

THE YELLOW PAGES: A MEDIUM, AN INDUSTRY

by

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ABSTRACT

The Yellow Pages classified telephone directory is the fourth largest and fastest growing of major U.S. advertising media. Although it appears in the 1980s much as it did in the 1880s, the current Yellow Pages directory is a print-out of a sophisticated electronic publishing process. Nearly every adult uses it and given the scope of its content and the ubiquity of its distribution, the Yellow Pages may be fairly characterized as the first universal, mass market, electronic data base.

Chapters 3, 4, and 5 of this dissertation treat the Yellow Pages as a communications medium. Chapter 3 sets out a theoretical context to situate lay reference behavior and estimates how much lay reference takes place, who engages in it and how important it is judged. Chapter 4 provides a profile of the Yellow Pages user and discusses what is sought and how it is found in the directory. Chapter 5 employs a series of probabilistic models to explore the absolute and relative effectiveness of the Yellow Pages as an advertising medium.

Chapters 2, 6, 7, and 8 treat the Yellow Pages as an information industry. Chapter 2 is about electronic publishing, the process and costs of producing a classified directory. Chapter 6, on national advertising, deals with the role of intermediation and vertical integration in an information industry. Chapter 7 is about two aspects of business unit strategy -- price and product policy. Chapter 8 deals with industry structure, portfolio policy, organizational structure, and corporate strategy.

The Conclusion, Chapter 9, speculates about the future of the Yellow Pages in the light of what is known about lay

reference behavior and in the face of changing technology and the break-up of the Bell System.

This dissertation is a work of description and analysis rather than of hypothesis testing and deduction. In addition to one middle range theory of "reference behavior," a number of small scale analytical methodologies or micro-theories, with applicability to other media or measurement situations, are proposed. The chapters that follow are united both by a common topic, the Yellow Pages, and by a consistent investigative approach which might be summarized as eight research policies: 1) be inclusive; 2) be explicit; 3) be formal; 4) measure where you can and where you cannot guess; 5) be comparative; 6) be eclectic; 7) stay close to the data; and 8) be creative.

Thesis Supervisor: Dr. Ithiel de Sola Pool

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To Ithiel de Sola Pool

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1. INTRODUCTION

1.1. RATIONALE FOR STUDYING THE YELLOW PAGES

The Yellow Pages is the fourth largest and fastest growing of the major advertising media.^[1] In 1983 AT&T, with its 2,400 directories generating over \$3 billion in annual revenues, was the world's largest publisher. In the post-divestiture era, each of the seven newly formed regional companies will be among America's top 30 publishers. Nearly 300 million copies of Yellow Pages directories were distributed in 1983 and in 1980 (the most recent year for which reliable data are available) there were approximately 15 billion separate references to the directory. Over 80% of the adult U.S. population routinely uses the Yellow Pages.

In spite of its scale, ubiquity and familiarity, the Yellow Pages is almost entirely unstudied. A search of the Reader's Guide to Periodical Literature, the Business Periodical Index, and the Social Science Citation Index from the early 1970s through 1983 uncovered approximately 75 published pieces at all related to the Yellow Pages. Six articles are in trade journals -- Drug Topics, Real Estate Today, Hardware Age, etc. -- and deal with the use of Yellow Pages advertising within a certain type of business.

Akin to this group are a series of articles and letters in professional journals (of, e.g., lawyers and psychologists) about standards of professional advertising in the Yellow Pages. Several articles in scholarly journals were about using directories as sources of data for historical enquiries, or as sampling frames for survey research. There are about eight short articles in general circulation (Time, Newsweek) and business (The Economist, Forbes, Business Week) magazines on changes in the Yellow Pages^[2] and on major political, business or policy issues touching on the medium. Advertising Age and Telephony each carried about a dozen articles focussing on the Yellow Pages business from the points of view of the advertising and telephone (especially independent telephone) industries. Editor & Publisher carried about 13 articles on the Yellow Pages and the threat of our Electronic Yellow Pages as viewed by the newspaper industry. Other specialized business magazines, e.g., Media & Marketing Decisions, Data Management, Publisher's Weekly, also published a few miscellaneous pieces.

Rhodes, et al. (1979) incompletely report a modest piece of copy testing research in the Journal of Advertising Research. Chen and McCallum (1977), of Bell Labs, report on the development and implementation of the AT&T Directory Scope Analysis Program, as an application of

Management Science techniques.^[3] Oberman (1973) presents a lucid treatment of copyright law as it applies to (especially White Pages) telephone directories. The published research about the Yellow Pages as a medium and as an industry is extremely thin. The absence of serious research is not, of itself, a sufficient motivation for doctoral research. There are other reasons for studying the telephone book.

Since the Italian Renaissance, city directories have been compiled as a means of looking up and locating households and individuals within a large town.^[4] Until the last quarter of the 19th Century city directories were the typical source of information on the names, addresses and occupations in towns and cities. With the advent of the commercial telephone switch in New Haven, Connecticut in 1878, a new form of directory, the classified telephone directory, was introduced.^[5] It is not accidental that the directory was published almost immediately after exchange service was inaugurated, for a directory is a key element in any communications system. The international telephone network is now so technically transparent that most telephones in the world can be reached by a direct dial call, but connectivity is only a potential unless one knows what number to call. Soviet authorities implicitly acknowledge

the centrality of directory in an open communications system; they scrupulously avoid publishing and distributing telephone books. The ritual exchange of business cards for the ubiquitous desk top Rolodex is a means of compiling a private directory to reach numbers not otherwise listed. New, low cost, customer premises switches and private (off-net) telecommunications systems are technological "advances" that may paradoxically lead to reduced connectivity precisely because no published directory exists to provide ready access to telephone numbers. One of the central issues in the creation of a national electronic mail service is the development of a directory system for electronic mailboxes.

Because of the scale and potential of Yellow Pages profitability, the medium has been at the core of recent debate about U.S. communications and information policy. Who should be allowed to publish what kind of classified directory was one of the central concerns of the proposed 1980 Senate Communications Bill. Various interested parties debated the implication of the Yellow Pages for press freedom, information monopoly, universal telephone service, competition in the telecommunications industry, future viability of the Bell Operating Companies, and control of new technology.^[6] The disposition of the Yellow Pages was a

major issue in the recent AT&T divestiture decision. If the student of communications systems is interested in the role of a directory, the student of information policy would be interested in the debate over its control.

A corporate strategist might see in the Yellow Pages the evolutionary transformation of a stodgy old business into a thoroughly modern information industry. The nature of price, product and manufacturing policy, as well as the directory production process, the structure of the industry, and the dimensions of corporate "relatedness" of Yellow Pages companies would provide an interesting case study to the student of business policy.

The advertising researcher might wonder, first, just how effective, in absolute and relative terms, the Yellow Pages is. Having learned what a powerful medium it is, he might further wonder why such a radically dull medium is so effective. The Yellow Pages is a "directional" medium, but what does that mean, and what is the relationship of "targeting" to "directionality?" The interests of the advertising researcher and the student of media use behavior overlap in the study of the Yellow Pages, for using the Yellow Pages involves a relatively unusual form of information-seeking behavior. Reference is the directed search for some specific piece of intelligence as an ancillary to

the accomplishment of some other task. The Yellow Pages, America's most frequently used reference book, is also the most universal, familiar, and friendly of data bases. Studying how lay people go about using it would provide insights into the nature of current lay reference behavior and the future use of on-line, consumer-oriented data bases, videotex, and the like.

A 1983 McCann-Erickson report characterizes videotex as a medium of limited content and limited graphics capability. A non-intrusive "demand" medium, it reaches a self-selecting audience with requested information only. The Yellow Pages shares all of these attributes and, in addition, is ubiquitously available, requires no terminal hardware or technical know-how, and is absolutely free to the user. Videotex and Yellow Pages differ in many respects, but they are both non-intrusive and, above all, non-manipulative. A final rationale for studying the Yellow Pages is that it offers a paradigm of good, social welfare-enhancing advertising.

In 1982, doing a term paper on the Yellow Pages seemed to be a good introduction to an eventual dissertation on videotex. But, as I started to learn more about the Yellow Pages, I became convinced that it merited study in its own

right and not merely as a precursor to future on-line services. Not only was the Yellow Pages the focus of public policy debate, but here was the universal lay data base, a reference source that was a paradigm of user-friendliness. Here also was an example of a fully operational electronic publishing business whose manufacturing processes and cost structure merited serious investigation. A study of the Yellow Pages would provide insights into the structure of an information industry in transition.

