actions are constituted by operations, which are unconsciously performed; operations are unknowable and unconscious reactions to the current conditions, including the physical setting, bodily states, and the current state of the action. Therefore, when we act, a sequence of unconscious operations is created. For example, for most experienced dentists, positioning the instrument for a scaling and root planning is an operation; they position the instrument unconsciously while attending to the conscious goal. In a different context, however, the instrument position for doing the scaling and root planning may become conscious and is thereby raised to the level of action. For example, when a dental student is doing his scaling and root planning for the first time the student is very aware of the hand position. Because the positioning and all the other operations involved in the pursuit of a scaling and root planning occur
unconsciously, the actions they realize can be known only after the last operation and therefore the action as a whole has been completed. The relation between an operation and an action is one of reference. The relation of sense and reference is what generates meaning inside the activity system.

![Diagram](image)

Figure 5.2. Relation among activity-actions-operations.

To know means to be able to reason about something, which requires that something must be represented in mind. To know an action therefore requires that we can represent it—in a sign, a concept, or an image. However, such representation can only exist once the action is completed (Roth, Lawless, & Masciotra, 2001). Viewed differently, knowing requires a mediated access to the world (e.g., Charles Sanders Peirce's semiosis). Thus, we need something to stand for the action before we can know the action, but we can only have something to stand for the action once the action is available to us. Therefore, before we can actually act, we need to have not only a goal for the action, but also this image of the action that allows us to plan the action we wish to perform. Before the action is performed, we can only anticipate its outcome, and only after the action is finished can we know for sure if what we have anticipated was in fact achieved.

Following Bakhtin (1993), the content/sense and the individual historical moment of one act cannot be separated: they are unitary and indivisible. Actions are as inextricably associated with the context (activity) as they are with the individual(s) who
performs the act (subject). Ethics are embedded in the actions. An action—here considered to be any deed, even a thought—is an answerable, individual performance. Therefore, every action implies answerability, that is, any action of a subject in an activity is inextricably associated with ethical and moral principles, towards which the subject is responsible, accountable, and must answer to.

5.3. The Development of Phronesis in Dental Practice

As part of my thesis, I conducted an empirical case study (chapter 3) to investigate the gap dentists experience when they move from dental school into the workplace, and the development they undergo after they start working. The experienced gap can be explained as an effect of the boundaries newly graduated dentists cross when they move between two very different activity systems—school and workplace. Thus, when students graduate and move to the workplace, they shift from one activity system to another, changing not merely their surroundings but in fact their entire meaning-making system. University and workplace are two different activity systems; each one is embedded in different social, cultural, and historical contexts, with different objects and outcomes, and the actions that are performed in and constitute each one of these activity systems are also different. For example, the principal goals for dental students are to gain experience and to exhibit technical and theoretical competencies; the division of labor assigns to supervisors during the dental practicum the role of ascertaining these competencies. After graduating, this division of labor no longer exists, changing the way in which the dentist's actions are mediated. Chapter 3 shows that this is particularly the case for practical wisdom, which allows dentists to engage in right action. Greek philosophers knew practical wisdom under the term phronesis (Ricoeur, 1992).
Although there are ethics courses in university dentistry programs, applied ethics is something dentists largely develop in the workplace. In chapter 3 I show that in dental schools, phronesis is embodied in the clinical supervisor who is legally responsible for the students’ performance. The supervisor mediates the relation between the students (as dentists) and the patients, and this mediation not only influence students’ possibilities of developing phronesis, but it also helps shape students’ identity as practitioners.

When dentists start to work, some of the actions that were appropriate inside the activity system of the dental school are no longer adequate in the new activity system. My analysis shows that although new dentists may have all the required theoretical knowledge and technical skills, they generally lack the practical wisdom that would allow them to engage in right (ethical) action. This situation causes conflicts to emerge, the resolution of which depends in part on the novice dentist’s development of phronesis. In chapter 3 I show that phronesis and ethics are embedded in the activity system; thus, as dentists develop phronesis, their actions change, causing the entire activity system to change.

