THE MEDICALIZATION OF ORAL AESTHETICS: AN APPLICATION OF STRUCTURATION THEORY

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Medicalization has been discussed at length in the sociology of health and illness literature. Typically, dialogue has centered on the effects of medicalization and the process as a phenomenon in professional fields alone. This work is an attempt to study medicalization using a theoretical model, structuration, that allows for inclusion of the larger social system in understanding health system changes and to include consumers of health services in the process as active agents. The example of oral aesthetics provides an opportunity to identify the agents of change, the process of medicalization in the larger social context, and possible indicators of the phenomenon. An attempt to operationalize the complex concept of medicalization marks a move toward creating testable theoretical models for the variety of behaviors and conditions under study as medicalized.

Using content analysis of professional dental journals and lay magazines and a review of system rules and resources, shifts in language use and the emergence of medical frameworks were documented to determine if a medicalization of oral aesthetics had occurred. Results show two distinct periods within the last century when oral aesthetics have been medicalized in the United States. Evidence of turn-taking behavior among the agents is noted as well as the relationship of technology and technological language to the process. A model for future testing is suggested that encompass the identified agents, the language and framework, and the elements of social context.

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CHAPTER 1

EXPLAINING MEDICALIZATION OF DEVIANCE IN A STRUCTURATION FRAMEWORK

Medicalization

Current literature in medical sociology is replete with conceptualization of the phenomenon known as medicalization of deviance (e.g. Conrad and Schneider 1980; Bell 1991; Halpern 1990; Lowenberg and Davis 1994). The bulk of research focuses on the process and effects of medicalization. Investigation into the factors that precede and influence medicalization is limited, but insightful (Friedson 1970; Fox 1977; Schneider 1978; Conrad 1992). Continued applications of medicalization depend upon addresing the operationalization of this phenomenon, which has seldom been accomplished.

Medicalization as a specific concept of cultural variance in illness identification has been the focus of theoretical debates since its introduction in the 1960s. Critiques of past approaches to medicalization suggest the approaches have been narrow and lack objective structural components relating medicalization to the larger social system (Broom and Woodward 1996; Araujo, Marceau, McKinlay 1999). Others, including Conrad and Schneider (1980), provide an integrated approach, specifically identifying language, including new vocabulary and lay use of medical terms, as the link between medicalization and the larger social system.

Oral Aesthetics

Oral aesthetics was chosen as a specific example of medicalization due to shifts in dental practices of professionals and improvements in oral health status of the population, which produced changes in the approach to oral appearance. By 1815, dentists were accessible to most Americans residing on the East Coast. The competency of dentists however, was not quite as reliable due to the lack of national standards for dental education. The American Dental Association (ADA) formed in 1859 marking a movement toward organized, systematic control of education, practice standards and professional unity. These elements were securely in place just after the turn of the last century.

The start of the twentieth century saw the birth of an oral hygiene movement. Dental hygiene education began pushing for regular preventative measures in oral cleanliness and continued through the 1920's. Government participation and increased dental research brought improvements in both clinical capabilities of oral health professionals and over the counter hygiene products for the public. In 1945, fluoridation of public water sources by artificial means began in the United States. This was a response to studies showing improved oral health in populations using naturally fluoridated water.

These efforts (undoubtedly in combination with improved economics and standard of living) brought a substantial decrease in oral disease (White, Caplan and

Weintraub 1995). The improvement of oral health within the United States population was consistent during the twentieth century. Recently, new options in aesthetic enhancement procedures have become available in many dentists' offices. The decreased need for oral disease treatment and increase in aesthetic treatment options suggests the need for investigation into changing patterns of the oral health system.

By using the oral health system as a case study, an even more inclusive conceptualization of the relationship between medicalization and the larger social system will be attempted. This research will operationalize medicalization using recent shifts in oral health and oral aesthetics as an example. Operationalization of the concept of medicalization is the primary purpose of this research and this task requires the explanation of two components: 1) providing an account of differing dental/oral health systems from1925-1999, 2) identifying shifts across the different systems that suggest a medicalized view of oral aesthetics. This is the first known attempt at these objectives.

Identifying Structuration Processes

It is important to begin with a theoretical perspective that will explain the changes in the way oral aesthetics are addressed within the larger social system. We must understand the macro level social system as well as the micro level interaction of dentists. This requires a theoretical approach that allows us to view oral aesthetics and medicalization as they exist within the society at large.

Anthony Giddens attempts to bridge micro and macro level sociological theory. His work draws from analysis by such theorists as Goffman, Simmel, Parsons and

Merton in an attempt to integrate structural and interactionist perspectives. To understand Giddens' approach, it is necessary to first review particular concepts that he redefines (Giddens 1984). The accepted use of structure, Giddens argues, focuses on constraint. Structure, as a rigid, unyielding framework to individual human social behavior does not allow for discussions of agency or any understanding of how daily life and human interaction can impact social structure. These limitations sound as if they designate individuals to a victim status without the capability of independent action or culture creation. Giddens argues that a macro level understanding of social structure requires a more dynamic idea of structure, specifically a social system with structural properties freeing the restricted perspective of structure.

The social system, for Giddens, is the relationships that exist between individuals and collectivities, and each particular system exists within a distinct time and spatial context. The system has structural *properties* that provide the framework for interaction. Structure has been understood in terms of constraint only. The structuration perspective reveals that structural properties of social systems constrain as well as facilitate change. The structural components of primary concern then are *rules*, which provide social constraint, and *resources*, which enable social change (Giddens 1984).

Within a system, individual actors continue to maintain social relationships with other individuals and collectivities. Giddens integrates previously microsocial designations within this macrosocial system framework. Agency, human action traditionally discussed in much narrower terms, is presented as the combination of two

elements. *Capability* and *knowledgeability* provide individuals with the tools for human action (Giddens 1981). *Capability* draws on classical concepts of voluntarism while expanding the notion to a much more benign one. This designation of capability recognizes the existence of choices that humans make daily without focusing on the conscious choice of action that is ultimately made. The existence of other possibilities provides the capability for action regardless of the decision making process. Most aspects of capability exist within our day-to-day activity. While this is an integral part of human action, it does not distinguish the defining characteristic of human existence. Routine is the predominant manifestation of day-to-day activity and relies on only a portion of our knowledgeability (Giddens 1984).

Giddens (1981) argues that agents have *knowledgeability*, though it exists at both the conscious level and the subconscious (*tacit)* level, where it is seldom considered in the performance of daily life. Human actors understand the world in which they live, however, much of the knowledge required in the performance of daily life remains tacit and must not be relied upon for conscious acknowledgment. Giddens' claims that humans address the knowledge when it is overtly questioned, but it is most often questioned when the scope lies outside of the daily routine. For example, continued use of a particular product can become so routine that the sale and use of the product becomes accepted practice until the choice of the particular product is questioned outright.

The system and agency always exist within a distinct time and space context. Time and space then act as "boundaries" to the "interaction strips" within social reality

(Giddens 1984). Importance is also placed on copresence, which does not suggest the mere fact of coexistence within the same social context but the "turn-taking" interactive process or *presence/availability* (Giddens 1981). The opportunity for copresence is controlled by the rules of social interaction and the resources for interaction available to individuals and collectivities. Rules and resources will vary for different individuals and groups, which will define availability for particular instances. And finally, Giddens emphasizes the awareness and use of these social phenomena by human actors that can influence behavior or exert control within interaction (Giddens 1984).

Social reality must be understood at both the individual and system levels simultaneously. Agents with knowledgeability and capability act within a social system composed of structural components (rules and resources), and the continued interaction and daily routine reproduce the system. The system and these "interaction strips," however, exist within a particular time and space context according to rules of behavior and available resources. Structuration refers to the "conditions governing system reproduction" (Giddens 1981). The components of structuration, rules and resources, provide a system framework within which humans act and react, reproducing the system around them.

The important subject of study in this approach is the reproduction of the system across different time and space contexts to determine these conditions. The question then is "Where does the catalyst for change lie?" The assumption made in this research project is that the catalyst lies in the copresence and "turn taking" interaction of individuals and collectivities. In the proposed study, time/space context is assumed to be

a social product. The context is produced in the system by the presence/availability of human/group interaction. The altered context influences future interaction resulting in another altered version of time/space context. This is the reproduction of the system with modifications. In the example of oral aesthetics it is the interaction of consumers, providers and producers changing knowledgeability within each group. As each group exists within the copresence of the others, shared knowledge and awareness creates a new level of knowledgability for each group with every interaction. Increased knowledgeability among these groups produces a new and different oral health system. In this example the consumers, providers and producers of *medical culture* interact to medicalize oral aesthetics previously viewed only as a concern of appearance.

Applying the Theory of Structuration to Oral Health Systems

Applying structuration theory to oral health systems requires first identifying the relationships within the systems. Individuals seeking oral health care or products act as *consumers*. As an aggregate, consumers act within a space/time context. Individual consumers interact with individual dentists who provide care. The dentists create an aggregate of *providers* complete with formal organizations, a distinct professional language, shared education, a designated body of knowledge and avenues for professional discourse (conferences and journals). *Producers* contribute material artifacts of the oral health system. The *producers* design, manufacture, advertise and sell tools used by providers as well as over the counter products chosen by consumers with or without the aid of providers. The *consumers, providers,* and *producers* maintain

relationships both at the individual and collective levels, which compose the oral health care system that will be studied.

The system is maintained by structural properties of rules and resources. Rules within the system are set and enforced by a variety of social players many such as health administrators not included in the agents here. Consumers must act within the rules of their insurance companies and/or economic practices that require fee for service. Providers are constrained by educational requirements, licensing, and membership by national, state and local groups such as the American Dental Association as well as considerations of workplace and federal governing bodies. In the daily treatment of consumers, providers are constrained by "best clinical practices" or "standards of care". Producers are constrained by regulations of fair practice as designated by FDA, consumer regulation agencies, and trade officials, as well as consumer demands. The actors are also constrained by social rules that exist at the tacit level. For example, the relationship between providers and consumers is also guided by the social rules of the sick role as illuminated by Parsons (1951). Within the US, providers maintain a role of gatekeeper for the sick. If the gatekeeper is in a position to demand consumption by the consumer, extreme power lies in the hands of the providers. The power here is three-fold: 1) to designate the deviance, 2) to designate the necessary service/product, and 3) to require consumption of the service/product for release as a healthy individual.

While rules constrain social action, resources enable behavior. Consumers have insurance, variety of dentists, choices of services and products and levels of oral health

from which to choose. The choices of oral health status may be guided by personal social interaction. Resources available to providers include types of insurance, services provided, location of labor, products to buy and use within the workplace and techniques used in the provision of oral health care. The professional distinction of providers and their associated authority are also social resources to be considered. Producers have a variety of materials available for use, different design choices, different advertising possibilities and sales and pricing options. The rules and resources combined with the actors create the oral health system, where all interaction and copresence (C) exists within the boundaries of rules and resources (Figure 1: The Oral Health System).

Each actor and aggregate must be discussed in terms of agency, or the knowledgeability and capability that shape that action. Knowledgeability of oral health and the social consequences of interaction as it is related to oral health exist in consumers but may not be consciously addressed throughout the daily routine of interactions, and oral hygiene. Routine, as it is an established pattern of behavior requiring little or no cognitive decisions, negates the need to pose constant questions of existence. This routinized, unconscious behavior allows the level of knowledgeability to adjourn to an idle state. This particular aspect of knowledgeability (oral hygiene), however, is often overtly questioned, as are any other aspects of social life that can be targeted through product and service advertising. Questioning the consumer's current routine and suggesting a change that would result in procurement of the advertised goods is the precise process of advertisements. Knowledgeability in the producers and providers must include their awareness of the quest for financial gain, though few may consider that

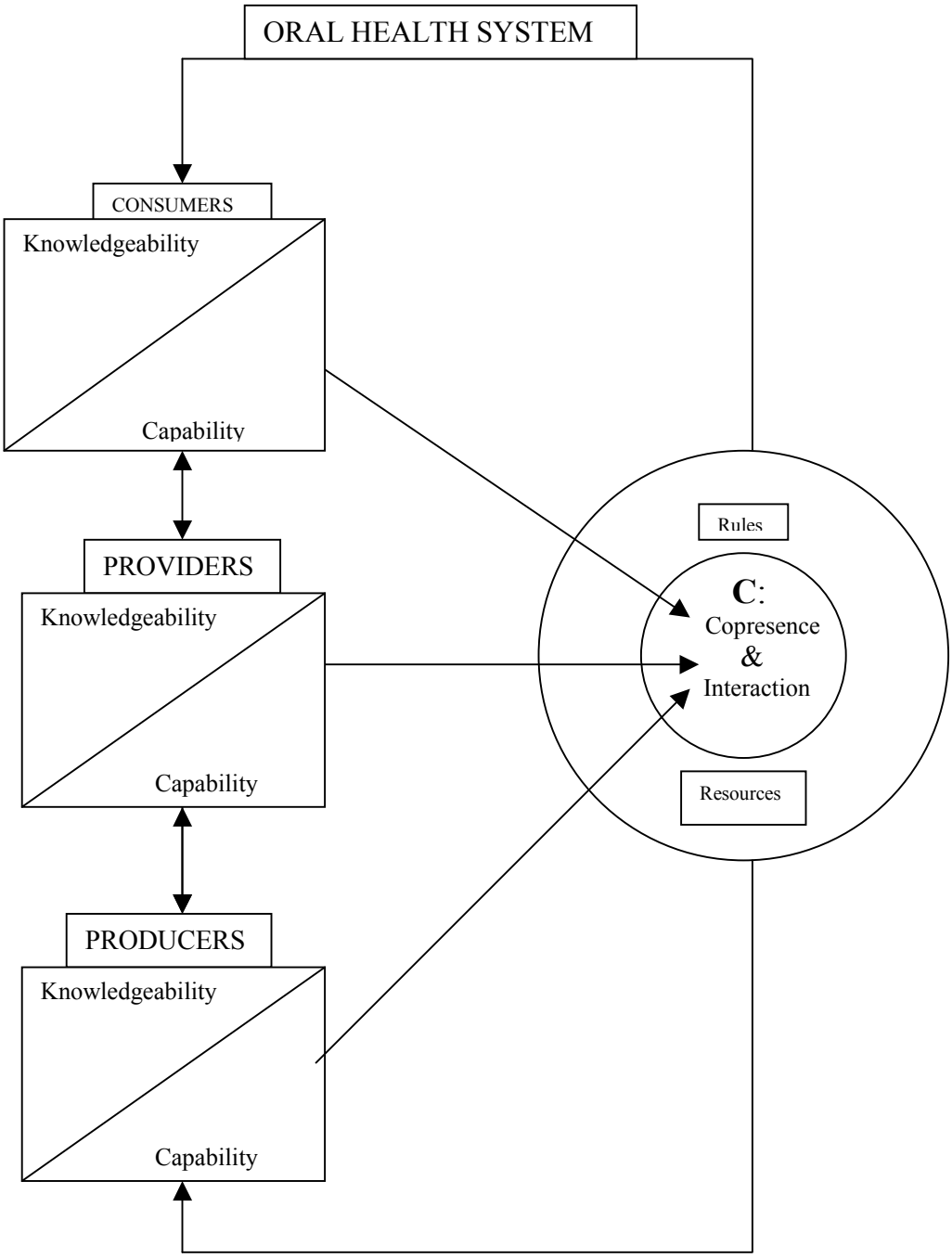


FIGURE 1: The Oral Health System
Composed of the agents and the structural elements

exact concept daily as they complete a root canal or bleaching treatment. Boundaries of knowledgeability exist as well. The influence over consumption patterns is overtly intentional for both producers and providers. Though the increase in consumption is intentional, a conscious effort toward medicalization of oral aesthetics may be unintentional. This is important to an understanding of a dynamic social system without an overt conflict perspective.

The awareness of the particular oral health culture and any emphasis on aesthetics may be used to exert control or at least influence the actions of others, as it concerns oral health/hygiene behavior. Any discussion of use carries with it intent when concerned with control and influence. The producers' intent of controlling health and hygiene behavior would be associated with expected outcome from that behavior. Likewise, any use of knowledge on the part of consumers could carry intent as well. The possibility of intent must be recognized though the knowledgeability may in fact be tacit.

For Giddens (1984), routine reproduces the system but with slight modifications. The system must, however, be considered within a distinct context. This context of oral health is also related to the context of society at large to include aspects of economics and culture. This time/space influences each actor (individual or group) distinctly as well as influencing the rules and resources guiding interaction between the actors (Figure 2: The Oral Health System in the Larger Social Context).

The site of interaction that produces change is the copresence of the actors. Each actor with capability and a distinct knowledgeability exists within the presence of the others. The interaction that takes place at this level reshapes each agent, the oral health

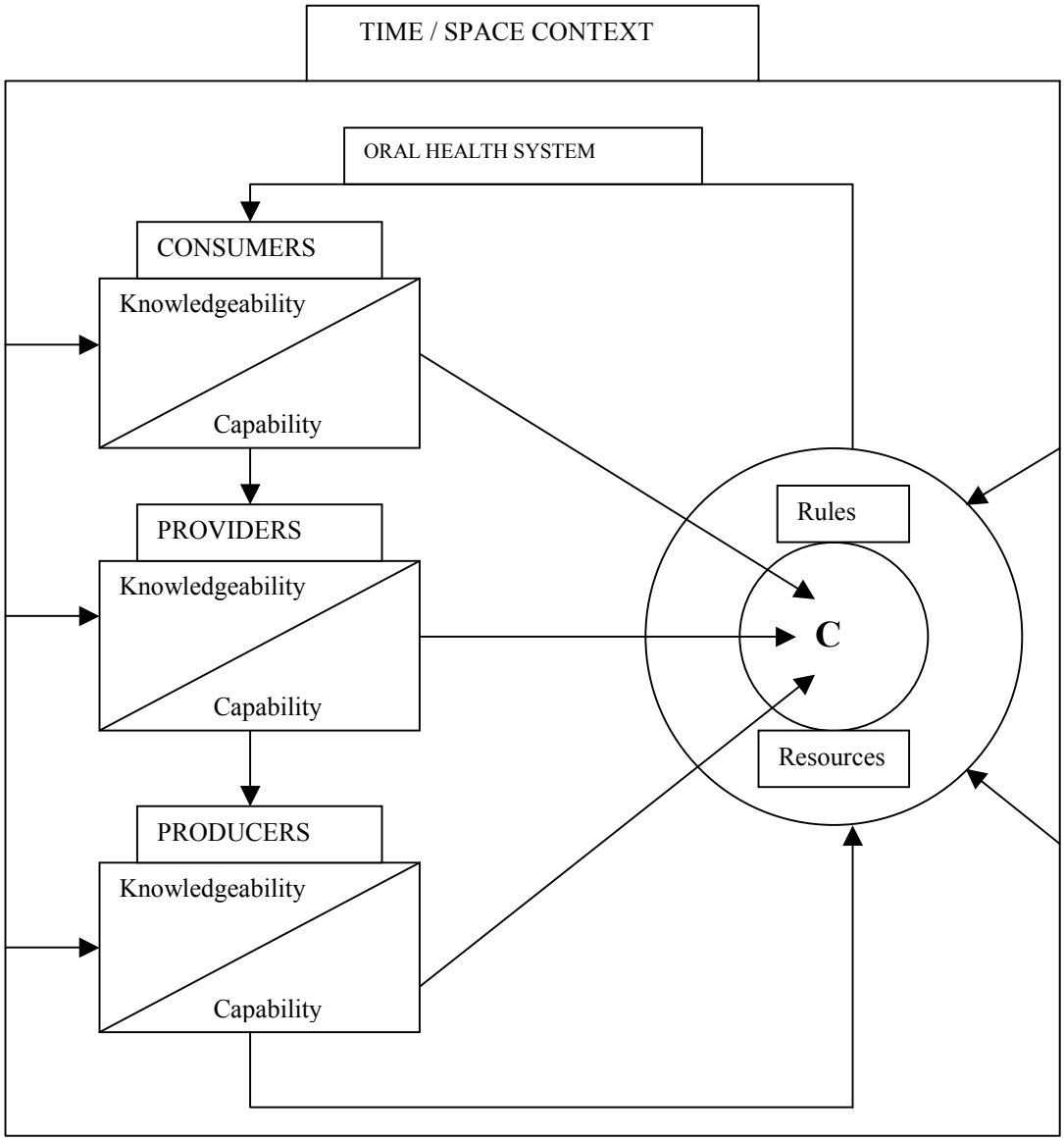


FIGURE 2: The Oral Health System within the Larger Time and Space context of Society.

The distinct time and space context influences agents and structural elements.