A 100-year-old "mature" industry, with the market share and growth of a "star" and the cash flow of a "cash cow;" a strictly local medium that is increasingly national; a "natural monopoly" that is intensely competitive; an "old-fashioned" paper directory that is the printout of a high tech electronic data base; a dull, old medium at the center of public policy debate over the control of cutting edge technology -- the Yellow Pages presents us with a series of apparent paradoxes worthy of exploration.

1.2. METHODS AND SOURCES

The chapters that follow are united by a common topic, the Yellow Pages, and by a consistent analytical approach or style that might be summarized as eight research policies: 1) be inclusive; 2) be explicit; 3) be formal; 4) measure where you can and where you cannot guess; 5) be comparative; 6) be eclectic; 7) stay close to the data; and 8) be creative.

In large measure, this approach consists in taking available data and recasting them -- through aggregation, classification, graphic representation, and comparison, as well as more formal modeling -- to shed light on specific issues or questions. The treatment of the data in Table 2.1, The New York Telephone 1980 "Detail of Prepaid Directory Expenses and Directory Advertising and Sales Revenues," (Form SN994) is an illustrative case in point. This document is an official public filing that New York Telephone submits to the State Public Service Commission.^[7] It consists of 104 expense and revenue categories, broken out by month, quarter, year-to-date, and last 12 months. A perusal of this document leaves the reader none the wiser about the nature and structure of Yellow Pages costs, revenues, and profitability. Its very level of detail makes it essentially opaque.

The analysis begins in Section 2.4.1 where I explicitly lay out a set of assumptions and allocation rules for recasting the data. The first output is Table 2.2 where cost data (both raw numbers and percents of total) are aggregated into eight broad and intuitively meaningful categories which are cross-tabulated according to whether they are White or Yellow Pages-related and whether they are "made" by New York Telephone or "bought" from an outside vendor. Table 2.2 presents a much less detailed but much clearer and more accessible appreciation of the industry's cost structure than does Table 2.1. But, both Tables 2.1 and 2.2 are based on accounting conventions that systematically bias the report. The data are again recast in Table 2.3 (a kind of sensitivity analysis) to see, by way of a side-by-side comparison, the effects of the new, more realistic assumptions. The next step of the analytical process is to compare the Yellow Pages and newspaper cost structures. In Table 2.4 I employ a set of categories (adapted from Compaine's (1980) analysis of newspaper costs) that permits a direct juxtaposition of the costs of the two media. Then, in Table 2.5, using my global categories of "make vs. buy" and "information vs. material," I recast the data from Table 2.4 in two 2 x 2 tables. A final comparative perspective -- of the relative importance of

advertising and promotion expenses in a number of communications and publishing-related industries -- is presented in Table 2.6.

In Chapter 8 I again take up the Detail of Prepaid Directory Expenses and Directory Advertising Revenues, now with an eye to understanding revenues and profits. Table 8.1 uses precisely the same allocation and aggregation rules as Table 2.2 to examine flows of cash and profit performance. In it I report Return on Sales and a new (as far as I am aware) performance ratio which I call Return on Value Added.^[8] Then, making the same additional assumptions as in Table 2.3, I conduct another sensitivity analysis in Table 8.2.

What is done with accounting data in Chapters 2 and 8 is done with survey data in Chapter 4. Tables 4.6, 4.7, 4.11, 4.12, 4.14 and Figure 4.3 are all derived from a single page in the Simmons Market Research Bureau 1980 Study of Media and Markets. The data in Table 4.3 is the source of Tables 4.5, 4.10, and 4.15. I use content analysis in Chapter 3 to assess the quantity of reference material in a newspaper, in Chapter 4 to identify the kinds of things that people look up in different directories, and in Chapter 8 to gauge the relative centrality of the Yellow

Pages in the business portfolio of a multi-division corporation. In Chapters 2 and 8 I recast data from a single document into seven pieces of original analysis and in Chapter 5 (Table 5.2) I synthesize data from approximately eight separate sources into a single analysis. In the same chapter I propose a simple stochastic model of Yellow Pages user behavior and, based on the outputs of this model, a methodology for measuring the expected value of a Yellow Pages ad. In Chapter 7, sampling and data analysis are used to adduce empirical rules for Yellow Pages pricing from a confusion of seemingly arbitrary prices. A more formal regression-based modeling exercise is proposed to investigate the strategic determinants and consequences of various price policies.

In the course of my research I visited the following organizations: New England Telephone, Lynn, Massachusetts; Pacific Telephone, San Francisco, California; Phonebook Corp., Cambridge, Massachusetts; Reuben H. Donnelley Corp., Purchase, New York; Wahlstrom & Company, Stamford, Connecticut; R.L. Polk Co., Malden, Massachusetts. I spoke by phone with individuals from (inter alia) the National Telecommunication and Information Administration, the California Public Utility Commission, the New York Public Service Commission, the National Association of Regulatory

Utility Commissioners, the National Yellow Pages Service Association, AT&T, L.M. Berry Co., Advertising Age, Pulp and Paper Magazine, Worldwide Yellow Pages Service Co., The Yellow Book Corp., Neponset Publishing, The American Association of Advertising Agencies, and The Association of North American Directory Publishers. The information collected during and as a result of these calls and visits are the main sources for this dissertation. Some of the published literature (mentioned in the introductory portion of this chapter) was quite useful. The Donnelley Directory Record, an intermittently published house organ of the R.H. Donnelley Co., was a rich source of information about that company, the Bell Operating Companies it serves, and the directory industry at large.^[9]

The aforementioned "Detail of Prepaid Directory Expenses and Directory Advertising and Sales Revenues" was an important source for Chapters 2 and 8. The empirical analysis in Chapter 3 is based, in large measure, on the U.S. Office of Education Adult Literacy research of the early 1970s.^[10] Chapters 4 and 5 rely heavily on industry-sponsored market research. Of particular value were the 1980 Simmons Study of Media and Markets and research reports from Foote, Cone Belding/Wahlstrom (1981) and from Southwestern Bell (1961).^[11] Chapter 6 is based on interviews

with industry insiders^[12] and published brochures and pamphlets from the National Yellow Pages Service Association (NYPSA). The analysis (completed and proposed) in Chapter 7 draws upon NYPSA's Market Rates and Data, an exhaustive compendium of price and publishing data on some 6,000 directories. Chapter 8 is based on published interviews, Congressional testimony, and personal interviews with directory industry executives.

1.3. A PREVIEW

This dissertation is about an information industry, a communications medium, and a kind of information-seeking behavior associated with that medium. It calls upon a variety of established theoretical approaches and analytical techniques to characterize the industry structure, business policy, and communications effects of America's fourth largest and least studied advertising medium. Since the work is essentially one of description and analysis rather than of hypothesis testing and deduction, the development of original theory was not a major preoccupation. I have proposed a theory of "lay reference" only because I could find in the literature no adequate framework to account for the peculiar kind of communications behavior of using the Yellow Pages. In addition to this one middle range theoretical notion, I have suggested, in passing, a number of original analytical approaches or microtheories with applicability to other media or measurement situations.

Chapter 2, *Making The Directory*, is about the design or scoping of the Yellow Pages data base; the process of compiling that data base and producing a print-out of it; and the costs associated with the directory production

process. I propose some notional models of the relationship of "utility" to "scope" and a product positioning map of the directory scoping space. In Chapter 2 I also analyze a complex accounting document to estimate the structure of directory costs and compare it with that of newspaper costs.

In Chapter 3 I review two bodies of communications research in an attempt to situate using a telephone directory. Finding that the standard categories of information-seeking and media use do not apply, I propose a definition of "lay reference behavior." I then identify empirical studies that speak, albeit indirectly, to the incidence, frequency, and importance of lay reference. I catalog the contexts in which reference occurs and, based on available studies, estimate about how much time people spend on various kinds of reference activity, who the reference users are, and how important they judge the activity. I find that in all reading contexts, but especially in reference reading, the smaller the audience the more important the reading material is judged.

In Chapter 4 I present a compendium of research findings about using the Yellow Pages, nearly all from unpublished sources. I estimate how often the Yellow Pages is used in the aggregate and present a detailed demographic

profile of Yellow Pages users and non-users. I also investigate the functional relationships between income and different levels of Yellow Pages use. I show that all evidence points to a remarkable continuity in Yellow Pages use behavior over time. I use both content analysis and survey research to explore what information people seek in the directory and how they go about finding it.