Phronesis helps to close the gap between anticipated results of dentists’ actions and the actual results they achieve, without, as Roth’s five-year study among scientists showed, ever being able to close the gap entirely. This helps illuminate the differences between experienced and novice practitioners, and it also helps to elaborate the reasons why experienced practitioners may still perform actions which results are considered inappropriate (e.g., actions that become the topic of malpractice suits). Newcomers in the dental profession therefore are confronted with a much larger gap between intended and actual results of their actions. With the development of phronesis, actual actions more
closely resemble planned actions, and the goals that guide our actions inside the activity system become more similar to the actual outcomes of our actions. However, even with phronesis, there is still a gap between our planned and actual actions. If it is correct that this gap cannot be completely overcome, we must consider the implications of this for our practice specifically, and for societal relations in general. In the following, I raise some questions and suggest a few comments about a few of these implications, particularly for dentistry.

5.4. Implications for Dental Education and Dental Practice

It is not my intention here to get at any conclusion on these issues I have presented, but I hope that future researches will be able to answer some of the questions raised here, as well as generate new questions, which will move these investigations ahead, and also the debate of these and other important issues within the dentistry community.

First, there are ethical questions concerning the dentist-patient relationship. For instance, how should dentists explain to their patients the different treatment options available? Should dentists tell that they cannot provide 100 percent guarantees that the treatments will be successful? How should dental practitioners explain the situation to patients, assuming, of course, that mentioning it is indeed the best, most ethical course of action? Although I agree that treatment options need to be truthfully and thoroughly explained to patients, perhaps practitioners should also disclose to patients the step-by-step procedural plan (that is, operations and actions) that will be employed aiming at an expected (but not always achievable) result. If practitioners cannot know their actions while acting, they cannot guarantee the results of their actions. However, what we can do
and should be responsible for is the careful planning of our actions; after all, good practitioners must know what they have to do (planning of actions) even if they cannot know what they are doing in the very same moment in which things are being done. Therefore, based on our expertise and phronesis, we are able to get actual results that are very close to the expected results, which we should clearly expose and discuss with our patients.

A second set of questions concerns the legal situation of practitioners. Even though there always will be some aspects of our actions which inherently we cannot know, an action is always an answerable and individual performance (Bakhtin, 1993). However, to what extent can we be held legally responsible for our actions (or the results of them for that matter) if we do not have control over all the aspects of our actions while we are performing them? I believe that the answer to this question lies on the planning of our actions, which becomes better as we develop phronesis, which particularly affects novice dentists.

Finally, there are also implications related to dental education. Dental students should be not only aware of the unknowability of actions, but most importantly, they should also be able to participate in discussions that allow them to raise and try to answer questions similar to the ones I have raised here. Particularly in disciplines related to ethics, law, and dentist-patient communication and relationship these discussions should be promoted as a way to engage students in critical reflection.
Chapter VI

Conclusions and Implications
In the three articles and the discussion paper that constitute this thesis, I investigate, from different perspectives and based on different types of data, the dentist-patient relationship in the workplace. Particularly, I focused on ethics, investigating the ethical dimensions of dental practices and praxis when these professionals engage with their patients, and how they narrated stories about dentist-patient relationship that contained ethical moments. I also analyze the dental workplace per se, and theorize the actions performed by practitioners, and their awareness of the outcomes of their actions, as well as the ethical dimension for their actions (e.g., in the form of individual and collective responsibility). Throughout the four studies, I use cultural-historical activity theory as the general framework to analyze the interactions between dentist and patient, as well as the structure and organization of dental school and dental clinic.