C = Copresence and Interaction

system, the rules, the resources and the larger social context in time. The result is an altered oral health system in an altered context with changed agents. The copresence and interaction continue, again reproducing the system but also modifying the ultimate outcome (Figure 3: System Reproduction).

The aspect of "turn-taking" within copresence is important as each actor or group within the system will continue to exchange information in a continued dialogue. This exchange is integrated into the reproduction of the system and is not treated as a distinguishing element. This offsets previous arguments of deprofessionalization that focus on maintenance of professional language and knowledge (Light and Levine 1988).

The integration of this information exchange within structuration provides an understanding of the shifts of knowledge, information and professional boundaries within the broader social context. A more robust comprehension is allowed while diminishing a conspiratorial connotation in the explanation. Illustrating this turn taking process will be a difficult task as the spacing of turns probably does not follow a constant pattern or duration. This may prove to be an interesting research approach in the future. As noted earlier rules and resources will allow different opportunities for *presence/availability*. This differential may be related to social identity. Within society each agent maintains a particular social identity (Giddens 1984). Each identity, based upon position within the dynamic structure, has associated rights, privileges, and obligations. Dentists have the

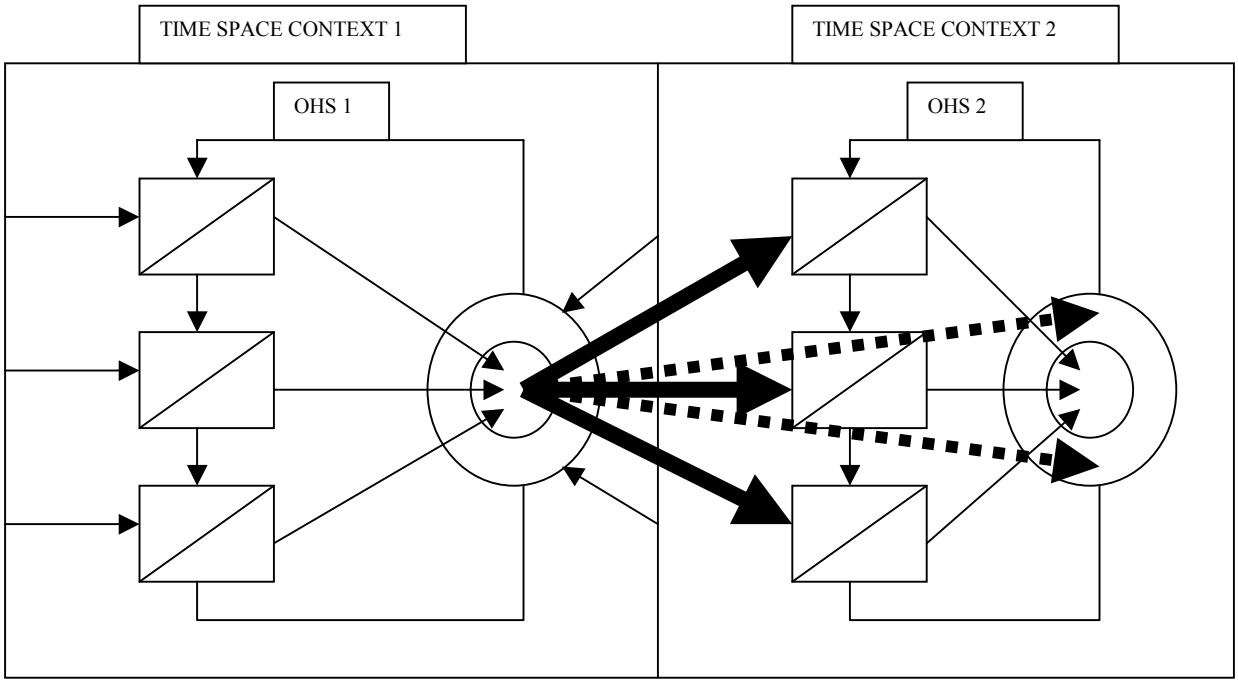


FIGURE 3: The Reproduction of the System with Modification
Represents modification to actors as outcome of copresence
Represents modification to rules and resources as outcome of copresence

privilege of guiding the production of knowledge and their own professional agenda through self-regulation as the licensing body, the educators and the researchers in the field.

As health care providers, there exists a social obligation to consistently act in the best interest of public health. Producers of oral care products are bound by the obligation of providing quality products in a fair marketplace that uphold advertising promises. This obligation brings the privilege of using media to guide consumption. Consumers have an obligation, best equated with personal responsibility, to maintain personal health and hygiene to the best of their ability.

Knowledgeability, routine, structural properties and context are the elements to be investigated to arrive at an understanding of the social system and related shifts within the system. If a shift has occurred in the understanding of oral aesthetics into an oral health component then we should find evidence using an historical comparative analysis. By documenting aspects of knowledgeability and structural properties as they concern oral health, we can examine system shifts. If we use structuration, each contextual block in time and space should present a somewhat different system. By documenting differences in knowledgeability, rules, and resources across a definitive time period we can examine these shifts. The question is how definitions of oral aesthetics across these differing systems have become medicalized. This study will examine the possibility that the shifts emerge from the copresence of the consumers, providers and producers and the resulting interaction. It also assumes that the "turn-taking" interaction of individuals and

collectivities produces the different oral health context, which is produced as system and is reproduced through structuration. By operationalizing medicalization, the presence of medicalized oral aesthetics can be measured using this theoretical model.

Medicalization emerging within modern systems

Beginning with the assumption that different oral health systems can be documented in different time/space contexts across a specific period, we can document shifts of knowledgeability, rules, resources and routine. The goal is to determine a pattern of change within this fluid system. I suggest that in the modern oral health system, oral aesthetics have been subsumed under an oral health context. If this shift of oral aesthetics into an oral health category has occurred, the emergent trend may be seen as a medicalized understanding of oral aesthetics. If the emergent oral aesthetics framework is medical in nature, operational measures of medicalization can be delineated. It can then be determined whether the pattern of change is medicalization of oral aesthetics.

The question arises as to why an assumption of medicalization has been chosen over other possible explanations of shifting oral aesthetic contexts such as obsession of appearance, morality of hygiene or commodification of self appearance. The concept of medicalization has been used to discuss many different social behaviors that have come under medical control (Fox 1977; Conrad and Schneider 1980; Riessman 1983; Bell 1991; Conrad 1992). The works of these sociologists provide a compelling argument for the designation of medicalization as a distinct phenomenon worth study. This combined with an everyday observance of available oral care products/services and the researchers'

brief professional experience in the field of oral health have piqued an interest in this particular topic.

To begin operationalization, we must first start with a conceptual definition. It was mentioned earlier that extensive conceptual work has been done on medicalization. Conrad, among others, has systematically worked through this conceptualization over a number of years to provide a concise definition that allows for malleable application to an individual phenomenon. This research begins with the conceptual definition of medicalization as follows: “a process by which non medical problems become defined and treated as medical problems, usually in terms of illnesses and disorders” (Conrad 1992:209). Conrad further identifies specific processes of medicalization that include "using medical language to describe a problem, adopting a medical framework to understand a problem, using a medical intervention to "treat" a problem (Conrad 1992:211).

Appropriate measurements must be established for each of these three elements in the process of medicalization. According to structuration theory, medicalization of oral aesthetics is the outcome of shifts occurring in daily activity, which support the ongoing structure of oral health care. This approach suggests the need to measure indicators of medicalization within both the provider/producer and consumer arenas to recognize the institutional and public existence, since both are needed to identify the final combined effect.

The use of *medical language* within both professional and popular culture to describe both normative standards of oral esthetics and any deviation should be

determined. Within dentistry, as in other professions, scholarly literature and professional meetings are the medium for dialogue among the professionals. It is here that changing concepts and language use are introduced, debated and accepted. Operationalization of *professional language* to address extended professional boundaries and new inclusiveness or disease designation of previously non-professional phenomena is best determined by examining presentations, speeches, and other formalized dialogue from professional meetings. The second possibility for measurement is to investigate shifts in language use within the professional literature, specifically mainstream journals that are held to be "top" in the field and would most likely reach the largest professional audience.

The shift of *language within the popular culture* to describe a problem must be determined separately from that of the professional distinction. Language use within the popular culture presents a greater challenge, as the immediate concern of a larger and more heterogeneous population must be faced. Media that reaches a large percentage of the population should be considered best for measurement. Many argue social behavior is greatly influenced by the media, while others contend that media is reflecting social behavior. The argument that media creates language to influence consumption is of less concern here than the possibility that continued use in media will lead to an adoption of use in the population. Whether media are reflective or promotional in nature, they designate a presence within the population; and this presence is what is important here. The assumption must be made for research addressing medicalization that the presence of language is reaching potential consumers of medical services. Today's proliferation of

media allows for a wide range of measurement possibilities. Television, radio, print and virtual presentation all reach particular sub-populations. The proposed study includes measurement of language use concerning oral products, treatments and research in professional journals and lay magazines.

The second category according to Conrad's definition is the use of *a medical framework* to understand a problem. Though dialogue of a problem may begin early in the process, a *medical framework* would base this dialogue in a medical model rather than a more general discussion. Within a profession, this may be best sought again within the professional literature or dialogue. The measurement of framework presence within the dialogue would not depend solely on the presence of "professional speak" to describe the problem, but rather a new conceptualization of the problem that would place it easily within *a medical framework for use by the profession*. This would reflect an active approach to include the problem within the previously designated professional boundaries by using a medical model to define, diagnose and treat. At the lay level, a *medical framework* would push this problem into a medical category. Where any discussion or solutions may have been found elsewhere in the past, the population would now turn to the medical arena to seek information and solutions.

The adoption of *a medical framework within the lay population* is somewhat more difficult since adoption of medical frameworks may be most often handed down from medical authority. The hope would be to best catch the use and reflection of this framework within the popular culture. Perhaps the best way is to determine the inclusion of the problem into previously established medical culture. For example, the increased

recognition and address of the problem within a medical setting, discussion of the problem within accepted medical arenas, and the promotion of behavioral shifts similar to other behavior patterns accepted as "health related". It can be determined whether increased use of medical language to discuss oral aesthetics accompanies increased medical language to discuss other aesthetic factors within the same popular magazines.

Measuring the adoption of oral aesthetics into a medical framework may best be seen by the presence of oral aesthetics dialogue within other health-related dialogue. The presence of oral aesthetic informational material within health related magazines, stores, budgeting (perhaps in insurance coverage), and other consumer health information amy provide some insight. The fact that health focused magazines for the general public is a recent trend should be considered when designing an historical comparative analysis.

The use of *medical interventions* is best measured within the professional atmosphere as *the professionally approved interventions* that are offered by members within the professional community. Inclusion of interventions to treat the problem into previously designated services or the promotion of products (or prescriptions) by a medical professional would illustrate this trend toward medical "treatment" of a problem. The move to medical interventions is the final element in a shifting medicalized address of deviance (behavior, appearance, or any other aspect designated by normative expectations). Required documentation by current health care organizations within the United States offers the opportunity for clear quantitative data of medical interventions within recent years. The offer of medical intervention must then be met within the population by consumption of medical intervention to address a problem. The

procurement of approved services and products to be used for treatment of the problem would then designate the presence of this final piece within the puzzle. This paired presence of offered products/services and consumed products/services is essential in an understanding that population and institutional elements must coexist and a level of interaction is required.

By subsuming Conrad's definition of medicalization under Giddens' structuration theory, we begin to see matching elements. Conrad's point of language and framework is an aspect of Giddens' knowledgeability, while treatment use (consumption patterns) is an element of routine. This measurement of language and framework provide a measure of knowledgeability among providers, producers and consumers. The measurement of medical interventions and product consumption would in turn measure routine. The assumption of capability would hold constant throughout the study. The range of options may increase through innovative products and procedures; but regardless of the limit of options, the capability of choice remains constant. These would complete aspects of agency.

We must now consider measurements of structural properties. Though some minor shifts in particular relationships may have occurred, they are most likely not enough to consider in this study. The measurement of structural properties must include measures of rules and resources. Rules limiting dental professionals as to how and what they can provide (to include prescription drugs) may not have changed significantly within this century, though there have surely been minor modifications. Professional codes of ethics and trade groups, insurance guidelines, restrictions of third party

payments, decision of governing and regulatory boards (such as the Food and Drug Administration) can be examined to document rules. If access to particular services and materials have changed, it would be designated as resource rather than rule shift. Resource shifts must also be considered within each particular time frame. Resources are best seen as the available treatment options for the providers, the available product lines both being produced and in development for the producers, and finally the options for treatment (to include those under the care of a provider and over the counter choices) open to the consumer.

As the context of the United States shifts so will the oral health systems. Working on an assumption that quality of life has improved since 1925, the expectation will be that there has been an increase in available resources. There is clear evidence throughout medical literature that availability of resources in the US differ for different agents (again related to social identity within the structure). Following this initial investigation, further research can begin to address different oral health resource availability for different agents within the system. This could extend our understanding of differential health status, health care access and health care delivery.

Summary

An increase in medicalized language and the use of a medical framework to discuss and understand oral aesthetics among lay and professional populations would demonstrate medicalization. The use of Conrad's definition of medicalization requires an operationalization of medicalized language and framework. Both of these will be

completed in the next chapter. The existence of oral aesthetics as a medicalized issue in a particular place in history designates an endpoint where medicalization is the outcome. From this endpoint, work can be done to determine what oral health and context factors were influential in the process leading to this medicalized outcome. Assuming that the shifts in knowledgeability and structural elements modify the system that is reproduced, the following research questions are presented:

1. Do modern oral health systems (those after 1975) contain medical language to discuss oral aesthetics that is not present in earlier systems?
2. Do modern oral health systems (those after 1975) contain a medical framework to understand oral aesthetics that is not present in earlier systems?
3. Does an increase in available oral health resources (services, products, and dentists) accompany an increase in medical language to discuss oral aesthetics?
4. Do changes in rules of interaction and exchange between consumers, providers, and producers accompany an increase in medical language to discuss oral aesthetics?

These questions will help answer the most important question of the study: Do modern oral health systems reflect a medicalization of oral aesthetics?

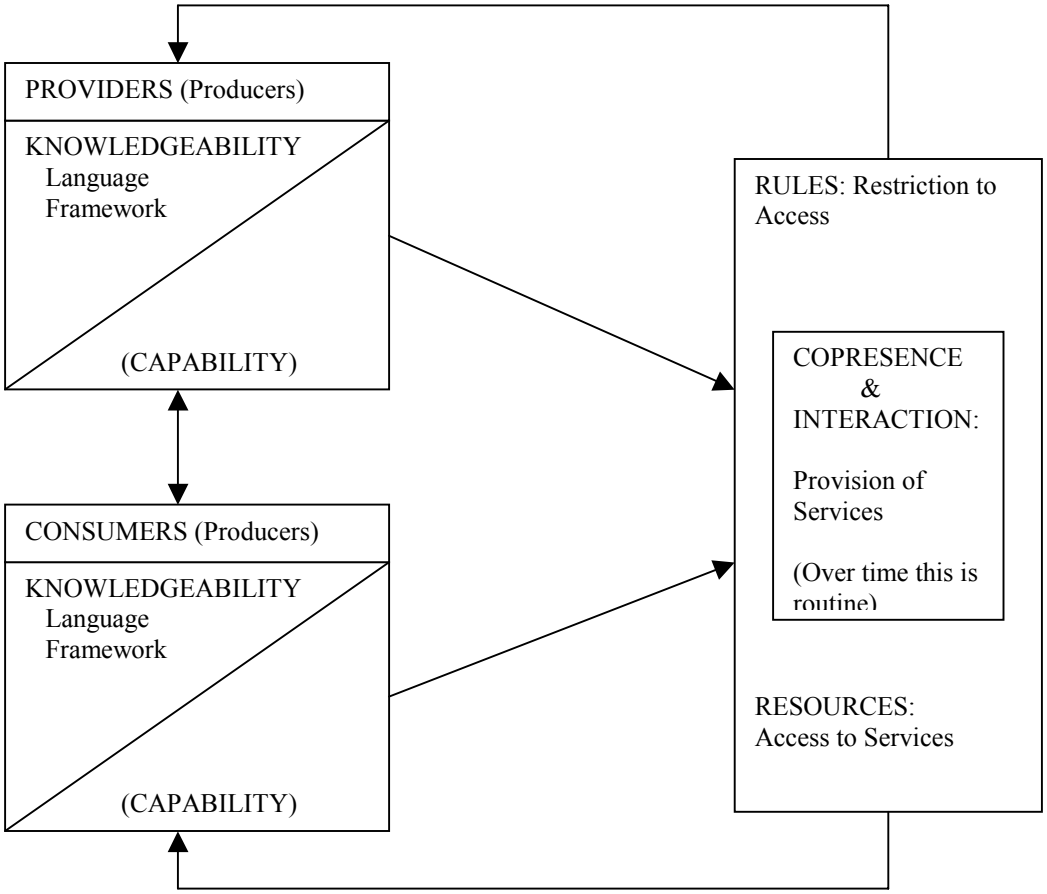
CHAPTER 2

METHOD OF STUDY

The proposed research questions are best studied using an historical comparative analysis covering a specified period in the United States. To study shifts within the oral health system which address oral aesthetics, the time frame of 1925-1999 was selected. Data from this period will be analyzed in an attempt to measure changes in language use and framework adoption or oral aesthetics as well as rules and resources within the oral health system. To allow for manageable data collection, "snapshots" of five-year intervals are addressed. The goal is to have manageable data without losing gradual shifts or increases that could be lost in longer intervals.

In the previous chapter, conceptualization of the variables, knowledgeability and structural components, and related operationalizations were presented. Summaries for operationalization within the structuration model used are presented in Figure 4. There have been no previous studies of medicalization of oral aesthetics, so the goal here is primarily to pinpoint patterns within the oral health system that can be used later to test causal models of medicalization. The particular elements extracted from the structuration models in Chapter 1 are knowledgeability and structural components. As discussed earlier, capability does not appear in the working model as it is held constant according to Giddens' definition.

Figure 4: Structuration Model with Medicalization Concepts



One important issue must be addressed before reviewing specific collection methods. According to the theoretical model, language and framework (empirical referents to knowledgeability) should be measured within three distinct social groups: providers, producers and consumers. The use of professional dental journals to measure language and framework among providers allows for clear access to published dialogue among

dental professionals. Shifts among producers and consumers present a dilemma. No consistent and reliable documentation of consumer knowledgeability has been found. Possibilities might include quantitative reviews of public health information available at varying time periods but even this is dependent on estimates of population exposure to the public health information. Recent programs in elementary schools assure early exposure to oral health information and could be used in the future as a baseline of knowledgeability in states and communities where these programs are instituted but discussions with public health archivists provided no historical data. Certainly longitudinal collection of large-scale consumer surveys could be used in the future but offers no consolation for historic data collection. Measuring producer knowledgeability presents a similar problem. Trade magazines have not been as consistent as those of the dental professionals throughout the past century have and none have been found in hygiene, medical equipment or medical supply industries that would support collection of this type.

The use of popular magazines and producer advertisements provides a compromise. These ads represent the one point of copresence discussed in the previous chapter. The ads reflect a level of knowledgeability to which the general public (or a large proportion of them) was at least exposed. It also represents a level of knowledgeability that must exist in producers for the production of the copy (text appearing in advertisements) in these ads. The ads then document shared knowledgeability among producers and consumers. The choice was made to use these ads to measure knowledgeability among consumers (lay level). The assumption exists

that producers "know" more than is presented in magazine advertisements. This is also only the boundary of interaction between consumers and producers. Ads or other marketing strategies used by producers of professional dental equipment would be examined for the second dimension of producer knowledgeability. Ads for professional products vary greatly in their number and presentation across this century. Advertising of medical supplies and equipment has been accompliashed using many different approaches within the past century. No reliable data source has been found to date for this information. As producers construct products at least partially based on research of providers, the review of professional journals also documents an aspect of knowledgeability for producers.

The choice of language and framework in dental journals stands as an intersection of what producers of professional dental products and providers presented as the best medical and clinical uses of dental products. The choice of language and framework in popular magazines stands as an intersection of what producers of over the counter products and lay consumers "know" as the most recent level of oral health/hygiene information. Therefore, language and framework will be measured in provider and consumer periodicals with the caveat that these two will also reflect knowledgeability and framework, at least to some extent, for producers. In figures demonstrating the working model adapted from Giddens, producers will appear parenthetically beside providers and consumers to note this compromise. In time more work can be done to tease apart the shared portion between producers and providers and between producers and consumers.