Chapter 5, Advertising In The Yellow Pages, begins with an examination of the relative effectiveness of various copy elements and graphic treatments in a Yellow Pages ad. The inescapable conclusion is that, in the Yellow Pages, an ad is effective -- that is, that it leads to attention and action -- to the extent that it is informative. The second portion of the chapter examines, in some detail, the functional relationships between ad size (and cost) and several measures of advertising response. The third section presents a simple probabilistic model of Yellow Pages use and purchase behavior and compares the outputs of that model with some reasonable estimates for television. To explain the Yellow Pages' high level of effectiveness, a new hierarchy of effects -- the Reference Hierarchy -- is proposed and compared with other theoretical communications effects models. A formal Index of Selectivity is proposed as a cross-media measure of "targetedness," the extent to

which a medium reaches those at whom it is aimed. The chapter closes with a set of normative claims about the relative goodness or social welfare implications of various advertising media.

Chapter 6 discusses the nature of national advertising in what is generally taken to be a strictly local medium. The dynamic, evolutionary character of the national Yellow Pages business is emphasized and the motors of its evolution, competitive entry, and antitrust policy are discussed. Intermediation is the key to the national business and I believe a key issue in understanding the emerging information industries.

In Chapter 7 I take up two aspects of business unit, or marketing, strategy: product and price policy. I ask, first, whether, to what extent, and in what respects the Yellow Pages is a new-product business. I next investigate the seeming chaos of Yellow Pages pricing and adduce five empirical rules that explain most of the apparent arbitrariness. In the last portion of the discussion of directory pricing I propose a methodology to explore the relationships between price, profitability, and business policy.

Chapter 8 is about corporate strategy with the focus on the Yellow Pages as one line of business in the

portfolio of a diversified corporation. I treat the quasi-monopoly structure of the Yellow Pages industry and account for its long term stability. Then, adopting the perspective of the Chief Executive Officer, I consider the organizational position of various Yellow Pages businesses: the nature of synergy, relatedness, and dissonance among units of the corporation; and the profitability, growth, and capital structure of the Yellow Pages business.

The conclusion, Chapter 9, speaks to continuity and change in the industry, medium, and behavior of its users. I speculate about the future of the paper medium and the emergence of a new industry structure with the advent of new technology in the wake of the AT&T divestiture. I also discuss some ways of thinking about an on-line Electronic Yellow Pages as a transaction network for business-to-business interactions, as an ancillary to information retrieval, transaction and other functions, and, above all, as a universal gateway on a consumer-oriented videotex system. I speculate briefly about what our learnings regarding lay reference behavior have to tell us about the design of new on-line services.

In sum, this Introduction gives a rationale for studying the Yellow Pages, sketches a methodological approach, and previews the discussion to follow. Chapters 2 (Making

A Directory), 6 (National Advertising), 7 (Product And Price Policy), and 8 (Aspects Of Corporate Strategy) treat the Yellow Pages as a business. Chapters 3 (Lay Reference Behavior), 4 (Using The Yellow Pages), and 5 (Advertising In The Yellow Pages) all deal with consumer behavior. The conclusion (Chapter 9) speculates on continuity and change in the medium, the industry, and user behavior.

FOOTNOTES
(CHAPTER 1)

- [1] Based on growth trends, Yellow Pages should have overtaken magazines in total advertising revenues in 1983, making the medium smaller than newspapers, T.V., and radio and larger than magazines and outdoor. Other new media with a very small base may be experiencing faster rates of growth than the Yellow Pages.
- [2] E.g., "Seeing Red Over the Yellow Pages; Protests from Businessmen Over Dual Books," Newsweek, October 22, 1979, or more recently, "How the Bell Breakup is Recruiting the Yellow Pages," Business Week, January 23, 1984.
- [3] Interfaces, the journal in which Chen and McCallum publish, is explicitly concerned with issues of application and practice in actual work settings rather than with academic research per se.
- [4] There would be no need for a "Village Directory" in a pre-literate, agricultural hamlet for the domicile of each villager would be known to all the others; a directory becomes necessary only when the traditional networks of familiarity are overwhelmed with a large and/or mobile population.
- [5] The first directory, dated February 21, 1878, was a classified list of 48 exchange subscribers organized under the following seven rubrics or headings: Residences (11), Physicians (3), Dentists (2), Miscellaneous (8), Stores, Factories, etc. (20), Meat and Fish Markets (2), Hack and Boarding Stables (2).
- [6] Thinly veiled in First Amendment rhetoric, much of the debate was about erecting entry barriers and protecting lucrative lines of business, e.g., the newspaper classifieds.

- [7] I am grateful to Alan Bausback of the New York PSC for sharing this document with me.
- [8] Thanks to Charles Jonscher for suggesting the term of "value added" as opposed to my original and less fortunate name for the ratio.
- [9] The reasons for the extensive references to the policies and practices of the R.H. Donnelley Company in this thesis are threefold. First, Donnelley is a major player in an oligopoly industry; second, Donnelley personnel were particularly forthcoming with their time; and third, the Donnelley Directory Record is the only journal exclusively concerned with the Yellow Pages business. Two of the most important and informative interview articles -- with Ed Hancharik of AT&T and with the presidents of major, independent telephone companies -- which I found in Telephony were reprinted there from the Donnelley Directory Record. All Donnelley-related data were collected before I began to interview for a position at that firm.
- [10] Thanks to John Robinson of the University of Maryland and Roger Hurwitz of M.I.T. for acquainting me with various reports from that study.
- [11] Special thanks to Frank Barton of Wahlstrom and Sidney Feldman of the University of Indiana Northwest for sharing these invaluable studies with me.
- [12] Thanks to Ed Schneck of Wahlstrom and Hal Weissenberger of Worldwide Yellow Pages Service Company for their patience.

2. MAKING A DIRECTORY

2.1. INTRODUCTION

In this chapter we consider three aspects of the production of Yellow Pages directories: 1) the production/publication process itself, from data acquisition through publication; 2) the directory scoping decision; and 3) the costs associated with directory publishing.

In the first section I focus on the increasing integration and mechanization of all aspects of directory production and I argue that in concentrating exclusively on the display technology currently employed (paper), we may neglect the pervasive ways in which the Yellow Pages is already an "electronic" directory.

In my discussion on directory scoping, I explain what is meant by the "scope" of a directory and then explicate some dimensions on which a directory is scoped. Scoping decisions are a key aspect of information industry strategy. The decisions taken and trade-offs made by the dominant players define their business and create niches for competitors.

My analysis of the costs of directory production highlights the uniqueness of the Yellow Pages cost structure and suggests that in an information business, dominated by

sales and data processing costs, the pressure from rising paper and printing costs are relatively insignificant. The forces which are compelling the newspapers seriously to consider electronic publishing, e.g., the rising costs of acquiring and handling vast volumes of paper, are not nearly as potent in the Yellow Pages industry.

2.2. FROM SERVICE ORDER TO YELLOW PAGES DIRECTORY:
PRODUCING THE BOOK

2.2.1. The Steps

Each business telephone subscriber is entitled to one free^[1] listing in the Yellow Pages directory published by the local telephone utility. The first step in producing a Yellow Pages directory is to update the listings. R.L. Polk, the City Directory publisher, indicates that some 48% of their listings change each year in the following respects:

21% change job or address

13% leave city or die

14% new listings, new move-ins, etc.

This 48% seems like a large number, but it appears to understate the extent of the annual White Pages updating process.

New England Telephone maintains a White Pages data base of 3.8 million listings and in 1982 the Company received slightly more than two million directory-effecting service orders.^[2] Directory-effecting service orders are those that involve a change in phone number, address, or other listing information. One manager, three supervisors, and 32 clerical personnel work in New England Telephone's White Pages compilation group. The White Pages service orders flow from local business offices to eight regional

centers and thence to the Company's Revenue Accounting Office where they are put onto magnetic tape and delivered to Datacomp, an outside vendor of compilation services, who maintains the data base and provides daily updates for directory assistance operators. The New England Telephone White Pages staff functions primarily to check and verify the vendor's work and to handle irregular or incorrect listings. White Pages compilation also assembles the governmental "Blue Pages" sections for the Boston and Providence directories.

A very simple -- relatively useless and certainly highly unprofitable -- Yellow Pages directory could be produced by extracting all of the business telephone listings from the White Pages and reformatting them in terms of some alphabetical-by-heading (or category) arrangement. But, classified directories are profitable and useful because of the advertising that they carry. Thus, given correct, up-to-date listings, a second task to accomplish is to sell advertising. Some 30% to 40% of all businesses purchase some form of Yellow Pages advertising, and, if maintaining the White Pages data base from service order through printing and delivery is the "head" of the business, then sales is its "heart." We get some preliminary indication of the importance of sales in the New England Telephone directory

operations from the April 1, 1983 Organizational Chart. Of the 745 employees in the department, 400 report to the Division Manager for Publishing and 345 report to the Division Manager for Directory Sales.