From videotaped interviews, I identify in chapter 2 micro patterns in the dentists’ discourse when they were talking about conflicted situations that happened in their dental clinics. The comparison of the dentists’ narratives when they talk about possible ethical situations as opposed to when they were not talking about ethical situations made evident that dentists are aware of the ethical component inherent in their interactions with patients; and this awareness is marked by a higher use of specific discursive features such as pauses, broken sentences, verbal markers of uncertainty, and shifts in agency. Through my analysis of the dentists’ narratives during these interviews I am enabled to better understand the sources of conflicts between dentists and patients, theorizing the gap existent between dental schools and dental clinics and how this gap may eventually decrease through the development of phronesis, the practical wisdom that allows experienced dentists to adapt and deal with various situations in their workplace.
During my nine-month ethnographic study I observed in-depth the organization and structure of a busy and successful dental clinic that nonetheless still presents challenges and conflicts. Through this study, I articulated the complexity of the division of labor in the dental clinics, and the systemic and inherent contradictions that generate conflicts in this activity system. Finally, I discuss in chapter 5 ethics and responsibility given the probability of people not really knowing what they are doing while they are doing it, and the implications of such a concept for dentistry and dental practitioners.

The four studies that compose my thesis are interconnected, not only through the topic of interest and the theoretical and methodological stance I have taken to them, but also through themes that are like threads interwoven in each and every one of the four studies. In the following section, I present these themes, integrating the four studies.

6.1. Integration of the Four Studies

Collectively, my four studies are concerned with the ethics in the dentist-patient relationship: From dentists’ narratives about these relationships collected through interviews, to actions performed in a dental office observed during an ethnographic study. My approach is that being a dentist inherently comes with an ethical dimension, and that every action (and, consequently, every inter-action and activity) already presupposes an ethics of care and responsibility. Therefore, as a whole, my thesis is about ethics embodied in the dentists’ actions. More specifically, however, there are themes that emerge from my results, which I grouped into two main topics: The dentists’ ethical awareness, and the sources of ethical conflicts in dentistry praxis.
6.1.1. The Dentists' Ethical Awareness

One of the definitive conclusions in my research is that dentists are indeed aware of the ethical component inherent in their actions towards their patients. This is not to say, however, that dentists always act ethically towards their patients. At times, they may be aware of an ethical conflict, but they may regard it as a burden that comes with the profession and cannot be solved. The dentists' awareness of the ethical dimension inherent in their practice is evident through their actions, both in their discourse and in their acknowledgement of the conflicts they encounter in their daily practices. In chapter 2, for example, I show how the dentists' change their discourse when talking about situations with potential ethical problems. The fact that they identify these situations as problematic is already an indication of their awareness of the ethical issue present in the situation. But more pointedly yet is the higher frequency of use of certain discursive features that mark their uncertainty and reflexive behavior while they narrate their stories. The dentists interviewed are careful about what they said and how they said it, which is a function of the activity system of the interview per se; but they are aware that there are ethical implications of the actions they perform toward their patients. The discursive features are markers of an inherent sense for the ethico-moral nature of the situation described.

Similarly, in chapter 3 the dentists acknowledged conflicts during the interaction with their patients and changed their actions. They are aware of the existence of an ethical conflict (for example, in Matt's case, he knows the patients should understand what he is saying, otherwise they are not be able to participate in the decision-making process related to their dental heath). The development of phronesis allowed them to
change their actions, seeking the resolution of the conflict. Here, however, it is important to highlight that, although the dentists develop practical wisdom (phronesis) in the workplace, which helps them solving and avoiding conflicts, the way in which they solve conflicts may not always be in the most ethical way. Sometimes, dentists may be aware of ethical conflicts, but they may not know how to solve the conflicts in an ethical manner, and they may just adapt to the situation in an ad hoc manner and develop other means to deal with it, without really solving the problem or changing their behavior from an ethical perspective. For instance, in Fraser’s case (chapter 2), the acknowledgement of the conflict is not enough to motivate him to change his actions. The fact that his patients do not clearly understand him is a source of trouble for him; he does not understand that it is his responsibility—not merely juridically but ethically—to make sure the patients did understand him, and that, the lack of understanding means more than just some confusion later on, but that the patients are unable to participate in the decision-making process, and, consequently, that their autonomy is jeopardized. However, Fraser is a relatively inexperienced dentist; thus he may not yet have had the opportunity to develop phronesis in the workplace to help him deal with this kind of situation.