Reliability

Repeated reliability tests were run to ensure coding matches interpretations of medical and aesthetic language. Concerns for reliability focused on lay individuals interpretations of language and frameworks as medical, aesthetic and technological. Twenty subjects (taken from convenient samples of sociology classes, ages 19-56, both male and female) were provided with coding guidelines and asked to individually code a test sample of twenty advertisements of hygiene products including oral hygiene products. After the subjects provided their coding sheets, a debriefing session was held to discuss problems in coding and differences in interpretations. New coding guidelines were created the process was repeated. Three rounds of coding, discussion and revisions were conducted to produce coding guidelines with consistent results from a new set of twenty coders.

Terms such as health care, health care professionals, germs, nourishment, damage, healing, health or healthy were coded as medical. The use of the following terms: look, appearance, younger, fresher, feel, smell, and other descriptive words such as shine and soft were coded as aesthetic. Language of technology will also be documented when specific chemicals, compounds, patents and clinical trials are mentioned. This is to capture a specific dimension of knowledgeability. Aspects of technology may be of importance in presentation of medical information and will be examined further in terms of social context. This data may provide some insight as to the place of technology specifically related to oral issues and in the process of medicalization. Finally the use of medical terms to address aesthetic concepts or issues such as look, feel and smell have

been documented accordingly. The distinction in language types within the professional journals was much clearer and the specification of two particular phrases in measuring professional framework allows for an expectantly higher reliability. However, when dealing with interpretations of the general public, differences in education, culture and occupation among others made collection reliability a greater concern.

Validity

These measures of language and framework offer high face and construct validity based on the theoretical work completed to this point. Criterion validity must be revisited after more research in this area has been done to determine the predictive power of these particular measurements. This will be possible once the results of this initial investigation can provide a basis for other models to be tested. Content validity is perhaps the next concern for this attempt to operationalize medicalization. There are certainly other points of professional dialogue such as conference reports and executive committee debates that may add to the complete picture. Historic data presents a problem as always for the lay arena. Perhaps other sources for data will become evident in the future.

The validity of structural component measures is of more concern. The qualitative and convenient nature of the data loses some assurances of content validity, but allows for an acceptable and reasonable level of face and construct validity given this first attempt to measure medicalization in oral health. Hopefully, this work will provide

the promise of needed future work in the topic area and sharper points of data collection will become available.

Measuring Shifts in Professional Language

Language and framework are used to measure knowledgeability. Shifts in language and framework indicate shifts in knowledgeability. To measure shifts in language content, analysis of article abstracts are used to determine the existence of medical language in professional journals used to discuss aesthetic procedures or services not related to diseased conditions of the oral cavity. Before abstracts were commonplace in professional journals, the first paragraph from the article was similar in presentation. This paragraph is used for analysis when abstracts were not present.

The sample of professional journal articles for this time frame include issues of *JADA (Journal of the American Dental Association), AJD (American Journal of Dentistry) and Community Dental Health*, three prominent journals in the field. These journals were selected in order to review articles that reach the largest proportion of dental professionals. Language has been documented by the presence of references to appearance and odor as an aesthetic or medical concern in article abstracts.

JADA (*Journal of the American Dental Association)* is the official monthly periodical from the national association governing education, ethics, licensing, and practices of American dentists. The articles reviewed for this study included all articles designated as "original contributions" in regular monthly issues. The journal composition in 1925 was primarily original contributions and news within the association or the

professional dental world. The 1925 issues contained a total of 113 articles for review. Though numbers varied year to year with occasional increase or decrease, there is an evident decrease of original contributions of research articles since 1925. The total number of original research contributions in1999 was twenty-one. There is a concurrent increase in clinical application articles, case studies and special focus articles that created a very different format by 1999.

The other professional journals used were chosen to enhance an understanding of recent trends in professional language. *AJD (American Journal of Dentistry)* is a more recent journal included here to provide a better insight into recent shifts in dentistry. As a new journal, available years within our sampling frame include 1990, 1995 and 1999. *Community Dental Health* is a British journal but is read by American dentists and has American contributors. This journal does not apply to a specific clinical specialty (though with a public health orientation) allowing for wider readership while still providing an added dimension of dentistry. The articles in this journal address both medical treatments of varied populations as well as community concerns of access and screening in an international context. Years available within our time frame include 1990, 1995 and 1999 (Table 1). This journal specifically reflects the increasingly global context of oral health and oral health research. The last two journals were specifically included to add breadth in recent shifts that would be reflected in the end of the process, within the past decade.

Table 1: Summary of Articles Reviewed in Professional Journals

for Language and Framework Content

YEAR	JADA	AJD	CDH
1925	113	NA	NA
1930	182	NA	NA
1935	148	NA	NA
1940	183	NA	NA
1945	103	NA	NA
1950	106	NA	NA
1955	115	NA	NA
1960	134	NA	NA
1965	114	NA	NA
1970	107	NA	NA
1975	71	NA	NA
1980	35	NA	NA
1985	36	NA	NA
1990	39	52	37
1995	24	51	40
1999	21	42	34

Though the specific element for collection is the use of medical language to address aesthetic concerns, an increased number of data items were collected to provide a more robust understanding of the use of language in this context. For each article abstract it was determined if the following items were present: 1) the use of medical language to discuss non-aesthetic issues (Medical), 2) the use of aesthetic language to discuss aesthetic concerns (Aesthetics), 3) the use of medical language to address aesthetic concerns (Aesthetic as Medical), and 4) other language and topics of address (Other). Articles that fell into the fourth category were issues of professional boundaries,

insurance trends, conference information or business concerns of a dental practice. This may supply some contextual information that is useful in later analysis.

The articles coded Medical used medical language to discuss non-aesthetic issues of the oral cavity such as caries, gum disease and other health related concerns. Many of these articles discussed treatment options for particular diagnoses and available diagnostic tools, or research concerning continuing knowledge of dental anatomy. This includes examples such as "The effect of radioactive phosphorous (Burstone 1950)" or a later one, "Evaluation of acetaminophen and aspirin in the relief of preoperative dental pain (Korberly, Schreiber, Kilkuts, Orkand and Segal 1980)" where pain management is discussed in clear pharmaceutical and medical terms. The first part of the time frame was a period in history when much of the literature focused on x-ray technology, and subsequently all articles that discussed health concerns or diagnostic uses of x-rays were documented in this category, e.g. "The use of Roentgenogram in edentulous mouths (Molt 1925).

The second category, Aesthetic, refers to articles where the appearance of the oral cavity is discussed in purely aesthetic terms without medical diagnosis or health implications. An example of this category appears in the first year of the sample, e.g. "Highlights on porcelain dentistry (Avary 1925). A 1940 article begins "Ceramics is in dentistry both a science and an art" and continues to say that both must be present to "meet the aesthetic requirements in the restoration" (Gill 1940).

Aesthetic as Medical, the third category, designates language of aesthetic concern such as appearance, which is addressed by medical terms. This language use is seen in

only selected years throughout the sample. Topics include poisonous effects of fluoridation and resulting tooth mottling (1935), genetic discoloration (1945), stain restoration (1950), and the use of glass ionomers (1990). In these articles aesthetic issues were addressed as medically relevant, not just as tools of diagnosis of other oral disease, but in and of themselves. It is important to note that journals have emerged that specifically addresses aesthetic concern, such as *Aesthetic Dentistry* and *Contemporary Esthetics* though they were not included in this sample do to obvious collection bias. Professional associations have also come into existence to support research and publishing of aesthetics specifically.

The final category, Other, documents concerns of providers beyond direct patient diagnosis and treatment. Articles addressing insurance, handling of specific chemicals, professional organization and group practice guides were all included in this section.

Measuring Shifts in Lay Language

A content analysis of advertisements in *Good Housekeeping*, *Esquire,* and *Reader's Digest* that are available from 1925 – 1999 were used to determine medical language to describe deviant oral appearance and services/products for consumption that address this deviance. Deviant oral appearance would be any appearance that is designated as divergent from the aesthetic norm and thereby undesirable. The magazines were available in a variety of media forms (paper copy, microfilm and microfiche) and at times pages were missing. An occasional ad may have been missed due to these missing pages.

Good Housekeeping was chosen for consistently targeting to consumers of home, health and hygiene products and services (Covert 1999, Vener and Krupka 1986). It is, however, noted as a woman's magazine. The other two magazines were chosen for their male readership and a neutral target population respectively again adding a breadth to what would be the final stage of the medicalization process. Language was measured by references to appearance and odor as aesthetic or medical. The number of product and service ads in each magazine was also recorded. The number of oral health/hygiene advertisements in *Good Housekeeping* varied across the seventy-four year period. The proportion of hygiene ads that were for oral products in 1925 was .569, and remained high until 1950. The dramatic decrease of oral ads in 1950 has been followed by a stable pattern of fewer oral health/hygiene ads to the present time. Different advertising opportunities, such as television, may have provided a decrease in the number of ads in this particular medium. This will be explored in later chapters when outside context is addressed.

Until 1955 *Reader's Digest* was exactly what it claimed to be, a digest of magazine articles condensed into one periodical supported completely by subscription. Due to rising production costs, the magazine began selling advertisement space in 1955. Soon after this change in format, regular health sections began to appear[1].

Oral product ads were not found in *Esquire* with the exception of recent ads for Interplak, a rotary toothbrush and Epismile, a tooth whitener. Few hygiene ads were

[1] It is interesting to note that the letter to readers in 1955 introduces the new format and assures readers that no ads for alcohol, tobacco or medical products will ever be advertised. Many of the oral product ads referred to dentists and health related concerns and today the bulk of advertisements in *Reader's Digest* comes from pharmaceutical companies.

found at all until only recently, with the preponderance of advertising contracts coming from alcohol and tobacco companies.

The total number of oral health/hygiene ads was collected for each magazine for each year (Table 2). This included toothbrush, dentifrice (toothpaste), mouthwash, floss, tooth whiteners, ads for dental professionals or any other product or service aimed toward oral health or hygiene. For each ad the presence of the following elements was recorded: 1) the use of medical language, 2) the use of aesthetic language, 3) the use of technological language, 4) the use of medical language to specifically address aesthetic concerns, and 5) the use of other language. Language addressing concerns such as cost or multiple uses (Listerine as a deodorant) was documented in the fifth category. Again,

Table 2: Summary of Oral Health/Hygiene Advertisements Reviewed in Popular Magazines for Language

YEAR	Good Housekeeping	Readers Digest	Esquire
1925	66	NA	NA
1930	60	NA	NA
1935	65	NA	0
1940	48	NA	0
1945	31	NA	0
1950	17	NA	0
1955	20	4	0
1960	24	20	0
1965	11	28	0
1970	8	35	0
1975	17	33	0
1980	24	32	0
1985	13	9	0
1990	12	12	4
1995	8	21	0
1999	16	8	0

though a category of "other" may not provide specific aesthetic information, it does provide a more complete picture of other issues related to the present trend in advertising, issues felt to be related to oral health/hygiene, or other contextual clues.

Measuring Shifts in the Professional Framework

The second element of the working definition of medicalization is the adoption of a medical framework to understand the problem. Framework represents the boundaries of professional domain and underlying professional assumptions within which the deviance is discussed. Measuring the adoption of a medical framework seeks an examination of a new framework in dentistry. There has been mention of a shift from conceptualization of oral health to that of oral quality of life, designated as OQoL (Gift and Redford 1992). This would suggest a more extensive realm of health than had previously been seen within the field. In fact, it would support an entirely new, more inclusive framework of understanding oral health. If dentistry were creating an entirely new framework to discuss oral aesthetics as an element of oral health, it would increase the circumference of designated professional boundaries. Content analysis of the previously stated *JADA, AJD,* and *Community Dental Health* journal article abstracts were used to document the presence of this framework within the literature. Specifically, the use of "quality of life" and "oral quality of life" was to be documented for each article abstract (Table 1). The article abstracts reviewed for framework were the same ones reviewed for language.

Measuring Shifts in the Lay Framework

In light of the historical comparative nature of this research an adaptation must be made to measure similar trends in the lay framework, or the industrial/professional category and underlying assumptions of the phenomenon used by consumers.. Using the same issues of *Good Housekeeping*, *Esquire* and *Reader's Digest* mentioned above, content analysis documented the presence of medical language and the issues discussed using this language as they may concern any number of social or behavioral topics. The number of ads and articles addressing appearance and smell were documented by their presentation as an aesthetic or medical concern. All ads (one third page or larger) that address hygiene products, machines or services concerning face, body and hair were reviewed. Lotions and deodorants were included as hygiene ads but perfumes and colognes were not. Ads addressing makeup foundations (closely related to lotion products) were included but other cosmetic ads were eliminated. As this is not a study on all ads, the goal was to provide enough varied product lines to present a view of the framework without becoming a cumbersome task of product category delineation. Articles chosen were those in specifically designated health and/or beauty sections, though all oral health related articles were reviewed for insight.

Data collection for lay framework elements were the same items used for language (Table 3). The total number of hygiene ads was collected for each magazine for each year. Again, for each ad the presence of the following elements was recorded: 1) the use of medical language, 2) the use of aesthetic language, 3) the use of technological language, 4) the use of medical language to specifically address aesthetic concerns, and

5) the use of other language. Language that was documented in the last category was any addressing concerns such as cost or multiple uses.

Total number of articles reviewed and their designation as health and/or beauty was documented. Each article was also evaluated for 1) the use of medical language, 2) the use of aesthetic language, 3) the use of technological language, and 4) the use of other language. The number of articles designated as "health" but addressing aesthetic issues or using aesthetic language was tabulated, as well as articles designated as "beauty" and using medical language (Table 4).

Table 3: Number of Non-Oral Hygiene Advertisements Reviewed in Popular Magazines for Framework

YEAR	Good Housekeeping	Readers Digest	Esquire
1925	50	NA	NA
1930	94	NA	NA
1935	92	NA	0
1940	89	NA	0
1945	113	NA	0
1950	160	NA	0
1955	81	7	0
1960	41	8	8
1965	96	47	11
1970	133	68	50
1975	95	32	20
1980	132	21	4
1985	123	12	30
1990	60	29	25
1995	58	29	14
1999	81	9	24

Table 4: Number of Articles in Popular Magazines Reviewed for Framework

YEAR	Good Housekeeping	Readers Digest	Esquire
1925	18	NA	NA
1930	19	NA	NA
1935	34	NA	0
1940	41	NA	0
1945	48	NA	0
1950	12	NA	0
1955	40	NA	0
1960	36	NA	0
1965	38	2	0
1970	29	11	0
1975	31	12	6
1980	101	12	4
1985	62	12	1
1990	52	12	6
1995	37	12	1
1999	33	12	7

Medical Interventions

The measurement of medical interventions across this time frame is somewhat more difficult. Poor documentation of dental services rendered and received prior to large-scale health care organizations presents a problem for data collection at this time. Continued contact with the American Dental Association and the National Institute for Dental and Craniofacial Research confirm that no consistent data is available at this time. In the future, data collection of this final piece can be included in a more complete analysis if computerized patient records/tracking and increased numbers of dental insurance carriers provide more complete documentation.

Measuring Shifts in Rules and Resources

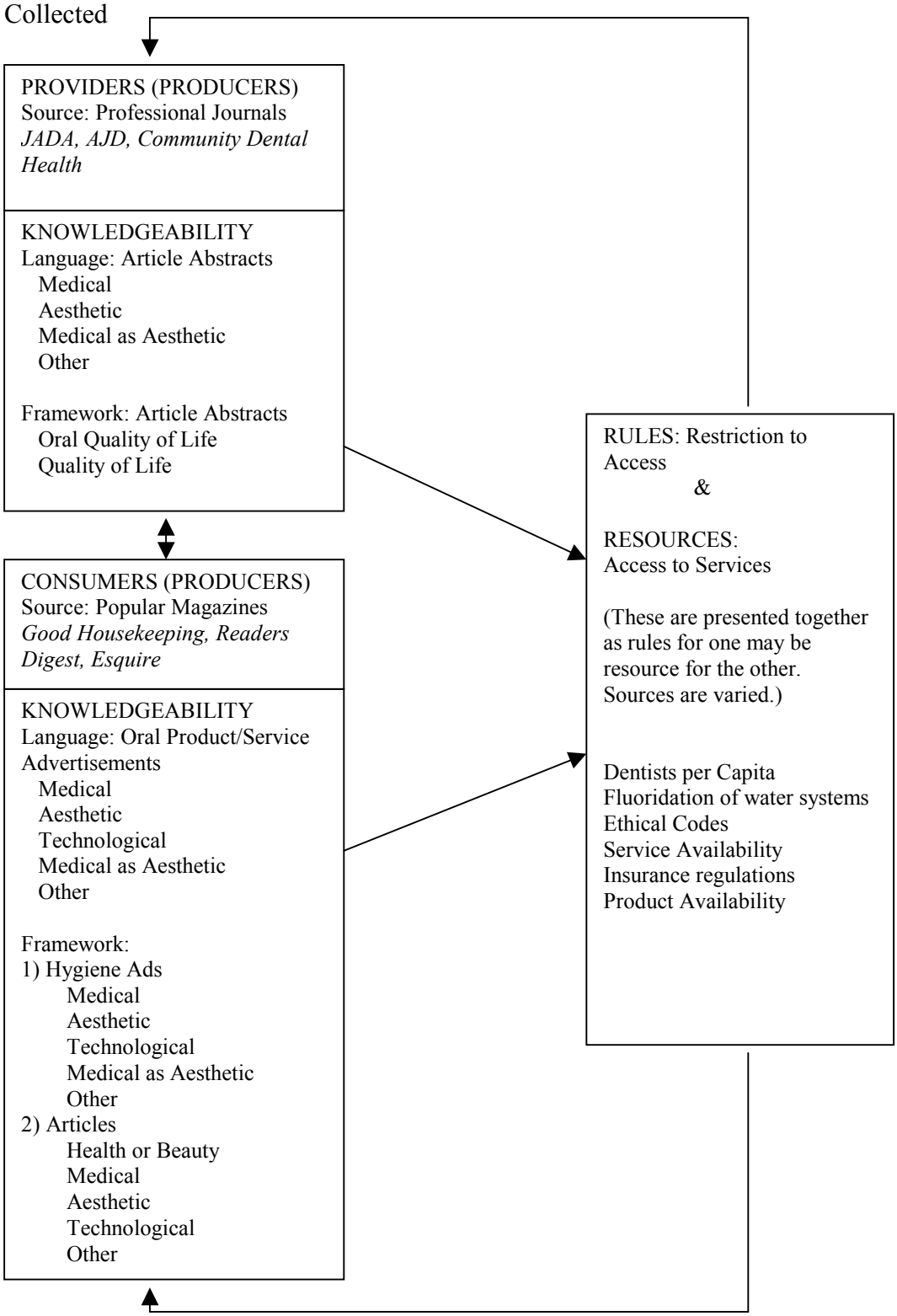
Shifts in structural properties must include rules and resources. As mentioned before, particular aspects of society may serve as a rule for one group and a resource for another. Changes in rules were measured by a review of professional ethical codes, trade group regulations, insurance restrictions, and FDA rulings on related products. Changes have been documented as available. While most of these represent rules for the providers and producers as to how they can behave in a professional manner without reprisal, they act as resources for the consumers. For example, professional ethics regulate provider interaction while allowing consumers the resource of protected rights and guarantees.

Resources were measured be several different sources. The American Dental Association maintains records on the number of dentists within the US each year. This can then be measured as dentists per capita. Numbers of dentists available to the public is a matter of resource for the consumer, but large increases in dentists per capita could limit the available business for individual providers. Related to this particular topic, it is important to remember that there only exist a certain number of spaces in dental school, thereby regulating the numbers of dentists entering the workforce each year. The presence of diagnosis codes measured the availability of aesthetic procedures at each time period. Percentage of fluoridated water systems should be included, but due to the historical nature of analysis, consistent data are not available and combined data (from community health reports) were used to provide a more qualitative measure.

Summary

This collection provides documentation for knowledgeability (language and framework) and structural elements (rules and resources). A summary of the variables measured, the data source, and related indicators are provided in Figure 5. Other variables (such as economic purchasing power) could certainly have been introduced and should be later but are not in this initial attempt. The compilation and analysis of this data should provide answers to the specific research questions. Due to the nature of the data presented in the next chapter, analysis is descriptive in nature and does not allow for more sophisticated testing. This should, however allow some initial conclusions about the process of medicalization across oral health systems of this century. The limited amount of data in the more recent magazines and journals will require a focus on the two sources with the most consistent history since 1925, Good Housekeeping and JADA. This is of little concern since these are the best choices for data collection given the primary audience and goal of each. Emergence or increase of medical language and frameworks to discuss oral aesthetics would support the medicalization of oral aesthetics. According to the theoretical model used, shifts in rules and resources would illustrate the reproduction of the system but with modification supporting an explanation of structuration. The system has obviously been reproduced as it continues to exist across the twentieth century. The shifts represent modifications within the system.