Directory sales tends to rely on a high pressure, hard sell approach based in large part on a kind of institutionalized "prisoner's dilemma." The directory itself is the prime sales tool. "Look at this year's Yellow Pages, Sam," the salesman might say to a pizza parlor proprietor, "Giovanni, on the next block, has bought a full quarter of a page and you only have a measly half inch incolumn listing. Whose ad do you think a pizza-hungry customer is going to see, yours or his?" So, Sam buys a quarter page in red, perfect ammunition to get Giovanni to go for a half page next year. Of course, this story is a gross oversimplification. Publishers, selling companies, and agencies engage in extensive user research in order to substantiate their claims regarding the effect of Yellow Pages advertising. Sophisticated marketing analysis is a key component of Yellow Pages selling (especially at, but not only at, the national level), but selling relies strongly on high power sales people armed with a variety of sophisticated sales promotion aids. Sales training is an important part of the Yellow Pages business and no expense is spared in

the development of training materials and the maintenance of sophisticated training facilities and staffs.

At New England Telephone, the sales force is divided into teams whose results, as well as the results of each individual salesperson, are prominently displayed. Sales managers are aggressive boosters who encourage their staffs to "push" the product. In most of the Bell Operating Companies (BOCs), but not in the large selling companies (L. M. Berry or R. H. Donnelley), the sales forces are unionized (I am aware of no other industry where a major commissioned sales force is under union contract). About 50% of the sales force is involved in "premises" or face-to-face selling in the field. This group, which is 91% male, handles 30% of the accounts and generates 70% of the sales revenues. The telephone sales force (82% female) handles the relatively low expected value accounts, i.e., the 70% that account for 30% of the revenues. They are expected to close about nine sales per day, requiring between 20 and 40 telephone contacts. A typical telephone sale is between \$9 and \$15 monthly (\$108 to \$180 yearly) and the typical telephone salesperson's salary is around \$25,000.

The commission structure is one important dynamic underlying the growth of the Yellow Pages business. An

increased sale (i.e., 12.33% of annual revenue) is commissioned at 148% of monthly billing for both telephone and premises sales forces. A renewal without increase is commissioned at 26% of a monthly billing (2.2% of annual) for a premises sales person and \$.40 for a telephone salesperson. This kind of remuneration system which rewards growth is typical of the directory industry. In addition to first time purchase by a new client, the sales force pursues three dimensions of growth. The client is encouraged to 1) purchase a larger unit of advertising; 2) place advertising under additional headings; and 3) place advertising in additional directories.

With the listings corrected and compiled and the ads sold, it is time to produce the book. Display advertising art must be created and layed out with the accompanying copy. Listings need to be typeset and pages layed out to include both in-column and display advertising along with standard listings. All this must be done with the greatest of care, for the book is printed but once a year and a mistake in a single digit, e.g., in a phone number or address, may prove disasterous and, in any case, will be there for a whole year. The importance of careful, detail-oriented workers and systems to check and double check for accuracy

cannot be overemphasized (Cf., "Directory Service Compilation Center Does It All For Its Customers," Telephony, June 25, 1979).

When the page layouts (that is, the merged listings and art) are completed and double checked, plates are made for printing. In the past, directories used heavy metal plates, but like the newspapers, electronic photocomposition and photo offset is becoming the preferred technology of leading edge directory publishers. Directories normally "close," i.e., no more new materials are accepted for inclusion, two or three months before publication to allow for the final preparation and production.

When the plates are ready, the books are printed on uncoated yellow groundwood stock, bound together with the White Pages (which are on white uncoated groundwood stock). (A small proportion of directories, serving a relatively large proportion of the population, are bound separately.) Once the books are printed and bound, they are shipped in bulk back to the publisher or to a delivery agent for local distribution.

One interesting and unusual aspect of directory advertising, at least in "utility"^[3] directories, i.e., those published by or for the local telephone company, is the billing process. While Sam the pizza parlor patron buys an

ad only once in a year, he pays for it in 12, relatively painless, monthly installments which are included in his phone bill. (The sales pitch is always based on the monthly cost of the ad.) It is difficult to imagine a more attractive payment plan for a local business for which cash flow may be a concern, nor a more effective strategy for the phone company. After all, the phone company has to send out a bill every month anyway and it costs little extra to include the directory advertising installment. Furthermore, a business is unlikely to welch on its advertising bill if it means losing its business phone!^[4]

2.2.2. The Process

In the preceding discussion of the making of a hypothetical Yellow Pages book, I have presented the production process as if it were a series of sequential but otherwise unrelated steps, i.e., as if one got all the listings up to date and then went out to sell the ads, and then produced all the art, etc. What I have described as separate steps are, in fact, functions in a large, complex data base management system. We can see this clearly by examining how a directory is produced in the Donnelley Terre Haute Publishing Center (Cf., "Information Update on Donnelley's Midwest Publishing Center in Terre Haute, Indiana, The

Largest Directory Compilation Center in the Country," The Donnelley Directory Record, 1982).

Information acquisition, sales, publishing and billing are all integrated. Service orders from telephone companies come into the system in a variety of formats on a variety of media -- paper, telex, tape, etc. The first order of business is to reformat the information into a machine readable standard. This information, the "listing control file," becomes the basis for all further steps in the process. Service order activity triggers certain sales functions, e.g., notice of a new business phone automatically activates the issuing of a "new connect" lead to be followed up by the appropriate field staff. Assuming no change in the service order for a given account, the assignment and lead subsystem generates a file including historical information on the account and a preprinted sales contract which is routed to the sales force. The sales contract, when filled in, becomes a processing document to renew, change, update, or maintain the current listing/advertising in the following year's book. The compilation system maintains the data base and feeds required information to the cluster of publishing subsystems.

The publishing closing systems take the data from the compilation system and transforms it into a format that can

be printed. The ad inventory system compares the data in an incoming order with the content of historically correct advertising copy already in the data base. This limits unauthorized use of trade names and permits the verification and authorization of advertising changes. Also, part of the publishing system is 1) a bold face order subsystem which indicates to the telephone company which White Pages listings to print in bold face type, i.e., which White Pages listings are paid ads, and 2) sales revenue accounting system. This subsystem puts Yellow Pages billing information on tape to be merged with other telephone company billing data to generate monthly bills. The Donnelley publishing system photocomposes listings, and an outside vendor merges these with the display art and copy to produce printing plates.

New England Telephone's Yellow Pages III publishing system (YPIII) is similar to Donnelley's in general outlines. 122 clerical and supervisory staff persons (the vast majority of whom are women) are responsible for updating the Yellow Pages data base by inputting new service order activity and data from sales contracts. Each of eight parallel work groups (units) of 11 to 13 clerical personnel is responsible for maintaining the data bases for a number of directories. Using microfilms of the sales

contracts, clerks enter the data (via CRT) which includes billing information and listing information as well as information on the size and shape of the advertising unit purchased.

Copy comes through a separate and parallel work stream where it is checked for accuracy and approved by an in-house ethics department. The Bell System's notion of "ethics" is peculiar and merits a word of explication. Bell System publishers have traditionally maintained very tight control of advertising content. Superlatives -- "best," "largest," "oldest", etc. -- may not be used without the submission of written evidence to substantiate the claim. In at least one BOC, the seemingly innocuous slogan of a chain of eye glass dispensaries, "[N]obody cares for eyes more than _____," was rejected as an unsubstantiated comparative claim. Comparisons are discouraged and price advertising is flatly refused on the grounds that prices cannot be guaranteed over the year-long Yellow Pages publishing cycle. Advertisements considered in poor taste, "offensive," or "controversial" may be rejected.

The following quotation is from the Forward of the May 1, 1979 "Bell System Yellow Pages Advertising Standards:"

"The success of any advertising medium is dependent upon the integrity of the publisher and the credibility of the medium itself. The Bell System Yellow Pages have attained a

desirable status in both areas through consistent efforts by the Telephone Companies to prevent the appearance of misleading advertisements. Directory users and advertisers have profited from these efforts and have indicated a high degree of confidence in the Yellow Pages. It is of primary importance that this confidence be preserved.

"The Telephone Companies have the universal and fundamental right as publishers, except as limited as public utilities, to refuse any advertisement which in their judgment is objectionable. However, the Yellow Pages advertisers are primarily responsible to the public and appropriate governmental agencies for claims made or inferred via Yellow Pages listing or copy."