On the other hand, even very experienced dentists are still faced with conflicts during their practices (e.g., Ronald [chapter 3] and Dr. Paul, in chapter 4). In my discussion paper, I theorize the gap that exists between intentions and actual results of our actions, which may be attenuated by the development of phronesis, but may never really disappear, insofar as we can only know what we are doing after we have done it.

Dentists are aware of the ethical dilemmas in their relationship with the patients. This is evident from both their choice of narrating these particular cases to me, and the
changes in the discourse, with the use of certain discursive features more often. Even though I acknowledge that these narrations constitute a version of the actual event, delivered to a specific audience and in a specific situation, it is evident that the dentists are aware of ethics in the interactions with their patients, but this awareness not necessarily motivates them to change their actions in order to promote more ethically acceptable behavior.

The results of both my first and second studies complement, confirm, and reinforce each other, demonstrating that ethics is indeed embodied in the dentists’ actions in their dental clinics and even at the level of the narratives when they are narrating their practice to another dentist.

6.1.2. The Sources of Conflict in Dental Praxis

According to my analysis, conflicts in dental praxis emerge due to three main factors: The objectification of the patient by the dentist, the gap produced by the boundary crossing between dental school and dental clinic, and the systemic complexity of the activity system of the dental clinic. Studies that use cultural-historical activity theory in health related areas have placed the patient as the object of the activity system. In my studies, however, I place the patient as the subject of the activity, constituting the collective subject where the dentist is also a part. The object of the activity becomes the treatment to be performed on the patient, rather than the patient him/herself. Nonetheless, the patient may still be objectified by the dentist, which causes conflicts mainly because the decision-making process is undermined when dentists believe they are solely responsible for the dental treatment. In such instances, the contradictory expectations on the part of the dentists and the patients cause conflicts in the interaction between them. In
these cases, the dentists may not be completely aware of the ethical implications of their actions toward their patients, although they do experience the conflict (as I mentioned earlier, they are aware of conflicts, even if they do not change their actions in an attempt to solve these conflicts).

By objectifying the patient, the dentist jeopardizes the autonomy of the patient. For example, both Fraser and Matt (chapters 2 and 3, respectively) are aware of the conflicts they experienced with their patients because the patients did not understand the treatment plan. If the patients do not understand their treatment options, they cannot take full responsibility in the decision making process, and the dentist then is responsible for deciding which treatment is the best for the patient. Objectification of the patient may also occur when the members of a dental clinic focus primarily in the dental care and the specific role they play within the division of labor of the activity system (as is the case, for example, of the clinic described in chapter 4), disregarding the fact that the patient needs to have access to a more holistic perspective of the dental treatment in order to be able to participate in the decision making process.

Another source of conflict is the boundary crossing between the activity systems of the university dental clinic and the private clinic. In schools, dental students are trained to perform certain actions, but when they confront the reality of the dental clinic, they find themselves in a different activity system, that seems similar enough to delude them in believing that they can transfer actions from one activity to the other. Therefore, when dentists first start working in their private clinics, they perform actions that no longer are appropriate within this new activity system. Even though the dental clinic at school is supposed to simulate a workplace environment, the division of labor and the object of the
activity systems are quite different, and with it the juridical responsibility for the actions performed. Thus, when actions performed in one activity system are transferred to another, conflicts like the ones experienced by Matt and Ronald (chapter 3) arise.

Dentists face a gap crossing the boundary from school to workplace. By developing phronesis, dentists may be able to attenuate this gap, without, however, completely closing the gap, as I argue in chapter 5. I believe that there are ways in which dental school could help students bridge this gap, and they are included in my suggestions later in this chapter.