Figure 5: Structuration Model with Medicalization Concepts and a Summary of Data Collected



The goals then are to determine if 1) these shifts meet our criteria to designate the process as medicalization, and 2) what possible elements exist within the system to explain why medicalization has occurred. These conclusions should help us understand shifts in oral health and aesthetics within the United States this century. If a process of medicalization is found in oral aesthetics, the reproduction of the system and contributing factors to system modifications can be examined more closely.

In Chapter 3, the data for each variable will be provided and accompanying interpretations will allow us to render conclusions concerning the existence of medicalization. Subsequent chapters will provide a detailed path to future research in the area of oral aesthetics and medicalization.

CHAPTER 3

VARIATION IN LANGUAGE, FRAMEWORK, AND STRUCTURAL COMPONENTS

In this chapter specific findings will be provided with substantive interpretation and discussion of findings to follow in the next chapter. The first section will provide a review of data by source and the second section will summarize findings chronologically. While the first section will clearly delineate findings, the second will set up an understanding by year for later discussion and conclusions. Data of language and framework to be discussed first are more quantitative in nature than the subsequent data covering structural components. The information on structural components is more qualitative and is presented in general terms with the information currently available.

Results from this investigation are descriptive in nature as content collection across intervals created only sixteen data points. Some categories of variables had few cases, making even the most elementary forms of hypothesis testing or ANOVA unsatisfactory. This is of little concern to this initial stage of exploration but does deserve to be mentioned. The hope is that the work in this research can provide the necessary direction for future more sophisticated analysis of oral aesthetics and medicalization.

Variation in Professional Language

For each professional article abstract that fit the collection profiles, the following variables were noted: presence of medical (Medical) and aesthetic (Aesthetic) language. Those articles that addressed both aesthetics and medical concerns (Aesthetics AND Medical) were also coded as such combinations. The presence of medical language to address aesthetic concerns or aesthetic language to describe medical issues (Aesthetics as Medical) was also noted. And finally, all concerns that fell outside the designations of medical and aesthetics were documented (Other).

First, we will address *JADA* as it has the most complete chronological picture of professional language. The proportion of medical only ads across the seventy-four year frame shows a slight increase in recent years. Articles of other concern are no longer listed as original contributions but are found under different categories. This suggests that the editors have begun to categorize topics in the dental field beyond original research and news.

The proportion of articles addressing only aesthetic considerations was relatively small. They are found only in years 1925-35 and 1965 -70 and in small proportions each of these years. Not included in the sample were several articles that discussed oral aesthetics at length were found in later years in these journals in categories other than original contributions. They should be mentioned however, as they display an increase in literature in the professional field on oral aesthetics.

The presence of article abstracts with the combination of both medical and aesthetic concerns can be seen consistently from 1925-1950, 1965, and a dramatic

increase beginning in 1995 (Table 5). The increase since 1995 suggests that the combination of medical and aesthetic issues within the same research article is increasingly acceptable.

Table 5: Summary of *JADA* Abstract Characteristics:
Proportions of total article abstracts containing language with the following characteristics by year.

YEAR	N	Aesthetic as Medical	Aesthetic AND Medical	Aesthetic	Medical	Other
1925	113	0.000	0.018	0.053	0.673	0.257
1930	182	0.000	0.011	0.016	0.692	0.253
1935	148	0.007	0.007	0.020	0.622	0.345
1940	183	0.000	0.016	0.000	0.716	0.268
1945	103	0.100	0.010	0.000	0.592	0.388
1950	106	0.009	0.009	0.000	0.613	0.368
1955	115	0.000	0.000	0.000	0.574	0.426
1960	134	0.000	0.000	0.000	0.463	0.537
1965	114	0.000	0.026	0.009	0.605	0.360
1970	107	0.000	0.000	0.009	0.664	0.327
1975	71	0.000	0.000	0.000	0.648	0.352
1980	35	0.000	0.000	0.000	0.600	0.400
1985	36	0.000	0.000	0.000	0.694	0.306
1990	39	0.077	0.000	0.000	0.564	0.359
1995	24	0.000	0.042	0.000	0.875	0.083
1999	21	0.000	0.048	0.000	0.762	0.190

JADA articles discussing aesthetics *as* a medical concern are very rare in this sample, and appear in 1935, 1945, 1950, and 1990 only. No more than three articles of such type are found in any single year. A decrease in articles addressing issues other than medical and aesthetic since 1995 is found in the sample of original contributions. Articles of this nature continue to appear, but do so in other sections of the journal format. Patterns and combinations of these characteristics in language provide possibilities that will be addressed in Chapter 4.

These results present a particular pattern to be addressed throughout the remainder of this work. The use of language to discuss aesthetics is found either alone or in combination with medical language predominantly from 1925-1935 and again from 1995 to the present. Though the phenomenon does appear briefly in other years, it is either in a declining pattern from higher usage (such as 1940 - 1950) or in very small proportions (1965-1970). Thus the 1920's, 1930's and 1990's demonstrate a professional use of language to discuss oral aesthetics. Since 1995, more articles are categorized as medical and fewer are documented in other categories. As discussed earlier more categories are presented in these journals. Some of these other topics include lengthy articles on restorative and aesthetic dentistry. This suggests that though dentists are paying more attention to aesthetic dentistry and oral aesthetics, there is an attempt to separate this discussion from "purely" health/medical research. The lack of aesthetics as a medical concern itself shows separation further by providers. This supports the increase of aesthetic concern in provider knowledgeability, but negates conscious motivation to medicalize aesthetics, but rather a conscious attempt to ensure separation of health and aesthetic concerns.

AJD in 1990 had no mention of oral aesthetics. In the two sample years since then, however, aesthetic issues are present (Table 6). In 1995 single articles appeared that discussed aesthetics only, had both aesthetic and medical language and finally a single article that discussed oral aesthetics as a medical issue. The most recent sample year (1999) had two articles that discussed oral aesthetics as a medical concern. This

documents an increase in knowledgeability among providers using definitions from our adapted model.

In the three-year sample of *Community Dental Health*, only one article with any aesthetic concern appeared (Table 7). In 1995, one article appeared that discussed malocclusions in children as a medical issue and the perception of appearance formed by these young clients. Though one article cannot suggest a trend in this journal, it is another example that providers are using medical language to discuss oral aesthetics, a shift in knowledgeability. This particular journal focuses on public health, which is not generally concerned with discussions of appearance or elective treatments.

Table 6: Summary of *AJD* Abstract Characteristics.
Proportions of total article abstracts containing language with the following characteristics by year.

YEAR	N	Aesthetic as Medical	Aesthetic AND Medical	Aesthetic	Medical	Other
1990	52	0.000	0.000	0.000	0.634	0.346
1995	51	0.020	0.020	0.020	0.725	0.216
1999	42	0.048	0.000	0.000	0.714	0.238

Table 7: Summary of *Community Dental Health* Abstract Characteristics.
Proportions of total article abstracts containing language with the following characteristics by year.

YEAR	N	Aesthetic as Medical	Aesthetic AND Medical	Aesthetic	Medical	Other
1990	37	0.000	0.000	0.000	0.892	0.108
1995	40	0.025	0.000	0.000	0.600	0.375
1999	34	0.000	0.000	0.000	0.441	0.559

Variation in Lay Language

We will begin with a review of data from *Good Housekeeping* as it provides the most consistent chronological data. Oral ads using only medical language have remained somewhat stable at high levels (most mention dental professionals, bacterial decay or gum health) with a sharp decrease in medical language occurring in 1940 with smaller decreases noted in 1960, 1970 and 1999 (Table 8). The ads in 1999 had less text overall and subsequently less mention of health and medicine. The ads on the following pages reflect this shift in amount of text per advertisement.

Table 8: Summary of Advertisement Characteristics of Oral Products/services in *Good Housekeeping*
Proportions of oral health/hygiene advertisements containing language with the following characteristics by year.

YEAR	N	Aesthetic as Medical	Aesthetic AND Medical	Aesthetic	Medical	Technology	Other
1925	66	0.197	0.470	0.500	0.985	0.545	0.030
1930	60	0.133	0.633	0.667	0.917	0.567	0.050
1935	65	0.230	0.615	0.400	0.800	0.323	0.369
1940	48	0.000	0.250	1.000	0.250	0.375	0.313
1945	31	0.000	0.548	0.968	0.774	0.387	0.000
1950	17	0.000	0.118	0.059	1.000	0.059	0.000
1955	20	0.000	1.000	1.000	1.000	1.000	0.200
1960	24	0.000	0.750	1.000	0.750	0.750	0.208
1965	11	0.000	0.728	0.728	1.000	0.727	0.000
1970	8	0.000	0.375	0.625	0.625	0.375	0.125
1975	17	0.000	0.000	0.353	0.647	0.059	0.118
1980	24	0.000	0.000	0.000	1.000	0.500	0.000
1985	13	0.000	0.154	0.077	0.923	0.462	0.692
1990	12	0.000	0.083	0.167	0.917	0.750	0.000
1995	8	0.000	0.500	0.500	1.000	0.500	0.000
1999	16	0.125	0.313	0.500	0.625	0.750	0.500

Illustration 1

Advertisement for Ipana Toothpaste with extensive text in *Good Housekeeping* 1925

Your 12,000 meals in the last 10 years

—what have they done to your teeth and your gums?

THE TROUBLE you have with your teeth and your gums can be traced directly to the food you eat.

Three times a day, thirty days a month, all year 'round, you eat the soft food of civilization—rich, creamy and over-refined.

People who eat rough, coarse food never in their lives suffer from pyorrhea. Coarse food is good for gums and teeth. It keeps them in condition, for it stimulates blood circulation in the gums.

How soft food weakens gums and ruins teeth

But the trouble with present day food and with ordinary brushing is one and the same. Neither stirs up the gums to healthy circulation. That's why you need Ipana, a tooth paste which stimulates the gums as well as cleans the teeth.

Use Ipana Tooth Paste—*good for tender gums*

IT IS because of the increasing prevalence of troubles from the *gingiva* (gum structure) that thousands of dentists have adopted Ipana Tooth Paste in their practice and prescribe it to their patients. Many dentists, in stubborn cases of bleeding gums, direct a gum massage with Ipana *after* the regular cleaning with Ipana and the brush.

Because of the presence of ziratol, a well-known and valuable antiseptic and hemostatic, Ipana has a direct tonic effect on soft and bleeding gums. Indeed, Ipana has become known as the great enemy of the "pink" toothbrush, and the friend of healthy gums and teeth.

So that you may judge for yourself its fine, grit-free consistency, its delicious flavor and clean taste, we shall be delighted to send you a trial sample of Ipana.

Try a tube of Ipana today

But the effects of years are not to be repaired in ten days of good care, and the sample tube will be only the start of good work. So, if your toothbrush "shows pink," or if your gums are tender, go to your druggist and get your first tube of Ipana. Before you have finished using it you cannot fail to note the difference, the improvement. Let it start its good work today.

★

IPANA
TOOTH PASTE

A trial tube, enough to last you for ten days, will be sent gladly if you will forward coupon below.

BRISTOL-MYERS CO., *Dept. F-1*
42 Rector Street, New York, N. Y.

Kindly send me a trial tube of IPANA TOOTH PASTE without charge or obligation on my part.

Name .....
Address .....
City ..... *State* .....

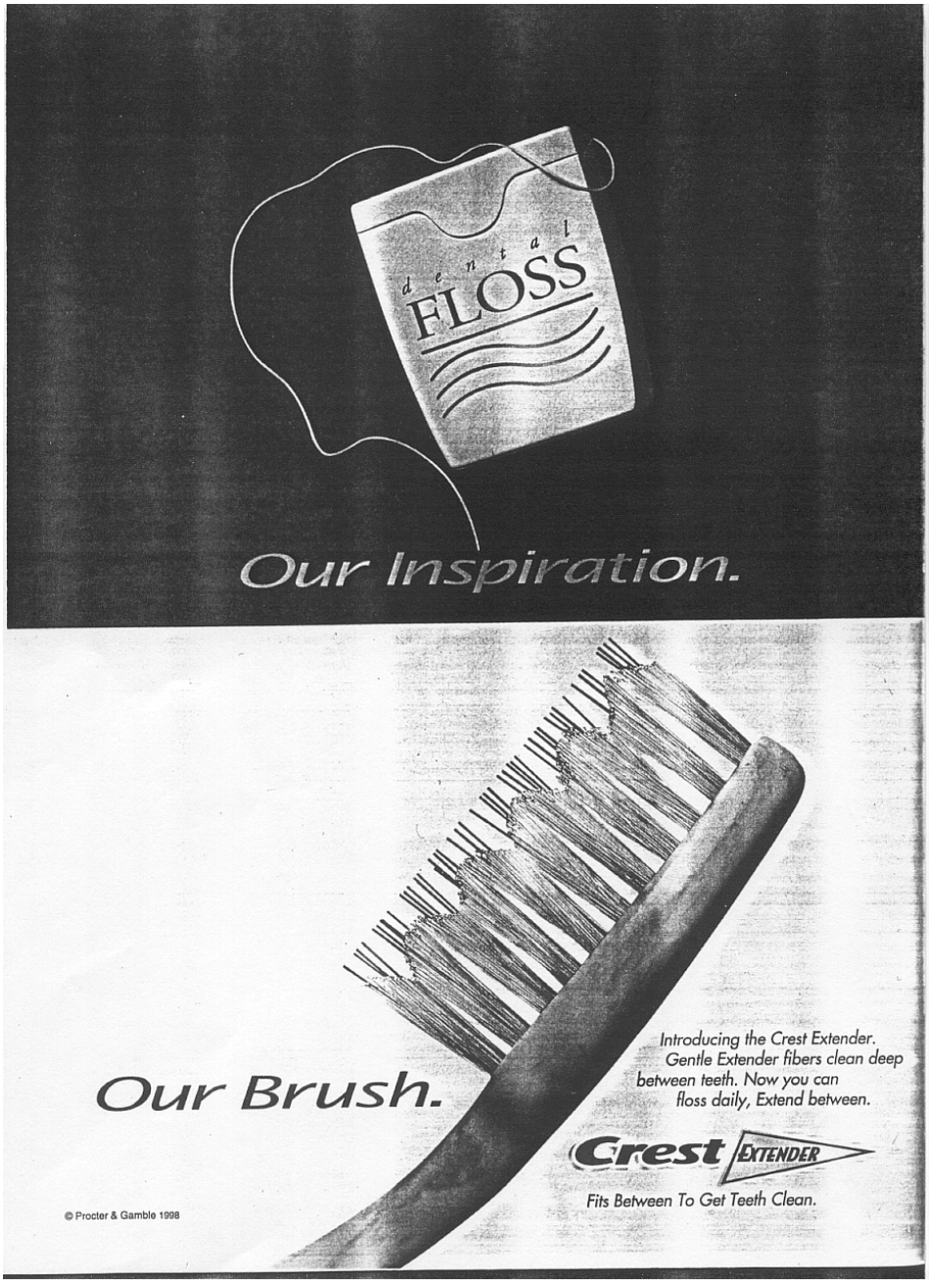
In using advertisements see page 4 125

llustration 2

Advertisement for Ipana toothpaste with moderate text in *Good Housekeeping* 1955

Illustration 3

Advertisement for Crest toothpaste with minimal text in *Good Housekeeping* 1999



Oral ads in the 1940's and 1960's were consistently concerned with aesthetics only (Illustration 4). Few oral ads in the 1950's and 1980's addressed oral status in aesthetic terms only. Other decades demonstrated moderate numbers of oral ads addressing aesthetics only.

Illustration 4

Advertisement for Listerine with aesthetic focus in *Good Housekeeping* 1940.

3

WHAT EVERY WOMAN KNOWS and has known since the beginning of time . . . that probably nothing so quickly cancels a woman's charm as a case of halitosis (bad breath)*. When it is present, love may fly out the window and even friendships chill. Against this all too common type of offense, there is fortunately an easy and delightful precaution which so many popular women, alluring women, have come to rely upon . . . Listerine Antiseptic used as a mouth rinse and gargle, night and morning, between times, and before social engagements. LAMBERT PHARMACAL COMPANY. *St. Louis, Mo.*

**Most cases of halitosis, say some authorities, are caused by fermentation of tiny food particles in the mouth. Listerine Antiseptic quickly halts such fermentation and overcomes the odors it causes. The breath becomes sweeter, purer, less likely to offend. Sometimes, however, halitosis is due to systemic conditions and should be treated by your physician.*

July 1940 Good Housekeeping

Oral ads that contained components of both aesthetic and medical concern reached low points in the 1950's, 1970's and 1980's. A pattern of this combination is seen consistently in the 1920's and 1930's and again after 1990. The following Colgate (Illustration 5) and Pepsodent (Illustration 6) ads demonstrate this combination. Both discuss aesthetic concerns of look, feel and freshness while endorsing on the basis of dental professionals and praise the medical benefits of their product against pyorrhea, tartar and cavities.

Illustration 5

Advertisement for Colgate toothpaste with combination elements in *Good Housekeeping* 1999

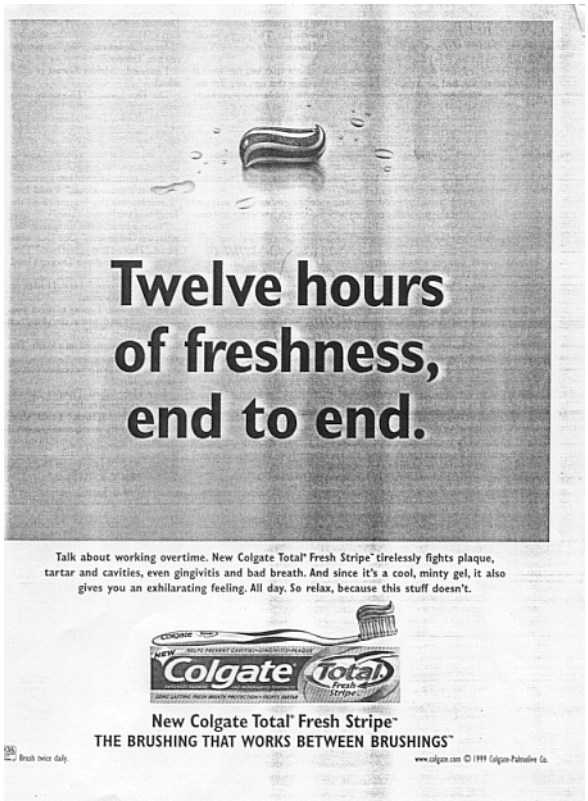


Illustration 6

Advertisement for Pepsodent with combination elements in *Good Housekeeping* 1925

Mail the Coupon

Now!—A new way to lighten cloudy teeth

—and without bleaching or harsh grit.
The way foremost dentists now are urging.

DULL teeth, dingy teeth, teeth that lack gleam and lustre—modern science has discovered a new way to correct them.

In a short time you can work a transformation. In ten days you can have whiter, more gleaming teeth than you ever thought you could have.

This offers you free a 10-day test. Simply use the coupon.

Why teeth lose color, how combating the film works wonders—note results in 10 days

Look at your teeth. If dull, cloudy, run your tongue across them. You will feel a film. That's the cause of the trouble. You must combat it.

Film is that viscous coat that you feel. It clings to teeth, gets into crevices and stays. It hides the natural luster of your teeth.

It also holds food substance which ferments and causes acid. In contact with teeth, this acid invites decay. Millions of germs breed in it. And they, with tartar, are the chief cause of pyorrhea.

So dull and dingy teeth mean more than loss of good appearance. They may indicate danger, grave danger to your teeth.

New methods now that mean greater tooth beauty plus better protection from tooth troubles

Ordinary tooth pastes were unable to cope adequately with that film. Not one could effectively combat it. Harsh grit tended to injure the enamel. Soap and chalk were inadequate.

Now modern dental science has found two new combatants. Their action is to curdle film and then harmlessly remove it. They are embodied in a new type tooth paste called Pepsodent—a scientific method that is changing the tooth cleansing habits of some 50 different nations.

To millions this new way has proved the folly of having dull and dingy teeth. The folly of inviting tooth troubles when their chief cause can be combated. Don't you think it worth while to try it for 10 days; then to note results yourself?

Make the test

Remember, every time you eat, food clings to your teeth. Film is constantly forming. The film that ruins teeth; that mars their luster, makes them look dingy and dull.

This new way will combat it—will give the lustrous teeth you envy.

It will polish your teeth; give them a new beauty that will delight you.

Make the test today. Clip the coupon for a free 10-day tube. Why follow old methods when world's dental authorities urge a better way?

Canadian Office and Laboratories:
191 George St., Toronto, Canada

FREE Mail Coupon for 10-Day Tube to

Send to:

★ Pepsodent PAT. OFF. REG. U.S. 1697

Dept. 403, 1104 S. Wabash Ave., Chicago, Ill., U. S. A.