At first glance, nothing in this statement strikes the reader as out of line or outrageous; the success of a medium depends, at least in part, on its perceived integrity and credibility and publishers do have rights to accept or reject anything they want. But, there is something a bit strange about the first sentence of the second paragraph. Into Bell's claim of "universal and fundamental" rights as publisher creeps the qualifying notion of the regulated public utility. This ambivalence is acutely felt by advertisers bewildered by the seemingly arbitrary and capricious rejection of some ad copy.

There is a basic contradiction, or at least dissonance, between the common carrier ethic that pervades most of the telecommunications industry and the publisher's ethic that prevails in the Yellow Pages. In the former,

content is of no concern; in the latter, it is of central concern. But, the content of the Yellow Pages is not created by the publisher and to the extent that the local Yellow Pages is the only game in town -- and there are many localities without significant competing classified directories -- the Yellow Pages are a kind of a printed common carrier, that is, a universal medium to convey third party information.

A display ad approved by the ethics group (which tends to be staffed by relatively low level clerical personnel) goes on to an art group for layout and execution. We gain some insight into the nature of the Yellow Pages as a medium when we compare the size of the clerical staff involved in New England Telephone's Yellow Pages information processing (122) with the size of the artistic or creative group (7) who create the graphics.^[5]

I have discussed Donnelley's Terre Haute operation and New England Telephone's directory department, but there is good reason to believe that this type of integrated electronic publishing system is used by all major directory selling/compilation and publishing companies. L. M. Berry, the second largest directory company (with sales of somewhere near \$500,000,000) claims, in a 1981 ad, "leadership [in] electronic photocomposition and new efficiencies in

production." Likewise, GTE Directories' (a division of GTE) President, Rhett Butler, attributes General Telephone Directories' winning of a portion of the United Kingdom Yellow Pages contract to its sophisticated software capability "which we have developed to the point where it generates leads and applications, processes orders and updates and sets advertisements" (quoted in The Economist, August 18, 1979, p. 77). The acceptance and proliferation of these techniques is ubiquitous in the industry.

To formalize my notion of directory making as a (relatively) continuous "process," I worked with Jon Notestien, an expert in directory compilation systems at R.H. Donnelley Company, to develop a simple chart of the flows of data through a "typical" modern directory production system.^[6] (The notation and conventions on Figure 2.1, standard for the directory business, are explained in Figure 2.2.)

In the center of the flow chart is the Customer Data Base (#1), containing for each customer listing information (name, address, telephone number, and control data) and information on the unit(s) of advertising purchased in the past. The customer data base generates a sales contract (#2) which is routed to the sales force (#3). The sales

Typical Directory Production System

Figure 2.1

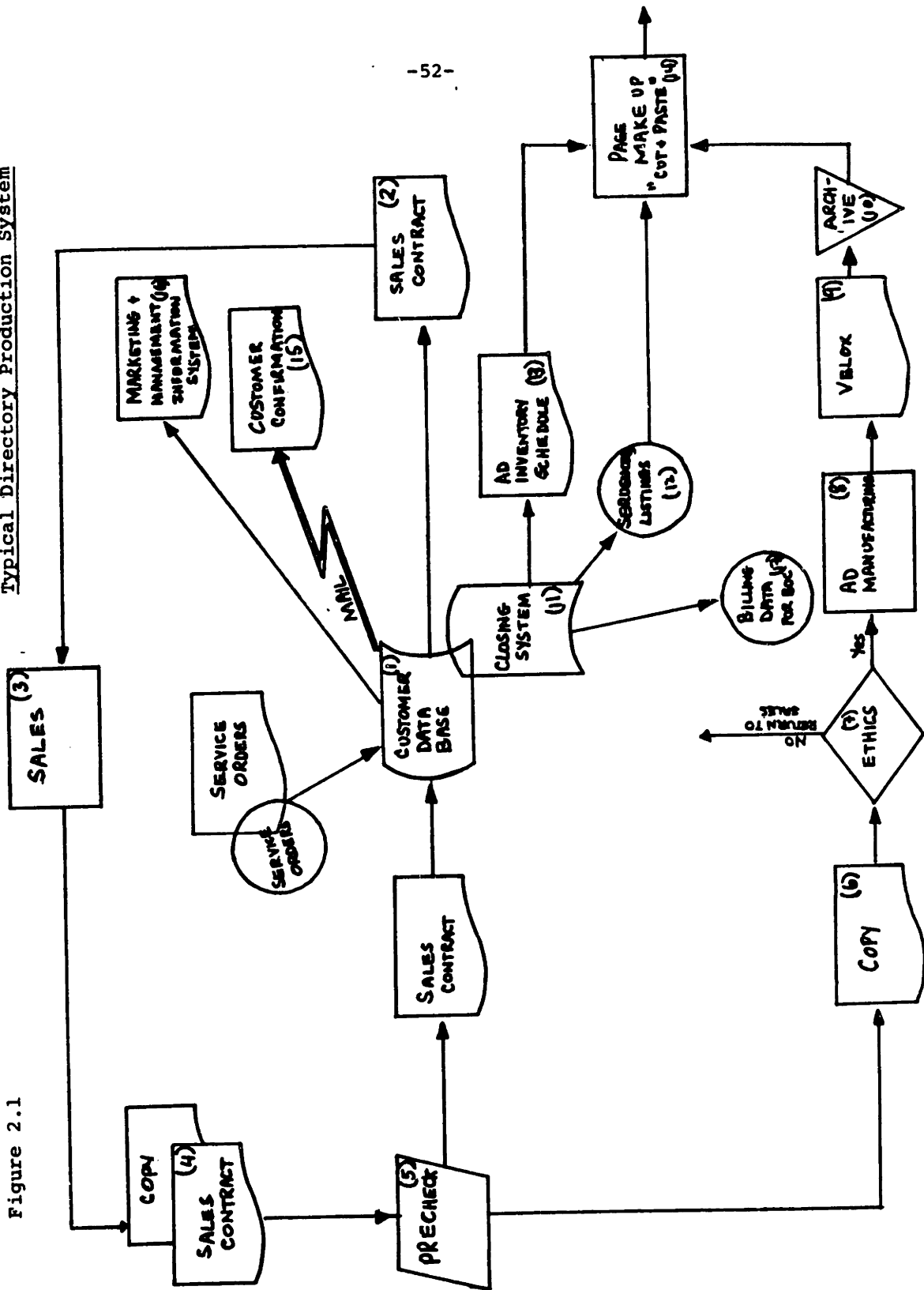
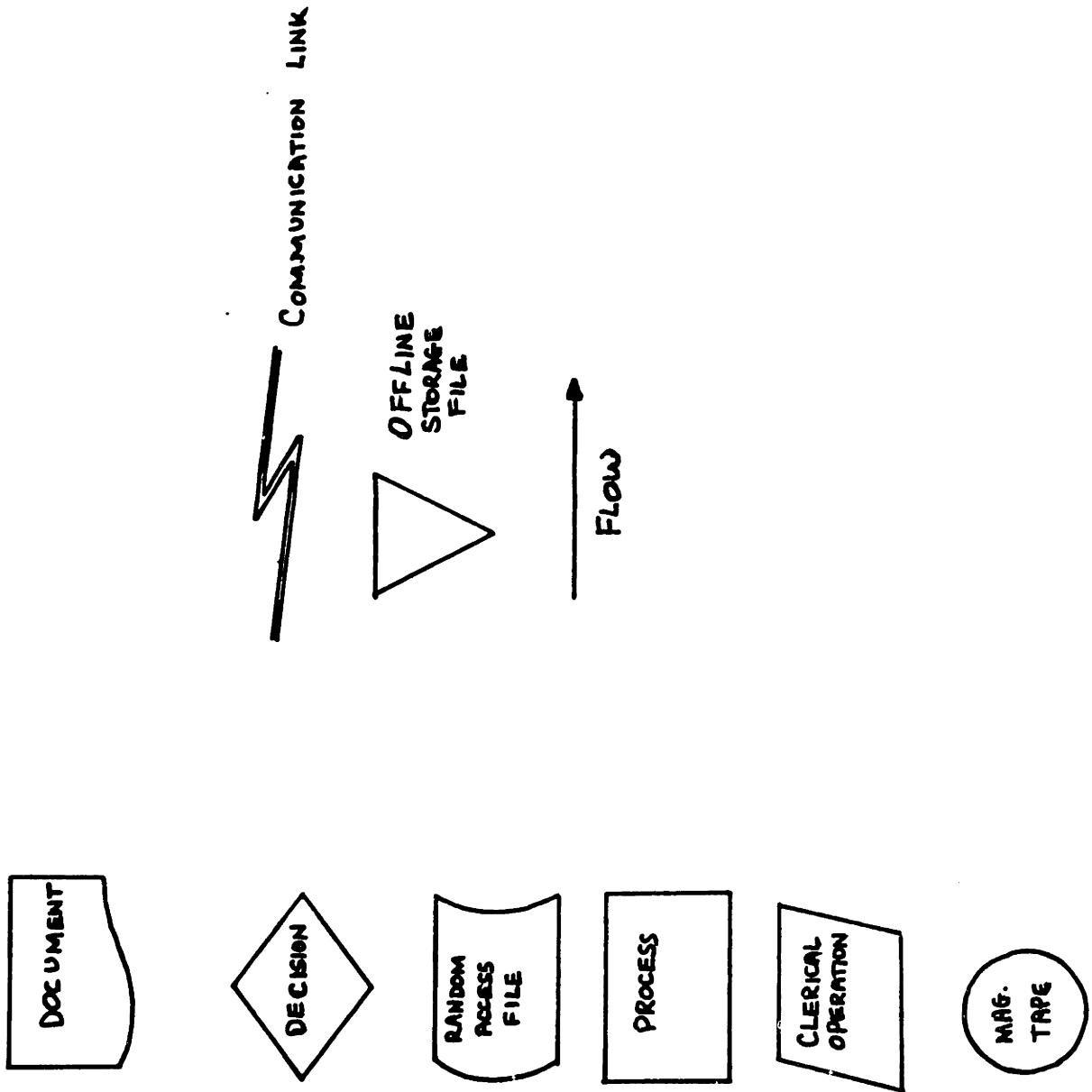