A third source of conflict is the systemic complexity of the activity system, which promotes conflicts due to the highly specialized division of labor in the clinic, and the difference in the way in which clinic staff members and patients experience the dental care. Moreover, quaternary contradictions (i.e., those between different activity systems) are also systemic sources of conflicts. The division of labor in the activity system of the dental clinic is very complex, creating a horizontal distribution of tasks among the various participants in the activity, as shown in chapter 4. This generates different states in the patients’ trajectory to receive the dental care. Whereas the dental staff members take this division of labor for granted, the patients experience their dental treatment as a continuous process, and are not aware of the different states and how each person is in charge of different, interdependent tasks that are all part of the dental treatment. This also implies that a complex intercommunication processes need to take place in order to achieve alignment among all the different tasks that are simultaneously performed in the dental clinic. Both the discrepancy between the way in which the patients and the dental
staff experience the dental treatment trajectory, and the intricacies of the communication in this activity system are potential sites for the emergency of conflicts.

As I showed in the ethnographic case study in chapter 4, the complexity of the activity system of the dental clinic is such that innumerous conflicted situations between patients and dentists may occur; this is so not only due to highly specialized division of labor, but also because more than one activity system are interconnect through a network of activity systems at any given time, demonstrating how quaternary contradictions emerge. In most cases, extensive dental treatments involve more than one dental clinic, where the patient, as part of the collective subject, moves from one activity system to another, while the object of both activity systems remains the same, namely, the dental treatment of the patient. These connections create a network of interconnected activity systems that, although different, need to work together to achieve the expected outcome. In this movement between two activity systems, there is space for the emergence of conflicts, such as the one experienced by Mr. Smith and described in chapter 4. A similar movement is the boundary crossing between school and workplace, and as such, it also comes with possibilities for conflicts (as exemplified in chapter 3).

In addition to these three main sources of conflicts outlined here, there is also the issue of an inherent unknowability of actions and the uncertainties implied in our actions. Even our awareness of the ethical dimension embodied in our actions does not prevent conflicts from surfacing in our interactions with other human beings. But in the case of dentistry in particular, there seems to be alternatives to minimize the probability of conflicts and ethical dilemmas to emerge. In this regard, I make a few suggestions, particularly for dental education, in the next section.
6.3. Implications for Dental Education

There are direct implications of my research for the preparation of professionals in the health care field. Traditionally, universities and colleges have focused on the cognitive dimensions of knowing and, at times, have failed to provide their students with resources to identify and deal with the ethical component inherent in dental practice. The dental education community could benefit from the results of my research, both when teaching and when selecting specific methodologies and curriculum material for their dental ethics courses.

In some dental schools, ethics courses are constituted by theoretical lectures about the code of ethics, and these lectures may not catch the students’ attention. For example, one study reports that when dental students are learning about dental ethics, dental ethics courses seem boring and that what they learn as part of these courses does not help them in their everyday practice. One example of a discontentment about dental ethics courses from a dental student is related in the following quote:

Memorization of ethical theories, codes, acts, and so on is mindless in comparison to solving an ethical dilemma. Professors can attest to the fact that students are utterly dulled by ethics lectures. Truthfully, students always say, “I know what is ethical. This class is a waste of my time.” (Koerber et al., 2005, p. 214)

However, as Koerber et al. pointed out in the article, knowing what is ethical is different than behaving ethically. That is, in dental schools, students are presented with theoretical knowledge about ethics, which includes mostly rules and principles of conduct, and which the students find it difficult to relate to practical situations. When case studies are presented they are still removed from the students’ own practice in the
dental clinics, although they provide students with a more situational and practical view of ethics. In this sense these cases constitute “fictional” or “ideal” cases, where the ethical dilemma is already presupposed to exist (and thus more easily identifiable) and there is a presumable “right” conduct to solve the dilemma.

In practice, however, when students are interacting with patients in the dental clinics, ethical dilemmas are usually subtle, and a constant reflection on action is necessary to uncover some of these dilemmas, as I have shown throughout this thesis. Moreover, the “right” action to be taken is not always easy to be identified in these situations, requiring a deep reflection on the practice, its context and historical unfolding. Therefore, as I reflect on the results of my research, it becomes evident that dental schools should give opportunities to dental students to experience first-hand the ethical dilemmas that they may face during their dental practice.