Name.....

Address.....

Only one tube to a family.

In using advertisements see page 4 113

The use of technological language in these advertisements began at a moderate level in the first year of the sample gradually declining until a sharp decrease occurred in 1950. A significant increase was noted from 1955 through 1970 and falling in 1975. Since 1980 a steady increase in the use of technological language in oral health ads has been noted. This type of language promises new benefits from scientific advances such as the Pepsodent advertisement presented earlier claiming "a scientific method that is changing the tooth cleansing habits of some 50 different nations." A 1950 advertisement for Colgate assures consumers that "Gardol, Colgate's patented new decay-fighter, forms an invisible shield around your teeth." More recently, "Micro Cleansing crystals" were the hope of Colgate's new Tartar Control paste in 1995.

Discussion of gum health in the 1930's used explanations of "pink toothbrush" while today we understand the effects of gingivitis. Both were discussed in their day as medical advances that could be best treated with new technology. Technological language has been noted in all products in the sample, such as toothpaste, toothbrushes (especially the latest rotary brushes) and denture products such as Polident.

Finally, the presence of medical language to discuss specific aesthetic elements is apparent only from 1925 to 1935 and in 1999. Both time periods contain discussion of "healthy looking" teeth and smile. There is mention of dentists "correcting" cloudy teeth in the aforementioned Pepsodent ad. Dr. West's brush claims that tooth decay is the "mortal enemy of your smile." Recent Colgate products that are designed to "control

tartar" associate clean and fresh with oral health. In these examples, perceived cleanliness of the oral cavity is a predictor for oral health.

Overall three periods emerge that use a combination of technology, medical and aesthetic language, 1925-1930, 1955-1965, and finally the past decade. Only two of these periods however use specific medical language to address aesthetic concerns, the beginning and end of our time period. Perhaps review of time and space context will distinguish what was in both the beginning and the end of the time frame that was not present in the 1950's and 1960's and may have contributed to this phenomenon.

The points when other language is used displays particular concerns of the time. High proportions of use of "other" language during the depression focused on product cost. Discussing how long a tube of paste will last or how much you can save annually by buying this particular product. The sharp rise of "other" proportions in 1985 specifically discussed packaging that will motivate children to brush regularly. Pushing the concept that an oral health product is only *of* use when it *is* used. Toothpaste packaging, flavors and cool stripes all provide incentives for kids to brush.

The second popular magazine examined was *Reader's Digest* since it began advertising in 1955. The proportion of ads that are for oral products has remained moderate with two peaks, 1960 and 1980 and two dips, 1970's and 1990 (Table 9). Emphasis on appearance is evident in the 1950's and 1960's while the emphasis in the 1980's and 1990's have been technology and medical. Only in 1980, did any ads appear that used medical language to discuss oral aesthetics, but the combination of medical and aesthetic language was evident from 1955-1960 and again in 1999. The combination of

medical, aesthetic and technology is seen from 1955-1965 but without the use of medical language to address aesthetic concerns.

Table 9: Summary of Advertisement Characteristics for Oral Products/Service in *Reader's Digest*
Proportions of oral health/hygiene advertisements containing language with the following characteristics by year.

YEAR	N	Aesthetic as Medical	Aesthetic AND Medical	Aesthetic	Medical	Technology	Other
1955	4	0.000	0.750	0.750	1.000	0.750	0.000
1960	20	0.000	1.000	1.000	1.000	0.600	0.000
1965	28	0.000	0.571	0.714	0.857	0.179	0.143
1970	35	0.000	0.229	0.257	0.457	0.429	0.571
1975	33	0.000	0.000	0.364	0.333	0.273	0.242
1980	32	0.125	0.125	0.594	0.375	0.250	0.094
1985	9	0.000	0.000	0.000	0.889	1.000	0.000
1990	12	0.000	0.000	0.000	1.000	0.000	0.250
1995	21	0.000	0.000	0.000	1.000	0.524	0.095
1999	8	0.000	1.000	1.000	1.000	0.000	0.375

Oral product ads were not found in *Esquire* with the exception of recent ads for Interplak, a rotary toothbrush, and Epismile, a tooth whitener. These ads, found in 1990 used a combination of medical, technology and aesthetic language (Table 10). Few hygiene ads were found at all until only recently. This topic will be discussed further in the next chapter.

Table 10: Summary of Advertisement Characteristics for Oral Products/Service in *Esquire*
Proportions of oral health/hygiene advertisements containing language with the following characteristics by year

YEAR	N	Aesthetic as Medical	Aesthetic and Medical	Aesthetic	Medical	Technology	Other
1935-1985	0	0.000	0.000	0.000	0.000	0.000	0.000
1990	4	0.750	1.000	0.750	1.000	0.000	0.000
1995 & 1999	0	0.000	0.000	0.000	0.000	0.000	0.000

Variation in Professional Framework

The same articles from the three professional journals were reviewed for mention of the concept "quality of life" or "oral quality of life". There was only one mention of these concepts in any year in any of the three journals. It was located in *JADA* 1995 in an article on restorative dentistry. To determine if the lack of presence was defined by our sample years, a second method of determination was employed. A Medline search for these journal articles documented 27 articles that use "quality of life" or "oral quality of life". All articles appeared after 1983 with an increase since 1993 (Table 11). This is a relatively new phenomenon and the articles were scattered across recent issues in small numbers. It does appear, however, that many more examples exist than the original collection method displayed.

Table 11: Summary of Articles in Professionals Journals Containing "Quality of Life" by Year and Journal

Year	*JADA*	*Community Dental Health*
1983	1	0
1985	1	0
1987	1	0
1988	0	1
1989	1	1
1990	1	0
1991	1	0
1992	1	1
1993	3	1
1995	1	0
1996	0	1
1997	1	2
1998	0	8
1999	0	1

Variation in Popular Health Framework

Ads for items other than oral products in *Good Housekeeping* have fluctuated in content language but overall patterns can be noted (Table 12). The 1920's and 1930's had a high proportion of ads using medical language only to sell products. After a sharp decrease in 1940, an overall increase in medical language for product promotion is evident. This is paralleled by the increase in use of technology related language to sell products. With the exception of a distinct dip in 1960 and peak in 1990 the use of aesthetic language to sell products has been on a decline since 1925. Medical and aesthetic language were used in combination in the 1920's and 1930's with dips in 1950 and 1970 and remaining moderate through other years. The use of medical language to

Table 12: Summary of Advertisement Characteristics for Non-Oral hygiene Products/Services in *Good Housekeeping*
Proportions of non-oral hygiene advertisements containing with containing the following characteristics by year.

YEAR	N	Aesthetic as Medical	Aesthetic AND Medical	Aesthetic	Medical	Technology	Other
1925	50	0.000	0.780	0.980	0.800	0.180	0.020
1930	94	0.053	0.500	0.936	0.564	0.170	0.011
1935	92	0.174	0.543	0.978	0.565	0.348	0.043
1940	89	0.067	0.000	0.944	0.000	0.191	0.270
1945	113	0.000	0.212	1.000	0.212	0.133	0.000
1950	160	0.000	0.288	0.988	0.300	0.300	0.031
1955	81	0.000	0.210	0.988	0.198	0.272	0.025
1960	41	0.000	0.000	0.732	0.146	0.122	0.146
1965	96	0.000	0.365	0.917	0.365	0.417	0.031
1970	133	0.023	0.286	0.774	0.361	0.318	0.128
1975	95	0.000	0.242	0.811	0.284	0.232	0.347
1980	132	0.023	0.455	0.811	0.508	0.424	0.023
1985	123	0.000	0.496	0.659	0.764	0.439	0.301
1990	60	0.000	0.350	0.933	0.400	0.550	0.167
1995	58	0.000	0.379	0.862	0.862	0.655	0.034
1999	81	0.000	0.543	0.716	0.630	0.568	0.321

specifically address aesthetic issues is seen only from 1930 - 1935. Particular instances of medical language to address aesthetic properties are documented in 1970 and 1980, but are not related to an overall pattern of use. Again, the combination of medical, aesthetic, and technology are noted in the first decade of the time frame with aesthetics addressed using medical language. The increased combination is noted again in the past decade but without the use of medical to address aesthetic specifically. The difference in many of these ads is the high combination of medical and aesthetic use assuring that these two elements are related. This use of medical/aesthetic combinations but without specific medical language of aesthetics supports a medical framework of aesthetic issues, though

it is not demonstrated in a medicalized address of these non-oral hygiene products in these decades. It will be interesting to see if they become more medicalized within this framework in the next decade. There is a point where the combination of the three and medicalized language for aesthetics is found in 1970. This is the point in oral advertisements when the combination was present but not the medicalized language of aesthetics. It appears that this combination of aesthetic, medical and technological language appears in both oral and non-oral products when either one or the other is using medicalized language of aesthetics. Again, this points to an anomaly that should be examined in particular time/space context.

Non-oral Hygiene ads in *Reader's Digest* show little use of medical language after 1960 until this past decade where it is seen again (Table 13). Aesthetic language is consistently high except in dips at 1960 and 1970. The use of technology related language has increased to the present decade, as has the combination of medical and aesthetic language to sell products or services. This is further demonstrated by an increase in access to consumer health information such as news magazine television shows, health magazines and Internet sites. The use of medical language to specifically address aesthetic issues is documented only in the 1970's. This is consistent with the findings of *Good Housekeeping*.

Table 13: Summary of Advertisement Characteristics for Non-Oral Products/Services in *Reader's Digest*
Proportions of non-oral hygiene advertisements containing language with the following characteristics by year.

YEAR	N	Medical as Aesthetic	Medical AND Aesthetic	Aesthetic	Medical	Technology	Other
1955	7	0.000	0.143	0.714	0.143	0.143	0.429
1960	8	0.000	0.000	0.000	1.000	0.000	0.000
1965	47	0.000	0.255	1.000	0.255	0.085	0.170
1970	68	0.059	0.059	0.015	0.353	0.176	0.132
1975	32	0.156	0.125	0.719	0.125	0.000	0.250
1980	21	0.000	0.000	0.952	0.000	0.381	0.190
1985	12	0.000	0.333	1.000	0.333	0.750	0.000
1990	29	0.000	0.138	0.690	0.172	0.276	0.241
1995	29	0.000	0.966	0.414	1.000	0.862	0.000
1999	9	0.000	0.859	0.889	0.889	1.000	0.111

Advertisements in *Esquire* consist primarily of alcohol, cigarettes, sexual advice books and cars. Hygiene ads have fluctuated throughout the magazine's history. While the 1970's ads used primarily aesthetic language to sell, more recent ads use a consistent combination of medical and aesthetic language. The use of medical language to specifically address aesthetic issues is not present in *Esquire* (Table 14). The last decade of hygiene ads in *Esquire* have revolved around two particular product lines, hair replacement and impotence. Both of which are treated in a medical fashion but also include aesthetic language. The only magazine specifically targeted to men. these patterns are somewhat different than those found in *Good Housekeeping* and *Reader's Digest.*

A contextual discussion of gender targeted advertising patterns will reveal specific insight into these differences in the next chapter.

Table 14: Summary of Advertisement Characteristics for Non-Oral Products/Services in *Esquire*
Proportions of non-oral hygiene advertisements containing language with the following characteristics.

YEAR	N	Aesthetic as Medical	Aesthetic AND Medical	Aesthetic	Medical	Technology	Other
1935	12	0.000	0.333	1.000	0.333	0.000	0.125
1940	15	0.000	0.800	1.000	0.800	0.267	0.000
1945	28	0.000	0.179	0.429	0.286	0.143	0.392
1950	36	0.000	0.333	0.750	0.333	0.250	0.111
1955	12	0.000	0.000	0.417	0.000	0.125	0.750
1960	8	0.000	1.000	1.000	1.000	1.000	0.000
1965	11	0.000	1.000	1.000	1.000	1.000	0.000
1970	52	0.000	0.308	0.769	0.308	0.750	0.288
1975	20	0.000	0.100	0.600	0.100	0.350	0.500
1980	5	0.000	0.000	0.000	0.000	0.000	1.000
1985	30	0.000	0.533	0.867	0.533	0.433	0.233
1990	29	0.000	0.400	0.640	0.640	0.320	0.360
1995	28	0.000	0.286	0.321	0.429	0.286	0.036
1999	24	0.000	0.083	0.125	0.833	0.708	0.333

Articles in *Good Housekeeping* were reviewed and documented if they were specified as Health or Beauty (Table 15). Those articles designated as Beauty generally addressed only aesthetic issues. The first year of the sample and the final three years show a distinct difference where a large proportion of articles used medical language to specifically address beauty concerns, demonstrating the presence of the medical framework for aesthetic issues. This supports previous findings that the 1920's and 1990's have a greater use of medical language in aesthetic topics. Health articles, as

well, predominately addressed the designated topic. The exception is seen in 1960 where health articles had low use of medical language and high address of aesthetic language.

Table 15: Summary of Article Characteristics for *Good Housekeeping*
Proportions of articles containing language with the following characteristics by year and designation of Health or Beauty

Year	N	Health/ Beauty	Proportion of Total	Aesthetic	Medical	Technology	Other
1925	18	H	0.667	0.250	0.500	0.000	0.000
		B	0.333	1.000	1.000	0.167	0.000
1930	19	H	0.421	0.000	1.000	0.000	0.000
		B	0.579	0.909	0.273	0.091	0.091
1935	34	H	0.294	0.000	0.800	0.000	0.200
		B	0.706	1.000	0.333	0.000	0.000
1940	41	H	0.268	0.182	1.000	0.000	0.000
		B	0.732	1.000	0.100	0.033	0.000
1945	48	H	0.250	0.167	1.000	0.083	0.000
		B	0.750	0.972	0.056	0.028	0.028
1950	12	H	0.500	0.000	1.000	0.000	0.000
		B	0.500	1.000	0.167	0.000	0.000
1955	40	H	0.500	0.200	0.500	0.150	0.000
		B	0.500	0.500	0.100	0.200	0.100
1960	36	H	0.333	0.412	0.250	0.083	0.083
		B	0.667	0.639	0.292	0.125	0.042
1965	38	H	0.395	0.133	0.933	0.133	0.000
		B	0.605	1.000	0.434	0.043	0.000
1970	29	H	0.621	0.167	1.000	0.056	0.000
		B	0.379	1.000	0.273	0.034	0.000
1975	31	H	0.645	0.050	1.000	0.000	0.050
		B	0.355	0.818	0.455	0.000	0.091
1980	101	H	0.238	0.250	1.000	0.000	0.000
		B	0.762	0.247	0.260	0.000	0.000
1985	62	H	0.435	0.074	1.000	0.593	0.000
		B	0.565	1.000	0.114	0.086	0.229
1990	52	H	0.462	0.292	1.000	0.708	0.333
		B	0.538	1.000	0.821	0.000	0.179
1995	37	H	0.243	0.000	0.778	0.000	0.000
		B	0.757	1.000	0.893	0.000	0.107
1999	33	H	0.455	0.200	1.000	0.400	0.000
		B	0.303	1.000	0.556	0.667	0.000

Reader's Digest has never had Beauty articles, but it has maintained a medical section since 1965 (Table 16). All articles used medical language and since 1970 they have used language of technology as well. In the last years of the sample (1995 and 1999) a proportion of the articles has addressed aesthetics in this medical framework.

Table 16: Summary of Article Characteristics for *Reader's Digest*
Proportions of Health articles containing language with the following characteristics

Year	N	Health/ Beauty	Aesthetic	Medical	Technology	Other
1955	0	H	0.000	0.000	0.000	0.000
1960	0	H	0.000	0.000	0.000	0.000
1965	2	H	0.000	1.000	1.000	0.000
1970	11	H	0.000	1.000	1.000	0.000
1975	12	H	0.250	1.000	0.667	0.000
1980	12	H	0.000	1.000	1.000	0.000
1985	12	H	0.000	1.000	1.000	0.000
1990	12	H	0.000	1.000	1.000	0.000
1995	12	H	0.667	1.000	1.000	0.000
1999	12	H	0.333	1.000	1.000	0.000

Esquire has very few articles that address health or aesthetics, beyond fashion. In fact no articles are found that address health, hygiene, or beauty until 1975 (Table 17). This past decade *Esquire* has adopted an "Active Health" section. These lack aesthetic issues with rare exception. One particular article worth mentioning appeared in 1995 called "Holy Molars. This was an extensive article devoted to advances in dentistry, oral health education and proper hygiene techniques. It is again important to remember that this is the single magazine of the sample targeted specifically for men. This factor may attribute to differences seen in these articles specifically.

Table 17: Summary of Article Characteristics for *Esquire*
Proportions of articles containing language with the following characteristics

Year	N	Health/ Beauty	Aesthetic	Medical	Technology	Other
1935-1970	0	n/a	0.000	0.000	0.000	0.000
1975	6	H = .333	1.000	0.000	0.000	0.000
		B = .667	0.500	1.000	0.000	0.000
1980	1	B	0.000	1.000	1.000	1.000
1985	1	B	1.000	1.000	0.000	0.000
1990	6	H	1.000	0.333	0.333	0.167
1995	1	H	1.000	1.000	1.000	1.000
1999	4	H	1.000	0.500	0.750	0.750

Variations in Rules and Resources

While the previous section of the chapter focused on knowledgeability, this section is an attempt to document the shifts in the structural components, rules and resources as designated in the theoretical model. In each element addressed here, it must be remembered that rules and resources are defined as such by the ability to restrict or enable. Each element can be seen as either a rule or resource depending upon the agent or groups of agents to whom it is related. This will be addressed again as each element is presented.

Dentists per capita

There has been a relatively stable ratio of dentists to the US population since 1920 (see Table 18). The only notable variation occurs in 1980, when there was a dip in the number of active dentists in the United States dropping to a ratio of 1592 US residents per dentist.

Table 18: Number of Dentists in US 1920 - 1990

Year	Number of Active Dentists	Ratio of Residents to Active Dentist
1920	56152	1896
1930	71055	1732
1940	69921	1890
1950	89441	1702
1960	102940	1755
1970	116280	1763
1980	142688	1592
1990	140543	1775

Number of dentists from *The Number of Dentists in the United States: Historical Tables, 1990-1991 (ADA 1993)*
Ratio calculated using US Census data (US Bureau of Census 1999)

The mid-century shortage of dentists was only slightly offset by increases in hygienists, dental assistants and other technicians (Dickerson 1968). High numbers of dentists represent a resource for consumers as it enables them to more easily seek professional assistance. This is also dependent on other access issues such as finance, location and time; but they do represent a wider opportunity overall for access to dental care.

Increased numbers of practicing dentists suggests fewer patients per dentist and a possible decrease in income for providers. Again, this is complicated by other factors, but initially is noted as a restriction or limitation. It is important to mention that as a

professional group, dentists regulate many of their educational standards and contribute to decisions on numbers of dental students and graduates. Lower numbers of dentists are most often associated with fewer available recruits for dental school, not a limitation of enrollment by professionals.

Fluoridation

In 1945, Grand Rapids, Michigan became the first city in the United States to receive fluoridated water from the public water system. The US Surgeon General initially sponsored this project and many US cities began to fluoridate water systems in the 1950's followed by even more in the 1960's (Bernhardt 1965). Studies from the Grand Rapids Project showed dramatic results in decreased caries and increased oral health. According to the Center for Disease Control, over half the US population was receiving fluoridated water by 1992. Fluoridation can discolor teeth from slight color changes (specifically white spots) to a brown mottled discoloration. The possibility then stands that increased focus on tooth appearance may increase as more Americans are exposed to fluoridated water and there is a decrease in dental caries. Fluoridation of water systems has been steeped in controversy from the very beginning. Fears of fluoridation poisoning and disbelief of actual benefits from the process have been consistently pronounced.

Fluoridation and its documented benefits to oral health represent a resource for consumers as it will improve their oral health and decrease the necessity for extensive professional treatment from providers. For providers, it is more complicated and can be discussed in a couple of ways. It could be regarded as a restriction, since better oral

health and less need of professional services can represent a loss of income for providers. In a tone of conspiracy, it could be said that fluoridation limits profit by providers. In reality, providers have hailed proper fluoridation of water systems for oral health benefits. The resulting increase in oral health status of Americans could be seen as a resource for providers as well, as it allowed them the opportunity to focus on different aspects of the oral cavity, aesthetics for example. This argument designates fluoridation as a resource to both as it increased the oral health of the nation and allowed more funds, energy and focus on other oral related issues.

Ethics Codes

Ethics Codes are most commonly understood as a resource for consumers allowing the promise of assured quality in their interaction with providers and a rule to which providers must adhere. Constraints of payment, as guided by ethical codes, may also restrict patient treatment especially in today's age of insurance regulations. These codes should also be noted as a resource of providers who adhere to the regulations as adherence enables continued practice and continued status for the professional field as a whole.