Figure 2.2

Conventions Used In Figure 2.1



"process" generates a revised sales contract and, when appropriate, preliminary ad copy (#4). In the precheck process (#5), updated customer information is entered by way of the (revised) sales contract into the data base. The precheck process also provides sales results data on the basis of which the sales force is compensated. Copy (#6) is split off at the precheck and entered into the separate parallel processing stream. After approval by Ethics (#7), the ad is "manufactured." The Ad Manufacturing Process (#8) involves the creation and screening of display art to create a velox, or camera ready, ad (#9). These veloxes are archived by directory (#10). The closing system (#11) takes the data for a given directory from the master customer data base and creates a tape (#12) of the listing information in a sequenced (alphabetical by heading) format which includes spacing information on in-column ads. The Ad Inventory Schedule (#13) includes all advertising information and is merged with the sequenced tape and the archived veloxes in a page make-up, cut and paste process (#14). (Pagination may be done either by the compilation company or contracted out to a vendor.) Page negatives, created from the pasted-up pages, are sent to the printer who makes the plates and prints the books.

"Closing" and the actual assembly of finished directories is a batch process undertaken once a year. The other portions of the process are continuous. The copy stream is continually manufacturing and archiving ads. Service orders may enter the system on-line or in batches on tape or paper. The selling function may be organized as a canvassing campaign in a small community or as an ongoing daily process in a large one. In either case, information from sales is continually entered into the system and updated. The sales cycle -- from generation of a sales contract through customer contact, contract update, and customer notification -- used to take months; in current systems, the cycle is typically completed in two and one-half weeks.

In addition to creating and delivering a directory, the customer data base generates a copy confirmation for the customer (#15) and a variety of management information (#16) for the sales and financial operations of the directory business. The closing system generates a billing tape (#17) for the telephone company. The system described here is not, in principle, difficult to design, but to implement it on the massive scale and with the level of reliability required in the directory business with hundreds of directories and millions of listings and ads, requires skills

possessed only by a few very large compilation companies and telephone operating companies.

2.2.3. Producing A "Non-Utility Directory"

Listing information derived from service order activity is a critical input to the production of a Yellow Pages directory. Possession of this information provides the local telephone company with a potential strategic advantage vis-a-vis "non-utility publisher" competitors. Let us briefly consider a range of independent publishers, some quite small and others relatively large, to see how they acquire their listings and produce their directories.

Ambrose Kelley's Neponset Publishing Company produces local directories in six Boston suburbs. It is a one man operation: Mr. Kelley sells the ads, compiles the directory and supervises the printing. Customers are old and reliable, some having been with him for nineteen years. Neponset does not copyright its books and is generally not too concerned about the copyright issue; listings are copied directly from the New England Telephone's directories. Not only does Mr. Kelley have "no problem" with New England Telephone, he assures me that "they're cooperative." Mr. Herb Lobsenz, President of Market Data Retrieval, a mailing list compiler/supplier, has had the same

experience of cooperation from the Bell System in his mounting of the first National Electronic Yellow Pages on Lockheed's Dialogue System. Market Data Retrieval, like the much smaller Neponset Publishing Company, simply copies existing directories, now not onto a paper medium, but rather into its own electronic data base.

The Yellow Book Company of Oceanside, New York, the largest of the independent Yellow Pages publishers, has been in business for over half a century publishing forty local directories reaching three million customers in 279 communities on Long Island. Yellow Book, a well-established and by all accounts thriving business, has a long-standing arrangement with New York Telephone whereby Yellow Book purchases its listings from New York Telephone.

Mr. Fletcher McLellan, President of The Phonebook Corporation, Cambridge, Massachusetts, has had a very different and altogether less fortunate experience with the local telephone company. Phonebook Corporation, founded in 1978 when it published a single local (Cambridge) directory, has grown over the years to publish nine urban Boston neighborhood directories with a total circulation of 335,000 copies. At the outset of his venture, Mr. McLellan tried to purchase listing data from New England Telephone, which, at first, rejected this offer. Finally, they made tapes

available at \$.08/listing (listings alone would, at that rate now, cost Phonebook about \$28,000). Having purchased the tapes, Phonebook had some books composed and printed only to find that the data on the tapes required extensive cleaning. According to Mr. McLellan, New England Telephone was unwilling to take any responsibility for Phonebook's additional expenses which he claims were due to New England Telephone's incompetence or worse. In Phonebook Corporation's next attempt to buy data, New England Telephone did not meet established deadlines with the result that Phonebook now goes to third party sources -- in particular, mailing list/marketing firms -- to obtain listings. (My guess is that these firms get the listings from the directory.) That some people at New England Telephone attempted to sabotage Phonebook is by no means certain, but what is extremely clear is that the utility did not go out of its way to help the fledgling and potentially competitive Phonebook Corporation. Acquisition of listings continues to be a headache and one of the least satisfactory aspects of the company's operations.

While there is certainly some variation in production technology across the large publishers -- be they large Bell Operating Companies or specialized directory publishing firms -- we have seen some evidence that all use more

or less integrated data base management and production systems. There is much greater variation across the range of small and medium size independent companies. Neponset's production system has probably changed little over the last twenty years. Phonebook Corporation is moving into some form of word processing but it is not nearly as advanced as the large publishers' systems. The Yellow Book Corporation uses electronic photocomposition for the White Pages, contracts out typesetting within display ads and does its own in-house White and Yellow Page layouts. White Pages production relies basically on electronic techniques while Yellow Pages requires more hand work for paste-up, etc.

A final aspect of the operation of an independent publisher which distinguishes it from a "utility" publisher is the billing system. Independents do not have the opportunity to merge the Yellow Pages and telephone bills. Most bill only once a year which is good for cash flow but hard on sales. Yellow Book is moving to a monthly billing system but it is expensive (since there is no piggybacking on other billing) and is only possible because of Yellow Book's strong cash flow and financial position.

2.2.4. A Trend: Electronic Input, Paper Display

The Yellow Pages directory is over 100 years old and

while a variety of improvements in its contents, format, etc. have been effected in the last century, the current Boston directory (a fat tome of flimsy yellow paper) looks remarkably like it did 50 years ago. But, appearances can be deceiving and if we consider not only how the book looks, but also how it is made, we can gain a clearer understanding of the relationship between the old-fashioned paper directory and the futuristic electronic one.

The compilation and production of current directories is already highly computerized and will become increasingly so. The number of directory employees at New England Telephone has gone from over 1,000 to less than 750 now. Some of these reductions (all, by the way, handled via attrition and job shifting; there have been no layoffs due to directory automation) can be traced to the jobbing out of previously in-house functions (e.g., Datacomp's handling of White Pages compilation), but most are the direct result of labor-saving information processing technologies involving microform and computers. As its name indicates, New England Telephone's Yellow Pages III is the third generation of directory mechanization and it is far from the state-of-the-art in data management, compilation and printing technology. New England Telephone can be expected to

take another quantum leap in "process engineering" in the relatively near future.