Based on the results of my research, I suggest a complementary approach to teach dental ethics in dental schools. By complementary approach I mean that the current methodologies could continue to be used with some modifications, but they would co-exist with a different, innovative (at least in dentistry) methods that should be implemented. I envision for dental schools to continue to have lectures and case discussions in their classes, but the discussions would promote critical thinking among dental students. I envision dental students to know about theories such as the one I discuss in chapter 5, to discuss and critically reflect on topics related to legal dentistry. Moreover, students will be aware of the ethical and moral component of their actions towards a patient, understanding that every action has an intrinsic ethical component and that they must answer for their actions, insofar as they are responsible for the actions
even beyond the limits of their intentions, even when they are no longer present in the situation. A more applied philosophical stance on ethical courses will bring forth issues for discussion that promote critical thinking and opportunities for students to question some of the long-established and taken-for-granted dentistry practices.

It is also important for students to understand that a dental office is not an isolated island in society, as I have observed during my ethnographic study. Dental students should understand the relationships that exist among different dental offices, and that the decision-making process of the dental treatment is influenced by external factors. Dental students should learn about the organization of dental clinics as multilayered networks of interconnected activity systems, and not as a pyramid of rigid structures dependent on a single center of power; some stress should also be placed on the identification and discussion of the structure of dental clinics, which in most cases include highly complex division of labor. What are some of the implications of this structure to ethics in the interactions between the clinical staff and the patients? Questions such as this should be raised in dental schools to allow students to reflect on their practice from new perspectives.

As a whole, this thesis shows that dentists learn to enact ethical principles while in and through everyday practice at work in their dental clinics. It is in praxis that ethical practices develop. Thus, teaching ethics as an abstract theoretical body of concepts cannot achieve the desired impact on the individual students, as their unique places as participants are not taken into consideration. Even case studies do not introduce this dimension, which can be experienced only in face-to-face interaction with real patients. Dental seminars that engage dental students in critical discussions of important ethical
concepts complemented by dental school clinics — where students analyze their own ethical dilemmas — may allow them to appropriate phronesis before graduation, because they will become aware of the ethical implications of their own actions, which could foster a change of behavior. Dental schools might offer opportunities for the students to analyze their own experiences on the dental clinic from an ethical perspective, promoting the development of phronesis. For instance, dental ethics courses could have students working in pairs: While one student would be attending the patient, the other would be taking field notes of the way in which his or her partner interacts with the patient. The student could analyze how the other is talking and presenting the treatment plan to the patient, and how the patient reacts to the student’s explanation. The student-observer could also notice the actions the student-dentist is taking to try to solve any conflict that may arise in his or her interaction with the patient. Once the students have produced these field notes, they could analyze them in the classroom environment, which would give them opportunities to discuss their own practice and analyze the subtleties of ethical issues that permeate dentist-patient interactions, as well as try to solve some of these issues.

Dental school may help students develop the practical wisdom earlier on by fostering reflection about students’ own practice. These teaching methodologies combined could help students to learn to be ethical through a critical analysis of their own everyday practices, doing a critical discussion of important ethical dilemmas that demonstrate that every action has inherently an ethical component that the dentist must answer for.
I hope my suggestions will help dental curriculum developers to change the way in which dental schools present their ethical courses to dental students. Recollecting my earlier days as a dental student, I remember that I had the opportunity to work in pairs with my classmates and to observe them working with their patients, but during those situations, we were instructed to notice the technical aspects of dentistry only, therefore missing on a valuable opportunity to make salient in our discussions other aspects of the dental profession, such as ethics in the interactions with patients.

I believe that when dental schools provide dental students with opportunities to become more aware of the social and ethical aspects of the dentist-patient relationship, dental students will be able to understand the dental profession in a broader, more holistic way, which will be beneficial not only for the would-be-dentists, but also and especially for the patients.
Bibliography