The few copies of ethical codes I could attain at this time do not provide any special insight into shifts of rules and/or resources on the behalf of the parties. Some key items in the Rules of the Texas State Board of Dental Examiners (1994) are Fair Dealing, Records, and extensive restrictions of Unlawful Advertising. No service advertisements were found in the sample. As services are often locally oriented, these are found in

locally distributed media such as newspapers, television, radio and particularly mailout coupon packages. Future data collection may include these other sources and increased attention should be paid to ethical codes concerning advertising. The basis for most of these rules date back to the turn of the century when the ADA worked to systematically regulate dentists. The primary foundation then for rules and regulations for this seventy-four year time frame would have had little adjustment.

There has been particular attention paid to aesthetics in the treatment of ethical considerations recently. Weinstein (1993) felt obliged to include a section on aesthetics and dentistry in his work on ethics in dentistry. Weinstein points out several interesting elements in this relationship. First is the importance to do no procedure that is detrimental to oral health. The second point is the importance of informed consent on all procedures. Finally, the author likens the role of the dentist to that of the hairdresser. He notes the importance of providing the client with the "look" they desire. In this section, Weinstein provides a textual argument that has been assumed in this research:

> Dentistry is perhaps the only health care profession that deliberately (and motivated by concern's of the public's health) has endangered its own survival. Decades of persistent pressure for universal fluoridation and increased patient education efforts have resulted in less dental disease and less demand for traditional dental services. Importantly, however, it has offered consumers of dental care the opportunity to designate dollars that would otherwise be spent for treatment of dental caries and for dental prosthetics on dental care that improves function as well as appearance (Weinstein 1993:197).

Service Availability

Service availability represents resources for both providers and consumers, as consumers can procure desired or needed services, and providers can attain related

financial benefits. The documentation of diagnoses is difficult, as standard formats for charting have been adopted only within the past few decades. The primary area of concern is in the treatment of oral aesthetics. We do know from the review of dental journals that tooth restoration has been available throughout this century. Two surveys have been completed by the American Dental Association to measure services rendered by US dentists (ADA 1979; ADA 1990). The results from these two instruments, completed in 1979 and 1990, provide some insight into the availability of services. Tooth restorations are documented in 1979 without consideration for type of material (composite, acrylic or plastic). There are no records of veneers or bleaching treatments. By 1990, a wider variety of restoration materials were available. Composite resins introduced in 1962 provided improved options in restoration (McComb 1995). A variety of veneer treatments, and bleaching were also documented in the 1990 ADA survey. In 1987, the first text was published to educate practicing dentists how to perform successful bleaching treatments in the office (Feinman, Goldstein and Garber 1987).

Insurance

Dentists' fees began to rise steadily after WWII (Dickerson 1968). Overall healthcare costs began to climb steadily after the war until 1953, and during the mid-sixties costs began to climb at a more substantial rate to continue throughout the century. Insurance availability (and that of Blue Cross) increased during the 1950's - 1960's. The US Department of Health and Human services reported that eighty-one independent plans had dental coverage, and ten Dental Service Corporations were in existence by 1960

(Dickerson 1963). Increases in dental coverage since this time face many of the same problems. Dental insurance is the single type of insurance most likely to pay benefits immediately as more people come to this coverage with "pre-existing" need than any other medical need. Initial dental coverage did not include preventative work, cleanings or fillings.

The cost of providing dental insurance was exorbitant and some companies made economic choices in their benefits. For example, large first time premiums that would ultimately pay for initial work and subsequent reimbursement, a two year waiting period for pre-existing conditions, and the requirement of ensuring personal care and maintenance to a specific level of health before reimbursement on any claims were all strategies to reduce costs. Dickerson (1963) suggests that dental insurance trends followed medical insurance trends by about 25 years. Dental insurance has undergone change since the 1980's and is now often included in major medical prepayment plans of all kinds. Recent developments in Health Maintenance Organizations have influenced all aspects of insurance coverage (Dunning 1986). In 1967, only 2% of the US population had dental insurance. By 1981, that had increased to 38% (Manning, Bailit, Benjamin, and Newhouse 1985). It is important to remember however, that dental insurance is not universal and without coverage professional care is expensive and can be prohibitive for many Americans. Insurance as a resource allows consumers to receive services and providers to receive reimbursement. Rules and insurance are two words that are inherently tied. Insurance maintains sets of rules for both provider and consumer.

Insurance rules limit the amount of treatment that is covered thereby limiting both the amount and spectrum of care that is delivered.

Product Availability

The type of over-the-counter products has not changed as drastically during this time frame as the ingredients and materials used in their production. Though a broader range of aesthetic products are now offered such as tongue scrapers, whitening pastes and gels, multi-step rinses or pills for breath odor. There is a particular gum that is now sold in the oral hygiene aisle due to its "treatment capabilities". Toothbrushes and dentifrice have been available throughout this period. Concern for advertising practices of oral care products was brought to the forefront in the late 1950's and the specific use of language was questioned, as was the effectiveness of oral care products. The possible impact of advertising will be discussed in greater length in the next chapter's review of time and space context. Electric toothbrushes have been available since mid-century. Bleaching kits mark the revolutionary aesthetic product on the market making a strong appearance in the 1980's (Feinman, Goldstein and Garber 1987). Many of these products are available by dentists' prescription, and some are available over-the-counter (Berry 1990). Products enable consumers to provide self-treatment and achieve better oral health and appearance. They enable producers to attain profits and enable providers a range of products to present to consumers. It can be argued that improved products restrict provider profit by reducing professional care needs of the population.

Summary

Data have been presented in this chapter in numerical detail without the assistance of statistical testing. A summary table is provided to allow easier categorization of the findings and to begin to put the data into a chronological reference (Table 19). Particular patterns can be distinguished and will be discussed in detail in the following chapter as the original research questions are answered.

The use of medical language to discuss aesthetic issues is seen in the first half of the century (1925 - 1950), while most appear in the first ten years (1925 - 1935). This use of language is seen again in 1980 and increases toward the end of the century. Increasing use of technological language is documented at the very beginning (1925 - 1935), middle (1955 - 1960), and end (1985 - 1999) of the time frame studied.

The use of a medical framework to discuss aesthetics is documented in the beginning (1930-1940) and end (1990-1999) of the century, but with another showing from 1970 - 1980. This corresponds with medicalized language at the beginning and end of the time period. It leaves two sections of the middle of the century where *either* medicalized language or a medicalized framework is present. It should also be noted that in both periods, the use of medicalized language to discuss aesthetic concerns is seen first in consumer magazines and then follows in the professional journals. This suggests a lead by producers being followed by providers. This aspect of turn-taking will be discussed further in the next chapter.

Table 19 Summary of Findings by Sample Year

YEAR	LANGUAGE	FRAMEWORK	RULES and RESOURCES
1925	Provider Medical & Aesthetic Consumer Aesthetic as Medical Increased Technology	Consumer Medical & Aesthetic	
1930	Provider Medical & Aesthetic Consumer Medical & Aesthetic Aesthetic as Medical Increased Technology	Consumer Medical & Aesthetic Aesthetic as Medical	
1935	Provider Medical & Aesthetic Aesthetic as Medical Consumer Medical & Aesthetic Aesthetic as Medical	Consumer Medical & Aesthetic Aesthetic as Medical	
1940	Provider Medical & Aesthetic		
1945	Provider Medical & Aesthetic Aesthetic as Medical Consumer Medical & Aesthetic		The start of fluoridation
1950	Provider Medical & Aesthetic Aesthetic as Medical		Increases in fluoridation Rise of rotary brushes
1955	Consumer Medical & Aesthetic Increased Technology		Increases in insurance coverage
1960	Consumer Medical & Aesthetic	Consumer Medical and Aesthetic Increased Technology	

YEAR	LANGUAGE	FRAMEWORK	RULES AND RESOURCES
1965	Provider Medical & Aesthetic Consumer Medical & Aesthetic Increased Technology	Consumer Medical & Aesthetic Increased Technology	
1970		Consumer Aesthetic as Medical	
1975		Consumer Aesthetic as Medical	
1980	Consumer Aesthetic as Medical	Consumer Aesthetic as Medical	Decreasing # of Dentists At home Bleach kits hit the market
1985	Consumer Increased Technology	Consumer Increased Technology	Increase in Dental Insurance
1990	Provider Aesthetic as Medical Consumer Medical & Aesthetic Aesthetic as Medical Increased Technology	Provider OQoL Consumer Increased Technology	Increase in restorative options
1995	Provider Medical & Aesthetic Aesthetic as Medical Consumer Medical & Aesthetic Increased Technology	Provider OQoL Consumer Medical & Aesthetic Increased Technology	Majority of public water systems are fluoridated
1999	Provider Medical & Aesthetic Aesthetic as Medical Consumer Medical & Aesthetic Aesthetic as Medical Increased Technology	Provider OQol Consumer Medical & Aesthetic Aesthetic as Medical Increased Technology	

CHAPTER 4

TOWARD FINDINGS OF MEDICALIZATION AND STRUCTURATION

The purpose of this chapter is to review time and space context across the twentieth century and systematically answer the initial research questions leading to a discussion of medicalization. New information will be introduced that is relevant to the discussion, but was information missed by specific sample restrictions. At the end of this chapter, a discussion reviewing the findings as they exist within a structuration model will be presented.

Time and Space Context

In reviewing time and space context for this century, choices for inclusion had to be made. Overall national factors such as economics and politics should be included. For this particular study, particular elements of technology and aesthetic appreciation should also be considered. Overwhelming cultural patterns should be noted as well as overall health care trends.

Since content analysis of popular magazines is used in measurement, discussions of advertising are also relevant. Caudill (1994) argues that science or scientific ideas, when printed in a magazine or newspaper, are surrounded by cultural impressions and cannot be separated, creating a "cultural collage." This may be of special interest to the presentation of technological language in ads appearing in popular magazines. When

looking at hygiene ads, gender is important not just for who supposedly reads them, but also for the motivational techniques for reaching that target audience. It is suggested in the field of advertising that women's products are marketed to change features and reject their natural appearance, but for men the purpose is to sell commodities that enhance natural good looks (Vestergaard and Schroder 1985.) In this case, it is perhaps important to note the feminine aesthetic norm (or ideal) of the time period. This is in no way an attempt to detail the century, but rather a brief look at the relevant time period to determine what particular aspects of time/space context may be beneficial in understanding medicalization of oral aesthetics.

The Turn of the Century

The first days of the twentieth century were filled with all the promise of any New Year. In the United States, the promise of the future was based in the growth, success, affluence and aesthetic abundance of a reconstructed, healed and wealthy nation. Bigger, better and beautiful were key elements to so much of this time. A large population of immigrants lived in dense and poverty stricken cultural enclaves hoping that the entrance to this nation would provide all the dreams that had brought them here. All in America were upwardly mobile and this included even the poorest of the nation. Everyone was on the way up in society (Borden, Graham, Nash, Oglesby 1970 and Johnson 1998).

These immigrants lived in the large cities of the US that continued to grow and swell such as Chicago and New York City in the shadow of modern high rises which had begun to populate the American skyline (Johnson 1998). These buildings were produced out of several motivational factors of the time. Beautiful and luxurious architecture had replaced previous schools of high functionality. Skyscrapers of this time period (such as the Chrysler Building of NYC) were a combination of the latest technology and a desire for beauty on a grand scale. Technological advances, led by Edison, were convincing America of the benefits of inventions, discoveries and progress on their everyday lives (Johnson 1998). Technology and aesthetic promotion were also coupled in the works of Tiffany's exotic creations of light and glass. Art of every kind flourished in this atmosphere and perpetuated the importance of aesthetic value in society and its ultimate attainment through technology.

This beauty and progress was not wasted on a staid and dowdy population. The dominant cultural group of Americans was the affluent young crowd of the eastern seaboard (Johnson 1998). Luxury was again the commodity of the day. Houses of the wealthy were equipped with extravagant time saving devices and new domestic inventions. Procurement of luxury items was promoted even further through advertising in the increasingly abundant magazines and newspapers (Banner 1983).

These avenues of press media brought the news of the American success. In these early days of the new century, luxury and beauty were hailed, the economy was strong, technology and progressive inventions were changing everyday lives, and government and legislation were aimed at maintaining this momentum of style and success in modern

America. Shifts in labor concepts worked to empower laborers as consumers. Zunz (1998) explains the high wage, low-price model as the economic foundation for future American consumerism.

The aesthetic standard for females at this time was tied to morality (Banner 1983). Those who stayed true to the ethical path would be the beauties they deserved to be. Beauty was a natural right of American women. There existed a Darwinian concept that the beautiful would mate and procreate while the ugly would not have those opportunities. It would follow then, that eventually only the beautiful would be left.

Jane Addams found a dichotomy between expectations of young and old women in the US by the late nineteenth century (Banner 1983). She specifically cited dental care and the fact that women over 35 years often had teeth pulled with no dentures to replace them because their concern for personal beauty no longer required such attention. Advertisement for dentifrice was abundant at the turn of the century and for years later. Presbrey (1929) claims that the white of teeth in black and white copy made dental ads attractive.

In terms of the overall health context, several things should be noted. The mid-nineteenth century brought the revelation of the germ theory (Loudon 1997). This was followed in the last part of the century by an increase in funded medical research and institutes devoted to this practice. The very end of the century brought the introduction of X-rays, better methods of asepsis, antisepsis and anesthesia, and increased attention to public health and hygiene.

1920's

This "Golden Age" of America was a period of high success by the upper classes and a look toward upward mobility from the lower classes. Harding was attempting to return the nation to "normalcy" and the promise since the turn of the century continued until the market crash of 1929 (Borden, et al. 1970). There was an air of postwar exuberance and strong "Americanism". America continued its top vantagepoint in terms of wealthy nations and continued to gain power globally. There was a continuation of minimalist politics with the presidencies of Harding and Coolidge.

There was an increased focus on education and attendance increased in the newly restructured universities and colleges throughout the nation (Johnson 1998). Class designation of the upper economic classes was perpetuated through club membership at school. These clubs (much like colleges in Britain and to become fraternities in the US) were vast networks for the offspring of the rich and powerful, they destined to be rich and powerful. Club membership, especially in the top clubs, was not based on merit but blood, money and personal charm.

Personal charm was not enough to save the great global cause of immigration. Limitations and caps on immigration began the ultimate question of who belongs and who does not (Borden, et al. 1970). This continued an American tradition of evaluating group and self worth. Both topics addressed by the growth in the fundamentalist movement and the related temperance movement. There was a rise in some degree of multiculturalism displayed most prominently in the music and art world of Harlem in the twenties (Johnson 1998).

Art and entertainment had an entirely new format as movies began to capture the attention of Americans. Hollywood was born in the progressive and affluent California valley (partially due to electrical power advantages of the area.) The earliest movies were targeted for immigrants, which worked well, as they were silent and eliminated language barriers. These screens of film stars eventually provided a new set of models for the increasing number of women who had joined the work force during this decade (Johnson 1998). Women continued to receive high rates of advertising through print media and the increasingly popular radio shows. Prosperity continued in this age of electricity, luxury and film.

As women entered the work force, increased attention was paid to dress, grooming and overall appearance. The beauty belief of the twenties, not surprisingly, was not tied to morality, but rather the idea that anyone could be beautiful (Banner 1983). Every woman could be a beauty, that is, with the proper creams, lotions, powders and cosmetics. The first Miss America pageant was held in 1921, designating a winner among the beauties. By this point in time the premises of an "American Beauty Culture" had taken place including the "willingness of American women to identify with glamorous figures of stage, society and especially screen" (Banner 1983:271.) From now until the 1950's, advertisement of these and other products was done by creating an image for consumption (Myers 1994).

The health context of this decade saw huge advances made since WWI (Loudon 1997). Surgical practices were much better as was the control and prevention of

infections. Powdered infant formula began to be sold as a health product in 1924 and the discovery and production of vitamins followed in 1929.

1930's

After the market crash of 1929, America looked vastly different. The onset of the depression shifted all focus of America onto finances of the country and the delegation of blame. Government acts and legislation became busy trying to alleviate the disparity of the golden era just passed and the new poverty of this day (Borden, et al.1970.) The government became increasingly interventionist at this point. Some argue that the practice continued and worsened the depression (Johnson 1998). One effect of the depression on social cohesion was a "hardening of class lines" as each experienced the time differently and had vastly differing opportunities (Zunz 1998). Continued spending was encouraged to alleviate the country's depression and government programs were designed to help Americans do just that.

There was increasing distrust of the administration by the American people (Johnson 1998). These were years of finger pointing and name-calling and Hoover was the recipient for most. This period in America's history stands as a sharp opposite to the previous decade. Distrust and disillusionment replaced hope and prosperity. The boom of technology lapsed as the country struggled to maintain its power and economic advantages throughout the world, while watching the growing discord in Europe.

There were no high aesthetic standards of art represented by the common man and no luxury spending. Consumption was down due to lack of expendable cash by buyers.

The depression did not, however, curb the production and sales of cosmetics though substitute formulas may have been used. The Food and Drug Agency took control of cosmetic production in 1936. By this time adoption of outdoor sports by women led to a place for a tan in fashion and beauty circles. It was now associated with a leisure privilege rather than labor in the fields (Banner 1983). The models of beauty in these days of depression were maturer and hailed an experienced and intelligent presentation, such as Garbo.

Religious attendance had been consistently low in previous decades, but the trauma of the depression began a steady increase in participation (Johnson 1998). Strengthening the picture of seriousness, maturity and conservativism of this period.

1940's

The primary focus of the forties was World War II and then the jubilant recovery from the war. The first half of the decade saw most precious commodities go to the front line of the war and luxury was the antithesis of everyday existence in this age (Borden, et. al 1970). Legislation and government effort focused on national participation in world affairs. The war healed the economy and America came out on top again.

After the war, there continued to be a delay in some goods and services but the market was full and busy again by the end of the decade providing for the growing population. Goods were back in supply and high spending was easy enough for those with pay surplus that could not be spent in wartime. Much of the technology of the age emerged in response to wartime efforts, in areas such as atomic bombs, transistors, and

surgery. The war brought new medical assistance beyond simple surgical improvements. Penicillin was used and other drugs of the same nature began to follow (Louden 1997). More women participated in the labor force in the absence of the now uniformed soldiers. This new role led the female model of beauty to be "Rosie the Riveteer" and her confident, independent beauty (Banner 1983).

1950's

The middle of the century found American troops fighting again, this time in Korea. The first part of the decade demanded international focus, but turned back to domestic issues after the war. Truman emerged as a liberal and heavy governmental control was the order for the remainder of the decade (Borden et. al 1970.). New entry-level employment positions in the opening office culture across the nation contributed to an increasing middle class rather than a clearly defined working class (Zunz 1998). In fact, Zunz (1998) argues that this and the rising importance of education were the first steps to creating a mass of consumers in the United States.

The economy was not in crisis, and Americans had high rates of consumption. Consumption patterns combined with American concepts of advancement created an affluent population of consumers with one long term implication, making "individuals appear so much more responsible for their own fate" (Zunz 1998:91). This eventually led to the belief that anyone could share in the prosperity.

These were conservative years on almost every level and religious attendance reached a high. McCarthyism was in full motion and fear of left wing anything was rampant (Johnson 1998). Incidentally, it was during this period of high morality that ads for toothpaste praised a "wholesome mouth".

Medical advances were being made in the country. Heart bypass surgery become increasingly common and 1953 brought the understanding of DNA (Louden 1997). Also of importance was the work done after the war in plastic reconstructive surgery that was being adjusted for cosmetic rather than restorative purposes (Louden 1997). This would open the door to cosmetic surgery in the future.

Television emerged as the newest entertainment for the public. Moving, speaking advertisements were now appearing in homes of those Americans fortunate enough to attain a set. This provided a completely new medium for producers to present their goods. The release of the Kinsey reports on human sexuality was accompanied by increasing sexual content in feature films (though, remember not to the levels that we experience today). And on the bookshelves of the nation, there was a rise in "uplift" or self help books, such as Dale Carnegie's How to Win Friends and Influence People, preparing all to become what they desired most (Johnson 1998). The feminine model of beauty was reverted back to a Victorian look of purity and modesty. Advertisers adopted a narrative format to promote their products in print to match those being presented on television (Myers 1994).

1960's

By the Sixties, most homes had television sets that were broadcasting the top news stories of Camelot, civil rights, and the Vietnam controversy. The economy remained relatively stable amid liberal politics of the day (Johnson 1998). Heavy government control was well in place domestically while the US continued participating fully in controversial world affairs. The Kennedy's emerged as dominant caretakers of politics and American culture in the first of the decade, as the young and beautiful president and first lady captured America's heart.