Current systems permit electronic photocomposition and pagination, that is, the data input through Yellow Pages III produces computer-generated pages with holes of appropriate size left for pasting-up display advertising. Experimentation is currently underway (e.g., at New York Telephone) to load the display art and copy directly into the electronic data base by scanning the ad and storing it in digital form. While it is currently most efficient to create the ad on paper and then load it via a scanner of some sort, it is likely that computer graphics terminals will eventually be used for the original creation of new art or for the modification of existing stored materials.

In many local telephone operations today (1983), service orders are taken at local telephone offices on paper and sent through for later keying. But already in the New England Telephone system, paper is being replaced by the keying-in of service orders at the local business offices. Within a few years all paper should be eliminated allowing the direct and immediate updating of files including directory-related files. Directory assistance has already gone from a paper-based to a microfilm-based to a fully

computer-based service in many telephone operating companies.

At R. H. Donnelley and GTE Directories, sales management is an integral part of directory mechanization. Donnelley's Electronic Planning and Presentation System (EPPS) consists of a telephone sales subsystem (Automated Sales Support and Information System or ASSIST) and a field sales subsystem (Advanced Computerized Capability for Enhancing Sales or ACCESS). Both systems reduce paperwork and provide computer-driven information systems to optimize sales productivity. New England Telephone has also experimented with Dun & Bradstreet's Sales Net, a computer-assisted state-of-the-art telemarketing system where the computer generates interactive "scripts" for the salesperson based on predetermined buyer characteristics and real time responses. In 1982, Donnelley's Richard Swank said of the computerized sales support systems:

"It will only be a short time before it could include a portable terminal for sales personnel to use with selected customers. To support a selling point, the Donnelley sales person could use the portable terminal to call up on the screen product information, prices, answers to objectives, testimonials, or graphic information instead of using printed sales aids."

The sales function is increasingly supported by sophisticated electronic information and decision support

systems. As premises sales is supplanted by telephone sales, a terminal-equipped sales staff will input copy directly to further streamline the information handling task. Swank foresees the use of portable computer terminals as a sales aid by field sales staff, but these terminals will also act as input devices.

In sum, compilation is already seen as a fundamentally electronic operation. Pagination, layout, and art are increasingly computer-driven. Sales is computer-supported and feeds in (increasingly without paper intermediation) to the publication data base along with the original service orders which will be keyed in once to initiate the compilation, sales, and production and publishing functions. All this is to say that directories are already largely electronic and are becoming more so all the time. That they look the same as they did in the days of paper files and hot lead plates should not disguise the fundamental transformation of the industry that is already well underway and which can be expected to continue for some time. Electronic (as opposed to paper) display technology is a major change permitting important economies (e.g., of paper and delivery) as well as new features (e.g., frequent updates). But there are many advantages, not the least being wide consumer acceptance, of paper Yellow Pages. It would be

highly myopic to think about "electronic" directories only in terms of the final output or display technology.

2.3. SCOPING THE DIRECTORY

2.3.1. Defining "Scope"

We intuitively understand directory scope to refer to the extent or breadth of information to be included in the directory. The "scope" of a directory next to the elevators in a high rise office tower is the set of names of all of the tenant firms mapped onto their suite or office numbers. The scope of a store directory, next to the escalator in a large department store, is the set of all departments but not the set of all items, whereas a mail order catalogue must encompass not only all the departments, but also detailed information -- e.g., size, price, brand, etc. -- on each item offered for sale. The appropriate scope for each of the above kinds of directories is fairly self-evident. But there is more to scoping a Yellow Pages directory.

In many instances, the scoping decision appears to be a straightforward one about the geographic area to be covered by each book. Sometimes there is no decision to make -- the scope of the directory is set by the legal boundaries, e.g., city limits, of a particular political area. Indeed, for years, directory scoping was essentially a non-decision; the scope of next year's directory would be

the same as that of this year's and the scope of this year's was established by political subdivisions (cities, counties, etc.) and by telephone exchange areas or, where different local operating companies served adjacent areas, by the boundaries of the local exchange franchise (which in e.g., Southern California, made for some strangely bounded books). Even if there was a perceived need to make a scoping decision, the decision was seen as uni-dimensional, scoping meant "geographical" scoping.

2.3.2. The Origin Of The Business To Business Directory And The Strategic Significance Of Scoping

But the display medium of a Yellow Pages directory, bound volumes of groundwood paper, poses certain physical constraints and these constraints were first and most acutely felt in Chicago, where the city itself (even having eliminated all suburbs on traditional political boundary grounds) was so large and business activity so intense that it was impossible to fit all of the Yellow Pages data between the covers of a single volume. Rather than divide the Chicago Yellow Pages data alphabetically into two volumes, "A-L" and "M-Z", it was decided to reconfigure the information into two separate and complementary books on the basis of the product markets served by the different

headings. In the place of two listings, alphabetical and classified, the classifieds would be subdivided into those serving the industrial or business market and those serving the consumer market, thus were born the Chicago Alphabetical, Buyer and Consumer (A, B, C) Guides, a trio consisting, in the 1983 edition, of 4,242 pages (1,404 in A, 1,003 in B, 1,835 in C) and weighing thirteen pounds.

The advent of "Buyers Guides," what came to be known as "Business to Business Directories," occasioned an uproar and brouhaha in the advertising community. Articles entitled "Advertisers Turn Red Over 2 Yellow Pages Editions" (Advertising Age, September 3, 1979, p. 54) and "Seeing Red Over the Yellow Pages" (Newsweek, October 22, 1979, p. 90) document business protest of dual directories.^[7] The protests were understandable. Some advertisers who had heretofore reached their varied target market via a single advertisement in a single directory were now obliged to pay twice as much (or more) for coverage in dual directories. Other advertisers who wished to reach consumer markets were classified under headings that were only run in the Business to Business books.

Business to Business books tend to have the following characteristics compared with their associated consumer books:

- more headings
- fewer listings per heading
- wider geographical coverage
- higher cost per advertising unit
- less volume (i.e., fewer pages)
- lower circulation (i.e., only to businesses)

All of these characteristics are comprehensible in terms of the differences between the consumer and industrial markets. In general, fewer industrial suppliers cover wider territories than the consumer retailers, they supply, e.g., fewer manufacturers of pizza ovens than makers of pizza. Industrial goods and their outlets are more specialized than the consumer trade, one of the hallmarks of retailing being the assembly of a wide range of goods from different producers in a single convenient location (think of the variety of goods from a raft of different producers available at the local hardware, discount or grocery store). Industrial purchases tend to be larger than consumer purchases, price to be a more crucial factor and physical proximity of only limited concern. Reaching one purchasing agent is worth a great deal more to an industrial advertiser than reaching one housewife is to a retail advertiser, so even though the circulation for the Business to Business book is lower and the cost per unit higher (i.e.,

the cost per thousand (CPM) is much higher), the industrial advertiser is willing to pay because his effective CPM may be much lower in the Business to Business book.

The advent of Business to Business Directories is interesting in several respects. It stimulated the first and most intense instance, that I am aware of, of advertiser resistance to what was, for some, an effective doubling (or more) of their Yellow Pages costs. That the nature of the physical medium, bound volume, was a significant factor in the creation of the new data base is also noteworthy. But the most important implication of the Business to Business books for the present inquiry is that these books evidence an awareness in the Yellow Pages industry that scoping is a two-dimensional (at least) decision involving both the geographic extent and the specialization of the product market. Directory scoping is a form of market segmentation in the information industry.

Scoping, which, at first glance, appears either trivially self-evident (the scope of the Boston Yellow Pages is the set of businesses in Boston) or arbitrary (the scope of the Boston Yellow Pages is the set of all the businesses in Boston, Cambridge, Somerville, and Brookline but not Belmont or Chelsea), is neither self-evident nor arbitrary.