The youth counterculture was a dynamic one of nature, peace and drugs. Much of their activity however, was less than peaceful as demonstrations concerning two primary issues in the nation often brought violence. The first was anti war protests, probably fueled by the draft draws for service in Vietnam (Grun 1991). The second was civil rights activism led by Malcolm X, Martin Luther King, Jr., and others.

Much of the country's funding and attention went to space travel during this decade (Grun 1991). Satellite launches, space flights, space walks, and increasingly futuristic technology amazed Americans as to the possibilities of science. Research continued in the creation of battle necessities where it had left off after WW II.

Television also provided the primary dominance over feminine beauty standards (Banner 1983). Fashion was liberating and the concept of beauty and appearance began to broaden. Women of many different shapes, colors, and styles were defined as beautiful. This decade brought smarter consumers who did not need to see the product being used,

so metaphorical substitutes were made. From this decade to the present time, ads often used ironies and parodies to draw now jaded consumers (Myers 1994).

1970's

After the Vietnam War, the US entered an economic recession and communal disharmony (Johnson 1998 and Brogan 1985). US involvement in Vietnam continued into the decade and drew rising frustration and discordance from Americans (Grun 1991). The President resigned amid the Watergate controversy and the falling economy led to dissatisfaction among Americans (Johnson 1998). Both domestic and foreign affairs experienced low points during this decade.

Much of the technological focus was on atomic energy, space travel and the increasing production of nuclear weapons across the globe (Grun 1991). Americans paid more attention to environmental issues and concerns raised in the previous decade (Johnson 1998). Women's roles and power in society were questioned as the Women's Movement made some significant gains. Women were seeking greater and more varied activities in the United States. The presentation of feminist speech was that of a united front, though distinct racial and class lines did exist on particular issues. The actual existence of a "movement" was even debated bewteen women of differing classes (Tobias 1998). Overall, broader standards of feminine beauty remained in place from the previous decade. (Banner 1983). This opens the way for a standard that is open to interpretation rather than strictly regimented by societal expectations.

1980's

The Eighties brought a new "Gilded Age" with Reaganomics. Reagan was compared to Harding and his attempt at "normalcy" (Johnson 1998). Confidence in the nation and the presidency were restored. The perception of the American public was that of the US entering a new prosperity, though many have argued to what extent this was true (Johnson 1998). The division between the classes widened and unemployment reached record highs. For the wealthy of the nation, there was a return to luxury.

One new luxury money could buy was a computer, as technology in the field of computers skyrocketed. Personal computers became available to the public and was one ingredient changing the future of technology. Two devastating events also influenced future paths of science, the Challenger explosion and AIDS (Grun 1991). The reputation of the successful space program was shattered as Challenger exploded on national television with a public school teacher aboard. This event slowed future funding and projects of the space program. The second incident was the emergence of AIDS. The AIDS crisis brought increased attention to medical research, health education, open discussion of sex, homosexuality and bisexuality in the United States. Due to this and other medical concerns, patient associations began to emerge and the numbers of them have grown throughout the end of the century. Feminine beauty returned to a mature, conservative model (Banner 1983). Moving toward more distinct interpretations of beauty and more than likely increased adherence to normative patterns of appearance.

1990's

The United States entered the last decade of the century much as it arrived in the first decade with a rising economy, a proportion of the population with money to spend and a proportion living in destitution (Johnson 1998). There were dramatic shifts in religion as mainstream Protestant churches experienced declining membership and attendance, while other religious organizations, such as Southern Baptist and new Christian Bible churches, saw dramatic growth in attendance (especially among the young) and funding. There was large urban growth and a revival of urban architecture focusing on technologically aesthetic combinations.

Luxury items continue to accrue again with a significant amount of money now spent on computers. Computer technology provided an entirely new dimension of art and technology combinations. It also produced the Internet and digital imaging. The Internet allowed more people to communicate across greater geographical spans. This was influential in the rise of online patient associations. With the use of digital imaging, feminine beauty seemed to move toward a model of flawlessness. Ideal weight, skin tone and hair all seemed to be dictated by the use of artificial means. New methods of plastic surgery for aesthetic purposes became available from liposuction to laser and chemical peels of the face, all for aesthetic purposes.

Medical Language

The first research question asked if modern oral health systems contained medical language to discuss oral aesthetics. The presence is documented in some place at each

point in the study, but there is a pattern of increased usage at two particular points. The initial research assumption was that modern systems could be designated after 1975 when oral health had improved throughout the population. However, there is a natural break in the pattern much later. The past decade saw an increase in the address of oral aesthetics as a medically related issue. This coincides with improved restorative materials and veneer technology. I use the specific phrase medically related because it captures a distinction I wish to make. Though there is evidence that original contributions in the professional journals speak of aesthetics in medical terms, a second parallel pattern has begun. There is an increase in categorization of articles in these journals. Issues of aesthetics have been removed from the "original research contributions" section and placed elsewhere. Several articles appear in both AJD and JADA that address, cosmetic dentistry, bleaching, color stability or restorations, restoration of a "youthful appearance" through dentistry and "facial esthetics" in these new categories of research presentation. It appears that though aesthetics is currently a concern in the professional dialogue, there is an attempt not to integrate it into mainstream medical studies and debate.

The second issue of language concerns the second barrel of the research question that referred to the lack of medical language in earlier discussions of oral aesthetics. In fact the language is present in both the medical journals and lay magazines earlier in the study. This suggests the possibility of cyclical rather than linear patterns of change. I think the key to uncovering this mystery lies in a portion of Giddens' framework that was originally denied a place in this study: social context. Further attempts should be made to include this as a variable group in analysis. Discovering what these two time periods

have in common could provide an important aspect to the emergence of the phenomenon. attention then must be paid to what was in these time periods that the other decades of the century did not include.

Two other elements of language exist within these time periods, the combination of medical and aesthetic language and language of technology. This is of special importance since these two elements are also present from 1955 - 1965 but here medical language was not used to discuss aesthetic issues. This anomaly may be helpful in determining what the key is in the emergence of medicalization.

Another vital point from this data is the evidence of turn taking between the players. At both periods of suspected medicalization of oral aesthetics, medical language to discuss aesthetics is documented in ads in lay magazines (by producers for consumers) followed ten years later by usage in professional journals (of the providers). This clearly suggests that it is not the providers moving toward medicalization. It does however, leave open the primary agents of the phenomena. Further work must be done to tease apart language usage by producers and consumers so that patterns among producers and consumers can be distinguished. It may be one or the other, or a closer volley of turn taking between the two may become evident.

Medical Framework

The second research question brings many of the same responses. The combination of medical and aesthetic language to address aesthetics is documented throughout the time period in popular periodicals but with specific emphasis in the

beginning and end of the time frame. The use of medicalized language to specifically address aesthetic issues is documented from 1930-1940 and again from 1990-1999. Two particular points should be made concerning framework. First, because of an incorrect assumption that medicalization would be documented only in the last half of the century, no data was collected on professional framework in the first half. This should be completed in the future to determine if one is present. Secondly, a third period is documented from 1970-1980 when consumer and provider framework does exist. Though this is documented in non-oral products, it does reflect a medicalized framework for the presentation of hygiene products at this time. This may be useful in other studies of medicalization that borrow Conrad's use of framework. For this study, it is sufficient to note that a medicalized framework is in place during the last suspected period of aesthetic medicalization for both provider and consumer. Though the framework is also present during the first period for consumers, it is not yet determined it there is one in place for providers.

Resources and Rules

The final two questions of structural component shifts will be addressed simultaneously as they exemplify Giddens' understanding that rules and resources can restrain and enable behaviors of differing parties concurrently. In reviewing the number of dentists, it is noted that the only dramatic shift in numbers occurs in 1980, preceding the second period of suspected medicalization. Provider numbers remained stable during the remainder of the century.

Fluoridation is correlated with increased overall oral health of the nation, though it is certainly not the only contributing factor. Fluoridation can probably be cited for some tooth appearances changes from long term exposure to fluoride. Though this discoloration is often mild, the resulting white spots are often "treated" with veneers.

Only one aspect of ethics is of concern in this final assessment. The recent address of ethical concerns of aesthetic treatment display an increase in the occurrence of such treatment, and possibly a need for the topical attention. Weinstein (1993) also points out the lack of ethical compromise in increasing treatment options for aesthetic procedures.

Availability of products and services reflect another aspect of rules and resources. In terms of service availability, the previous discussions and other sources confirm a rise in available options by providers to treat the oral aesthetic desires of their patients. When a more careful look is done into the first part of the century, it can be determined what shifts in service availability were occurring at that time. Product availability has increased in the last two decades providing a wider variety of over the counter products to battle cleansing, health and aesthetic needs.

Cost and insurance compose the final aspect of structural components. The review of insurance and costs of care provides a possible linear explanation for the patterns we see. If dental care was an affordable option at the start of our time frame, it did not last very long. The depression brought a decrease in available personal funds for many, followed by disproportionate spending during the war. Just following WWII all medical costs, including dental, began to rise. Though medical insurance was on the rise

at this time, dental insurance was lagging behind. It has been since 1980 that there has been an increase in dental insurance coverage. This would satisfy initial questions as to the relationship in dental care funding to the two particular time periods in question. It is also interesting to note that many soldiers receive oral care during their military service, though for many this may be their last access to oral health care.

Medicalization

The goal of these four research questions was to ultimately determine if medicalization of oral aesthetics had occurred. Using the first two points of Conrad's conceptual definition, we must answer affirmatively. There is a move toward the use of medical language to define and discuss oral aesthetics, though later than the 1975 mark used at the beginning of the study. But the phenomenon exists also in the beginning of the study (1930-1940). This language does exist in a framework that assumes the medical orientation of aesthetics, as does the first period. The third element, treatment or interventions performed, was not included in the study as the data was unavailable (with the exception of two recent surveys covering only two years of information). This third element would be the defining characteristic according to Conrad's definition. It remains to be seen if medical interventions are used to "treat" aesthetics concerns in one or both of these time periods. A more detailed discussion of this bimodal pattern within the century will follow in chapter five.

The elements in the system leading to the medicalization of aesthetics should be reviewed. Given the time frame and the particular events of the last four decades, a

catalyst for change can be identified. Weinstein (1993) summarized the assumptions of this study and served to foreshadow this particular discussion. Fluoridation in the 1940's, 1950's, and 1960's combined with increased oral health education improved the oral health status of Americans. From a sociological standpoint rather than a purely clinical one, standard of living and overall health benefits should be added to the improvement plan. Diet may or may not be an issue as shifts in diet have been providing better nutrition for some, while most all Americans diets have seen an increase in refined sugar intake. Coming on the heels of fluoridation, new composite restorations paved the way or greater opportunities of aesthetic satisfaction from oral treatment. As oral health improved, there may have been a decline in personal income as a dentist leading to the 1980 dip in dentists. (This should be investigated using average dental salaries and inflation indexes.) The continued technology of veneers, bonding and bleaching allowed for more treatment options, and paired with increased dental insurance brought the clients back. This would have led to increasing numbers of dentists as was seen in the 1990 stabilization of dentist to patient ratio. The result is a broad range of treatment options beyond disease address and preventive visits. This would be the "redesignation" Weinstein mentioned. The attempt of the providers to distinguish between aesthetics and disease oriented activity supports the less conspiratorial motive adopted in this application.

We must then turn to the first period of study and determine what may have been influencing the patterns evident there. It is mere speculation, as this study seemed to catch the phenomenon in mid-swing, but perhaps the reorganization of dentists into a

unified group with regulated licensing holds some answers. If this is true, then medicalization of oral aesthetics appears to emerge when the providers are moving through professionalization shifts. A look at dental research prior to 1930 would also show if improvements in materials occurred at this time. If so, the shifts also followed the producers manufacturing of improved market products. A review of oral health prior to 1930 would allow us to determine if changes in the oral health status of consumers preceded shifts in medicalization of oral aesthetics.

The time and space context can also provide some insight into the medicalization process. The three time periods where medical, aesthetic and technological language, and thus to some degree a medicalization of aesthetics, appear together (1925-35, 1945-55. and 1990-99) are all at times when there is a stable economy and low government control. At times when we see medicalization of oral aesthetics specifically, these elements are present with two others. First, there is a pattern of spending on luxury items. Secondly, this is a new form of graphic media. In the earliest part of the decade, magazines were becoming increasingly popular and white teeth made good copy. At the end of the century, digital graphics was the big media hit. Though television was in place in the mid century point when an overall medicalization of aesthetics could be argued, there is no high proportion of luxury spending.

Another category of interest is that of the feminine beauty standard at these three time periods. The points of medicalized oral aesthetics are met with a shift in views of beauty. These include patterns of beauty achievement through artificial means. Standards of beauty in the mid-century were marked by a conservative standard of the past.

A third distinction in context emerges from the prospect of the rise of an underclass. During the twenties and thirties, new immigrants were assimilating to American culture and oral care, amid new moving pictures with giant faces and teeth. In the last decade of the century, an underclass formerly based in welfare and removed from the roles in a recession is attempting an upwardly mobile climb. This occurs in a time of digital graphics and computer generated perfection.

Zunz (1998) argues that a middle class was created in this century and is marked by several distinctions. The first is its power as a mass consumption body somewhat driving production rather than responding to it. The second is a "deradicalizing" of class where individuals believe that social mobility is attainable and ultimately within their own power to achieve. This particular blending of class boundaries occurs in the first and last decades of the study where luxury spending and consumption of particular goods and services could be committed in the hopes of appearing to be upwardly mobile. This characteristic then depends on the ability of the American public to consume goods and services believed to either propel them into upward mobility or make it appear so. This would also support the pattern of turn taking documented as consumer language moves first. Again, that particular issue should be revisited to delineate between consumer and producer language.

Another element that is at least worth mentioning is that of shifts in morality. Booker T. Washington (1901) refers to the "gospel of the toothbrush" in his work Up from Slavery. He relates the ownership and use of a toothbrush to the rise of a slave into a newly valued member of society. Overall hygiene practices are encouraged in many

religious contexts, e. g., Cleanliness is next to Godliness. But for Washington the toothbrush designates a particularly significant symbol and self worth and civility.

Shifts in religious participation have been noted in both time periods of medicalization. Though most would argue that the late twenties displayed an increasingly moral climate in the United States, church attendance did begin to rise at the end of the decade and into the thirties. The end of the century is also marked by shifts in religious affiliation. Though the exact relationship is not yet understood here, the timing of the patterns should at least be mentioned.

And finally, elements of medical context should be noted. Shifts in medicine and medical research are noted at the turn of the century, after wars, and in response to the national and global crisis of AIDS. The last decade also had heightened availability of medical/surgical practices specifically to address aesthetics.

Summary

In this chapter, brief historical reviews have been presented to simply orient the reader to the time and space context, while beginning to suggest possible patterns in the related time periods of study. This context and the relevant findings will be used in the next chapter to propose a new adaptation of the structuration model for future use in medicalization research.

The initial four research questions were also answered in this chapter. By testing two of the three elements of Conrad's definition of medicalization, it can be determined that there is evidence to support an argument of the medicalization of oral aesthetics from

1925 - 1940 and again from 1980 - 1999. In each instance, the phenomenon is documented in the consumer (and producer) arena before being documented in that of the provider. Though framework at the consumer level was uncovered in both periods, it remains to be seen if the framework existed in the first time period of study.

These findings will be used to support Giddens' structuration model in Chapter 5. A modified model will also be presented that may be of use in future research of this particular topic or related topics of medicalization.

CHAPTER 5

TOWARD A NEW MODEL OF MEDICALIZATION

This final chapter will accomplish several tasks. First, findings of oral aesthetic medicalization will be discussed in the original theoretical model presented in Chapter 1. Conclusions from these preliminary findings will be used to present a working model for future work in this substantive area, and suggestions for future research will be outlined accordingly. Moving beyond oral health systems to broader applications of the model, suggestions will be made for a working model of system adaptations that can then be operationalized to measure medicalization of other phenomena.

According to the theoretical model in Chapter 1, a system is reproduced with modifications. These modifications result from the copresence of the actors and their turn taking behavior. The opportunity of presence/availability results in shifts of knowledgeability and of rules and resources of interaction. For examples of medicalization previous literature offers Conrad's definition of medicalization as the best point of origin for conceptualization and operationalization of the phenomenon. Knowledgeability would then be measured across both language and framework. Routine is the actual employment of social behaviors, where at the tacit level, routine activities go unquestioned and reproduce the system. The broader time/space context influences the modifications as well. Each of these elements was used to create this study

and method of data collection and will now be revisited and discussed again in terms of the theoretical model.

Oral Health Systems

In Chapter 4, the original research questions were addressed. Shifts in language and framework have occurred; and while final conclusions must wait on the future collections of interventions, it appears that two periods in this century have produced a medicalization of oral aesthetics. The two decades when language and framework exist together are 1930-1940, 1990-1999, with related occurrences in language and framework occurring around these decades.

Capability/Knowledgeability

According to our initial theoretical model, capability was held constant as Giddens (1994) argues that the rationale of choice or decision making must not be studied, but rather the actuality that the choices exist must be noted. Subsequently, the attention in the study was paid to the second portion of this combination, knowledgeability. Using Conrad's definition of medicalization, knowledgeability was measured using two components, the use of medicalized language to discuss oral aesthetics and the existence of a medical framework in which oral aesthetics existed.

The turn of the century brought increased medical knowledge on a variety of topics, while the Great War brought increased medical research and funding followed. Much of this work was grounded in the newly determined germ theory, and cleanliness

and public health both received a great deal of esteem. This overall health framework pervaded increased media outlets; and of all product ads, white teeth looked pure in the black and white magazine copies read by consumers. Medicalized language to address oral aesthetics is first documented in ads by producers for consumers in 1925; but as this was the first year of our data collection, it may have been present earlier. This language use in the consumer/producer arena continued into 1935, being picked up for use by providers at this same time. Providers continued to use this language pattern into the 1950's, well after it fell from consumer pages. Language specifying technology and the combination of medical and aesthetic language accompanied this medicalized use. Though the aesthetic/medical combination and technology continued into 1965 both did so without medicalized language of aesthetics.

This language use existed in a culture were aesthetics and technology abounded and the medical contributions were publicly noted. A medicalized framework of aesthetics is noted in the consumer/producer ads of popular magazines. A study of professional journals would have to begin before the stated time in this research to determine professional shifts in framework. There is evidence of increased work on the public health front and it is quite possible that dentistry was one area of public health that was adhering to a new perspective.

The last decade of the century saw increased discussion and attention to aesthetics and increasing surgical procedures to "correct" unwanted physical characteristics. Coming on the heels of the newly discovered AIDS disease, medical research was in the forefront of public news. Medicalized language of aesthetics emerged again in 1980 in

consumer ads of popular magazines and after a brief departure in 1985 returned throughout the final decade of the century. As in the previous decade of medicalized oral aesthetics, consumer ads were followed by medicalized language use in professional journals. Again this use was present amid technological language and medical/aesthetic combinations. A medicalized framework of aesthetics is documented from 1970-1980 but with no other related elements. The new professional framework of "Oral Quality of Life" which broadens the focus of dentistry parallels language use in the last decade.

The first element of the model is confirmed, there is a shift in knowledgeability across the century. Though this study looked specifically at medical and aesthetic language only, further research could perform a broader categorization of the language used in ads that would clarify what is marked simply as "other" in this work. These shifts in knowledgeability produced two distinct periods of medicalized language and framework.

Rules/Resources

These two time periods also contain shifts in rules and resources within the oral health system that serves as boundaries to the interaction of the agents. Both periods are preceded by organizational shifts within the providers. As discussed in the beginning of Chapter 1, the American Dental Association formed in the last half of the nineteenth century. The opportunity of reorganization occurred as other associations tried to regroup. The eighties saw a deceased number of practicing dentists (and shifts in insurance capabilities), providing a second opportunity within the profession for

reorganization. Provider/consumer ratios and provider income levels should both be considered for future use of this model. The insurance changes and related shifts in health care costs, which have been on the rise, have caused changing accessibility by consumers.

Fluoridation, in this case, is of special interest to medicalization. A particular change in resources provided two distinct outcomes to oral status. First, fluoride has been of tremendous assistance in the improvement of the nation's oral health. This according to some may have allowed the opportunity for patients and providers to look toward a different group of services, specifically those addressing aesthetics. Secondly, increased fluoridation may have had an overall effect on the tooth color of Americans. Generations of continued exposure to fluoride might have created deviant appearances, thereby promoting the need for aesthetic solutions. This would only be the case if 1) this overall coloration occurred and 2) there was a standard in the population for white teeth. In any case, special issues such as fluoridation should be considered within the rules and resources of the structuration model.

Product and service availability saw dramatic changes in the nineties. Products available to both providers and consumers have allowed differing practices both at home and in the provision of patient services. Product and service availability were not designated in the first part of the century for this study but should added to future research to establish the existence of a similar pattern.

Another component that must be included behind products and services is technology and medical research. Both time periods of medicalization are steeped in

medical research and cultural technology movements. It is this research that allows innovations in services and products, but it also adds another dimension. Medical and technological advances are most often publicized and bring with them a fascination and eagerness of the American people. In fact, considerations of technology and research should be acknowledged in the contextual facet of the model as they may actually promote health related participation overall and attribute to shifts in medicalization.

Time/Space Context

In this preliminary work on time and space context several indicators have emerged that should be considered in future models. Consumer luxury spending has been mentioned as an element in this process of medicalization. Though the twenties saw increased luxury spending and this marks the start of the medicalized period, the market crash of 1929 and resulting depression is not a similar time of luxury spending. These dramatic differences in available funds and consumer spending present a dilemma in analysis. The last decade presents a similar perspective. There is a wider gap between the classes, just as was seen in the thirties, but luxury spending is still evident.

Perhaps, the answer does not lie in luxury spending (and while full mouth rehabilitation may constitute luxury spending, at-home tooth whitening kits probably do not) but rather in the consumer motivation. At both periods, consumer spending was encouraged to assists the economy. When dealing with products outside the group of regularly used consumer indicators (such as cars), consumer motivation may provide a clearer answer to consumer trends. Repeated tests should be done of this variable to

check the validity of its presence in the model. Repeated empirical tests will provide some more advanced conclusions as to their contribution to explanation. Future work in the medicalization of oral aesthetics may do well to consider the following elements:

1) Standards of beauty in the culture,

2) Available media presentation and target population of the standard,

the products and the services related to oral aesthetics,

3) The degree of clear class boundaries as it may contribute to overall consumer concerns,

4) Cultural shifts in values or moral standards,

5) Consumer patterns in the period to include motivations for purchasing,

6) Health care costs,

7) The status of medical research and technology,

8) Related perceptions of provider and technological capabilities, and

9) Overall climate of technology and related perceived value.

Consideration of these social elements for operationalization will be valuable in future studies of oral aesthetics medicalization. Operationalization of indicators into clearly measurable data will allow greater quantitative maneuvering within this theoretical model.

Future Research

This research has done tremendous work in beginning an operationalization of medicalization within a theoretically grounded model. Future research in this particular

area would serve well the areas of medical sociology, work & organizations and social theory as well as contributing to the very limited social science literature on dentistry. Suggestions for future research are presented here but in no way should limit the possibilities that lie in this particular topic.

Assumptions of linear and single time medicalization of a phenomenon, led to an abbreviated time period in this study. Future work should extend before 1925 and try to establish the beginning of that first medicalized period to better understand it. Work should also continue into this next century on current trends in the field of oral aesthetics to determine if this medicalized period deteriorates as the first did.

While extending the time period allows for more longitudinal coverage and more robust understanding of the periods, it also extends the coverage of time and space context. Operationalization of contextual elements should be completed for further understanding of both medicalized periods and the lack of the phenomenon elsewhere in the century. Perhaps quantitative measures of religiosity and health care costs among others would allow more advanced statistical analysis.

While the determination of the agents continues to seem the most appropriate, more work should be done to delineate between the language and framework of consumers and producers. If it were the language of consumer that is starting point of the process, conspiratorial theories of producers and provider manipulation would be pushed to the side. If the starting point lies with the producers, work should follow to determine how the consumers are influenced into reciprocating the perceptions and continuing the

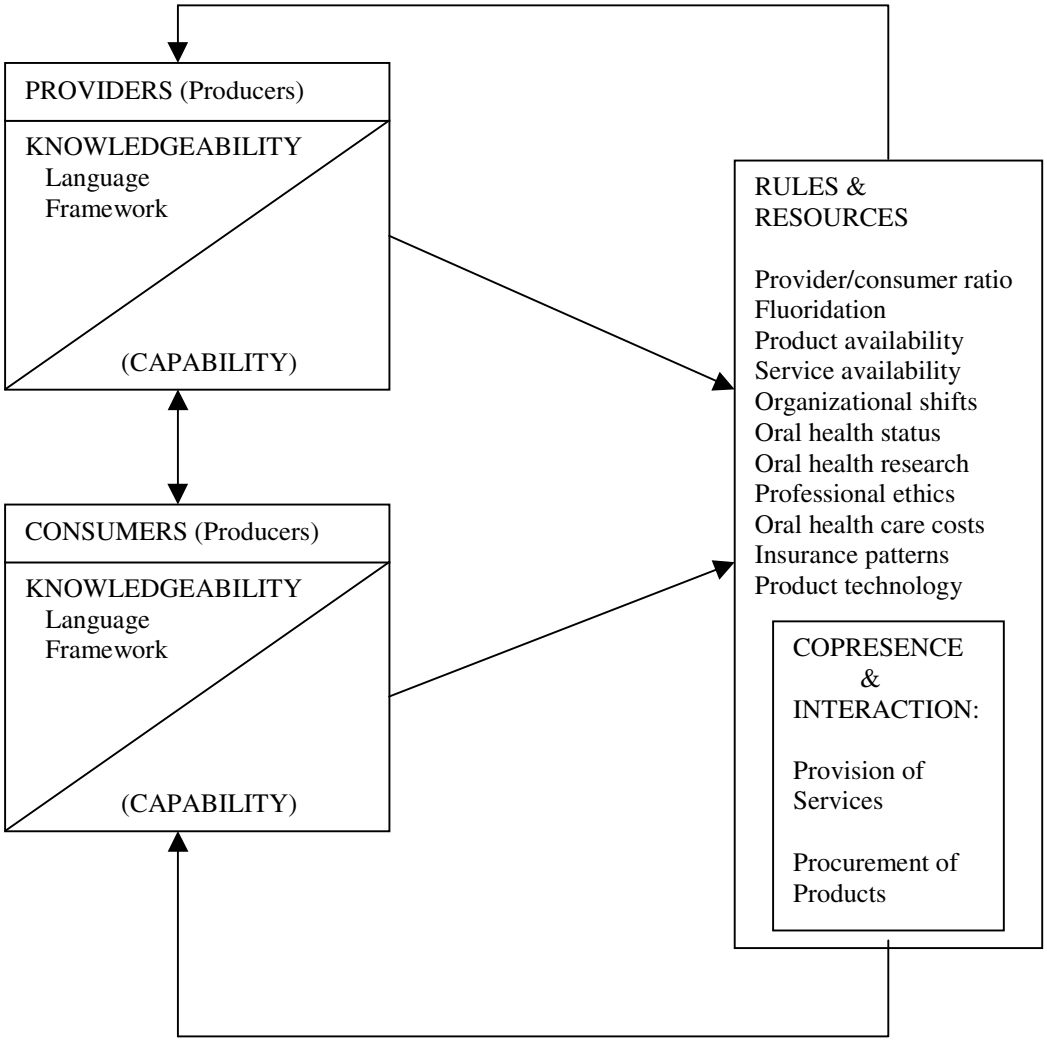
turn taking response. Other source should be tried for language and framework of both groups as well as providers to create an increasingly valid survey of knowledgeability.

Continued efforts should be made to determine the procurement of goods and services as medical interventions to treat aesthetic concerns. Provision of these goods and services should not be collected alone if possible, but with the information on non-aesthetic treatments for comparison and a baseline of provider services. Provider services may also need to be distinguished by the credential of the provider for modern systems where hygienists have grown in numbers.

Finally, more work should be done to uncover the pattern of turn taking in all aspects of the process. This may be difficult to determine as some patients may have requested services before a provider regularly offered them with no remaining documentation of the provision. Though most in today's system would deny it, there are instances when particular services may be coded incorrectly when no true designation occurs to ensure some payment expectation. If this incorrect coding should occur in particular aesthetic interventions on a regular basis, it could produce a bias in the data, and efforts must be made to deter that situation.

These elements can eventually be used in a full model to determine the process of medicalization of oral aesthetics (Figure 6). Operationalization of the model and all its components would allow sophisticated quantitative analysis of the medicalization process.

Figure 6: Revised Structuration Model with Medicalization Concepts



A New Model of Medicalization

By taking this work in oral aesthetics and broadening the nominal variables so that they can be used with other phenomena, a new model of medicalization emerges. Each variable as defined by the adapted structuration model will be discussed individually and associated indicators will be identified.

Agents

The present designation of agents as consumer, provider and producer provides full coverage of those who serve in the specified health system. These categories maybe further divided when necessary. For example, consumers can be split into subpopulations if differential access, treatment or finances between groups should be addressed. Providers may also be categorized across characteristics such as credentials; geographic location or hierarchical if the situation necessitates it. Producers have been discussed until now as producers of goods. It, too, can be broadened to extended to producers of social resources that are not material. If CDC administrators are of particular importance due to their ability to produce illness designations and definitions (such as those for AIDS that may designate funding) then they can be introduced in the model as producers of health designations. The decision must be made on the introduction of such individuals as a group of actors or introducing the products as they create as rules and resources within the system.

Capability/Knowledgeability

Capability should continue to remain constant as long as the options of choice are in existence. It is important; however, to acknowledge this as a constant in the model as it is through this entity that are choices are ultimately made.

Knowledgeability was measured in this study as the combination of language and framework. Framework was placed as an indicator of knowledgeability as it has been used as a framework of knowledge. Framework can also be understood as a framework within which actors' act, thereby leaving language in knowledgeability and moving framework to structural components. The choice was made to include it here as framework of knowledge most often precedes actual structural shifts in rules and resources. Rules and resources are measured separately in this model but are still included. The choice of placement must be considered first in a theoretical designation of the phenomenon being studied, and secondly, by the eventual statistical model that may be used for analysis.

Rules/Resources

Structural components for oral health systems were outlined previously in the chapter and due to the similarity in different health systems, this model of medicalization would probably contain the same elements for any phenomenon being applied. The ratio of providers to consumers (%) will allow an understanding of the accessibility and limitations of services available. It may also give some insight into the financial needs of providers. Health care costs within the particular discipline or specialty should also be

directly considered, as this will provide related information. Insurance coverage (I) will help determine funding availability and accessibility issues while also providing insight as to the contractual relationship between provider and consumer through the insurance as mediator.

Product and service availability (A) will be most likely be available in a form that will document structural recognition of the services and products though their availability in a different fashion probably existed before "approved" designation. For example treatments are regularly performed for some time period before there is an actual billing code for them. In these cases, the availability will specifically designated structurally approved/regulated products and services.

Organizational shifts (O) within the provider or producer fields should also be considered. Organizational, educational, licensing, certifying boards and liability/malpractice concerns can all reshape the direction of the particular group. This may be especially true for any profession that is primarily self-regulating, such as physicians. A related element is professional ethics (E) as this may guide particular behavior related to the phenomenon.

Two other issues may also drive the direction of the discipline. First, the health (H) status of the population specifically as it relates to the studied phenomenon may determine needs and opportunities for all agent groups. It is also important to determine what standards (N) may exist for designating this particular characteristic as deviant or not. Feminine standards of beauty were used to understand normative patterns of oral aesthetics, though other options existed.

The second issue is product technology (T) and medical research (R). Research and development of products guides what is available on the market in two ways. First the research is most often, though not always, guided by the health needs of the public. Secondly, research and development of products is expensive and must be recouped in some way. The primary method is to push the product and make a profit off of its production. Medical research also contributes to the direction of the profession and the availability of services and products. Medical research is conducted by a variety of individuals and groups with a myriad of motivational pulls and funding pushes. There is often however, distinguishable patterns in the body of work being produced across a particular time period. This speaks specifically to the concepts of copresence and shared knowledge.

Finally, any special issue (S) of the topic must be included, just as fluoridation was included in this oral health model. These issues may be a special research interest, professional shift or consumer fad, but increased attention may bring increased effects. These topics should be weighted outside whichever primary category from which it emerged. All of these elements exist within rules and resources and should be designated as such (Figure 7). This completes the specific health system but according to the theoretical foundation, this system must be considered in the time and space context of the larger social system using the appropriate indicators (Figure 7).

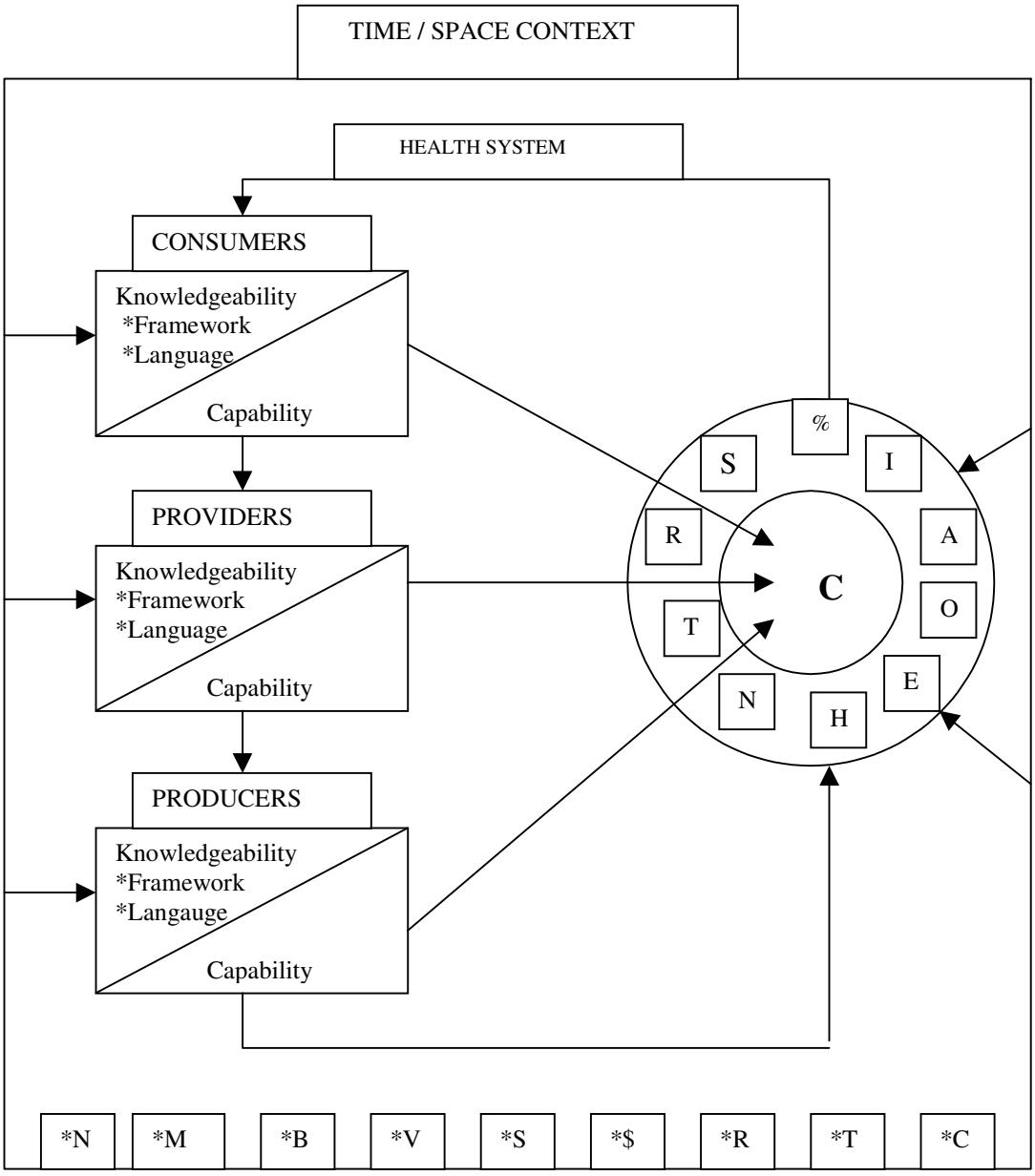


FIGURE 7: The Specific Health System within the Larger Time and Space context of Society.

The distinct time and space context influences agents and structural elements.

C = Copresence and Interaction

Time/Space Context

The same contextual elements discussed previously are suggested for this broader model. Beginning with normative standards (*N) of the behavior or charateristic in question and the way in which that standard is presented in society (most likely by a particular medium or media combination - *M). The degree of class or group boundaries (*B) are delineated in sociey will help to determine the risk of being deviant or of achieving the standard. Cultural shifts in values and moral standards (*V) may determine the root of the increased focus of the previous designation of the deviance.. Consumer patterns and motivations for spending (S) may explain where the funding for new interventions has its start. Since the model is one of medicalization, overall health care costs ($) should be considered within the time period. The overall climate of medical research (*R) may speak to the inclusion of a new designation, while technology (*T) may provide information about the overall climate of change and hope for future change. And finally, the perceived capabilities (*C) of the providers and technology in "correcting" or "treating" a particular characteristic or behavior may provide the necessary information in the knowledgeability shift to reach to a provider or producer for new interventions to address a newly redesignated problem. The same model for system reproduction with modifications still applies. Shifts in knowledgeability and rules and resources exist in the copresence and shared availability of he agents. The resulting interactions, then influence changes in knowledgeability and structural components (Figure 8).

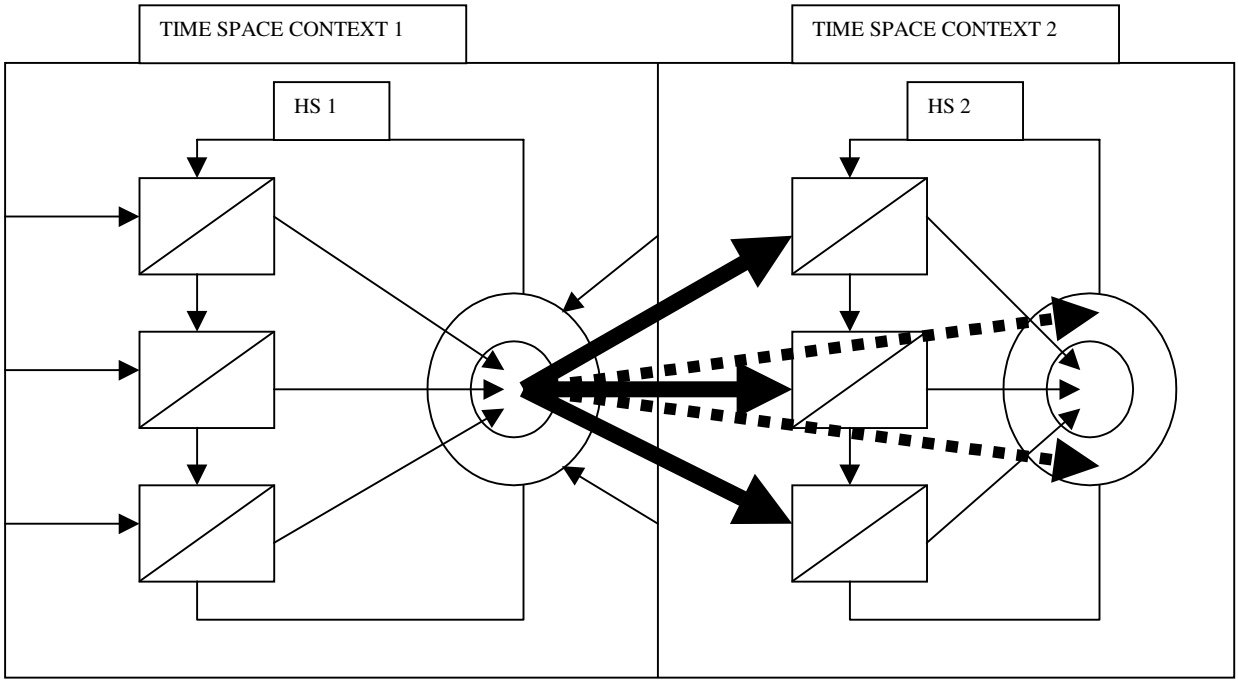


FIGURE 8: The Reproduction of the System with Modification
Represents modification to actors as outcome of copresence
Represents modification to rules and resources as outcome of copresence

Summary

This research provides several contributions to the existing literature. Using an adapted model of Giddens' structuration theory has provided a strong theoretical foundation to which we can anchor medicalization of phenomena to the larger social system. By preparing preliminary data collection and analysis of the model in the movement of oral aesthetics, we have begun to operationalize medicalization and discover particular methodological issues and data collection concerns of such work. Future research in the area of oral aesthetics looks promising, and some interesting conclusions were reached concerning the medicalization of oral aesthetic during the period 1930-1940 and again in the last decade of the century. Further empirical work using this model in oral aesthetics and other questions of medicalization will continue to adapt and refine this model toward a valid and reliable tool for measuring indicators of medicalization and explaining the process.

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