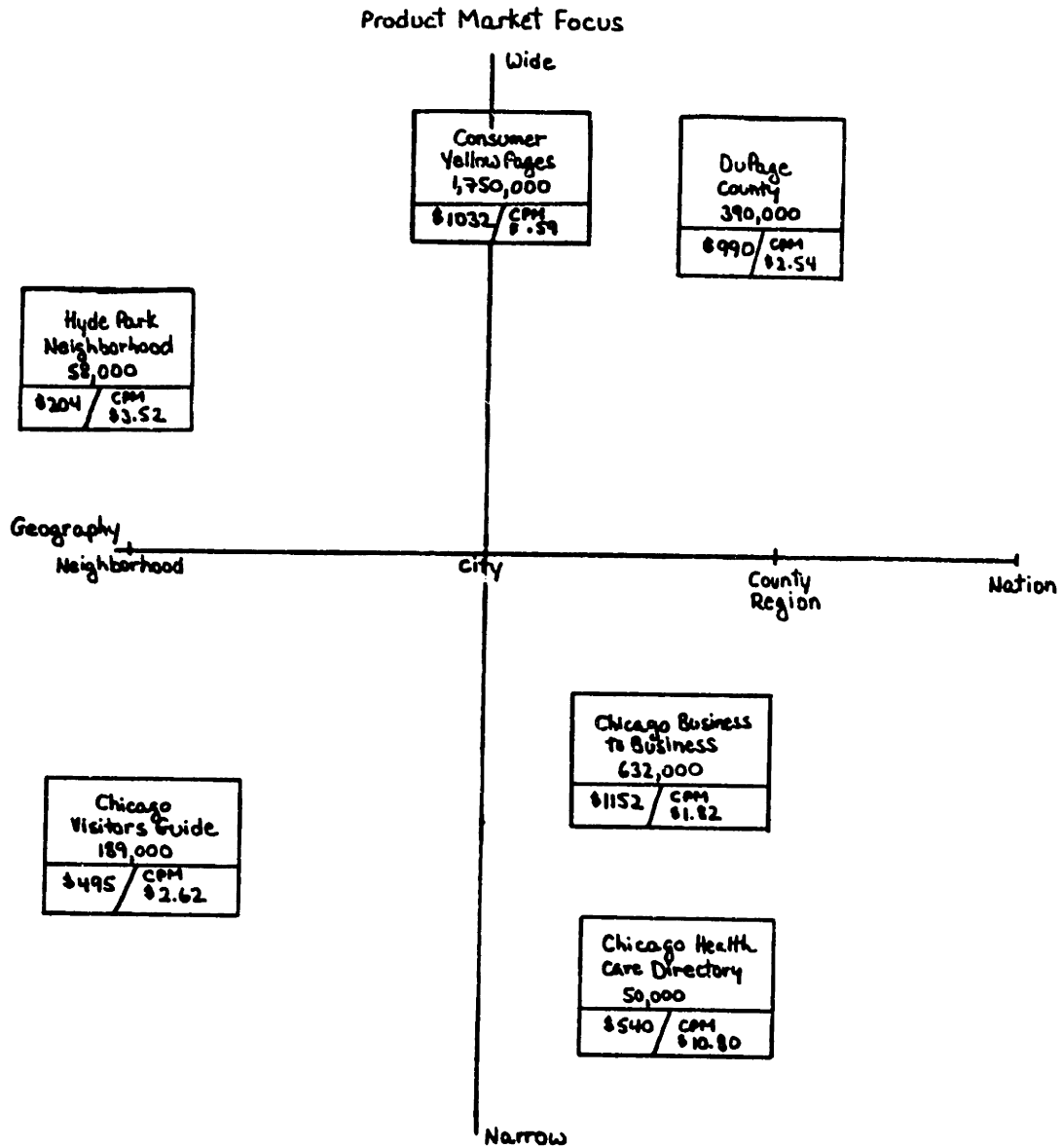
Scoping is a critical strategic decision in which the publisher both specifies what his product will be and who will be in the market for that product. A good deal of the new-product development which accounts for so much of the remarkable revenue growth in the directory industry flows directly from imaginative scoping decisions. Much of the competition in the directory industry can be understood in terms of jockeying for position in directory scope. The International Resource Development study of Electronic Yellow Pages (1980) indicates that appropriately scoped directories can offer publishers potential savings of upward of "\$80 million in paper and printing costs" (p. 60) but this figure, large as it is, is relatively insignificant compared to the potential revenue consequences of competitive scoping decisions.

2.3.3. Scoping As Product Positioning

Figure 2.3 is a schematic (and very incomplete) map of the directory product scoping space in the Chicago area. The dimensionalities are geography and product market focus. Note that there are directories published (and ostensibly money to be made) in each of the four quadrants. The traditional Yellow Pages directory, labeled "Consumer Yellow Pages," is positioned at the top center of the map,

Figure 2.3

National Map Of Scope Positions Of
Various Chicago Directories



implying that it covers a broad range of products and services in a single city. (Of course, out-of-town companies advertise in the Chicago book and suburban households use it, but the basic scope of the book is the set of all consumer products and services in the city of Chicago.) To the left and below the main consumer Yellow Pages, advertising a slightly narrower set of products to a much narrower geographically defined market, is a neighborhood directory. (The neighborhood books in Chicago are published by the Bell System's agent, R. H. Donnelley Co., while many of the suburban directories, which would effectively occupy the same position on the map, are published by independent entrepreneurs.) In the lower left quadrant is the Chicago Visitor's Guide, a directory aimed at the Chicago hotel trade. (It is noteworthy that 189,000 copies of this directory are printed while only 18,000 people live in the downtown area covered. This reflects the number of hotel rooms served.) Not only is the geographical compass of this directory small, but the products covered are only those -- restaurants, shops, etc. -- of likely interest to visitors; heating and plumbing contractors would have little incentive to advertise in this book. Moving to the right, we see two relatively specialized directories, the Chicago Business to Business book and the Chicago Health

Care Directory, both focussed on the larger metropolitan area. Finally, in the upper right quadrant, is the DuPage County book, an "umbrella" directory which serves the same broad line of consumer products as the Chicago book, but instead of serving a single city or suburb, it serves one whole suburban county.

As of June 1982 there were 54 directories published by five publishers serving Cook County, Illinois. Were we to include all of the directories serving contiguous counties in Illinois and Northwestern Indiana, we count close to 100 separate directories put out by ten or more publishers. I have also indicated on the map the number of copies printed of each of the directories, the price for a quarter column unit of advertising, and the cost per thousand (CPM). We are not surprised that the lowest CPM is in the largest circulation book, but note that the CPM in the small circulation finely targeted Health Care directory is nearly 20 times as high as the broadly scoped Consumer Yellow Pages.

Non-utility directories tend, in most instances, to fill the niche that is left vacant by the scoping decisions of the local telephone company publisher. Most of the time the niche has been for narrow geographical scoping, small suburban directories, or, as in the case of Phonebook Corporation, small neighborhood directories for urban Boston.

When the utility directories are narrowly scoped, as in the suburbs of Philadelphia, the "non-utility" Universal Telephone Directories, Inc. publishes county-wide umbrella directories. But it is not only the non-utility publishers who have paid increasing attention to market segmentation by way of directory scoping. Reuben H. Donnelley introduced the first Business to Business book (wide area, narrow product market focus) and has been very active in developing neighborhood books in large cities like Chicago and New York (small area-wide product market focus). Other, non-Yellow Pages directories make very different targeting and scoping decisions.

The Thomas Register is a 17-volume advertiser and subscriber-supported directory (the \$160 per subscription can barely cover printing costs) covering the entire United States with information and advertising on all kinds of industrial products. Its geographical extent is enormous, its product market focus is limited (like that of the Business to Business Directory), but its target audience is much smaller than that of the Business to Business book. The Thomas Register has a circulation of about 150,000 worldwide (compared to 632,000 for the Chicago Business to Business book), but the Register's publishers estimate that it is used to purchase over 50,000 types of products and

services, accounting for \$400 million worth of purchase per day or \$102 billion per year. The Thomas Register, then, is a very large directory with a broad, nationwide (and worldwide) geographical coverage, aimed at a small audience with very high buying power.

In any given market area, a map similar to Figure 2.3 could be used to analyze the product positioning of one or more publishers. To a large extent, directory scoping is an exercise in competitive product positioning, especially for the non-utility publisher. But even for the utility publisher, scoping is no longer the automatic non-decision that it once was. Scoping is a dynamic process, a response to changes in communications and shopping patterns, competitive pressures, and consumer preferences. In 1965 Bell Labs began to develop a major tool for directory scoping. The Directory Scope Analysis Program uses as input calling data (residence to residence, residence to business, business to residence, and business to business) collected at the local exchange. Note that, as in the case of service orders, the local telephone company has had exclusive access to traffic data collected at the local switch. In addition to traffic data, survey research, reminiscent of the work pioneered by Feldman in measuring shopping patterns (1965), is conducted to obtain the consumer behavior

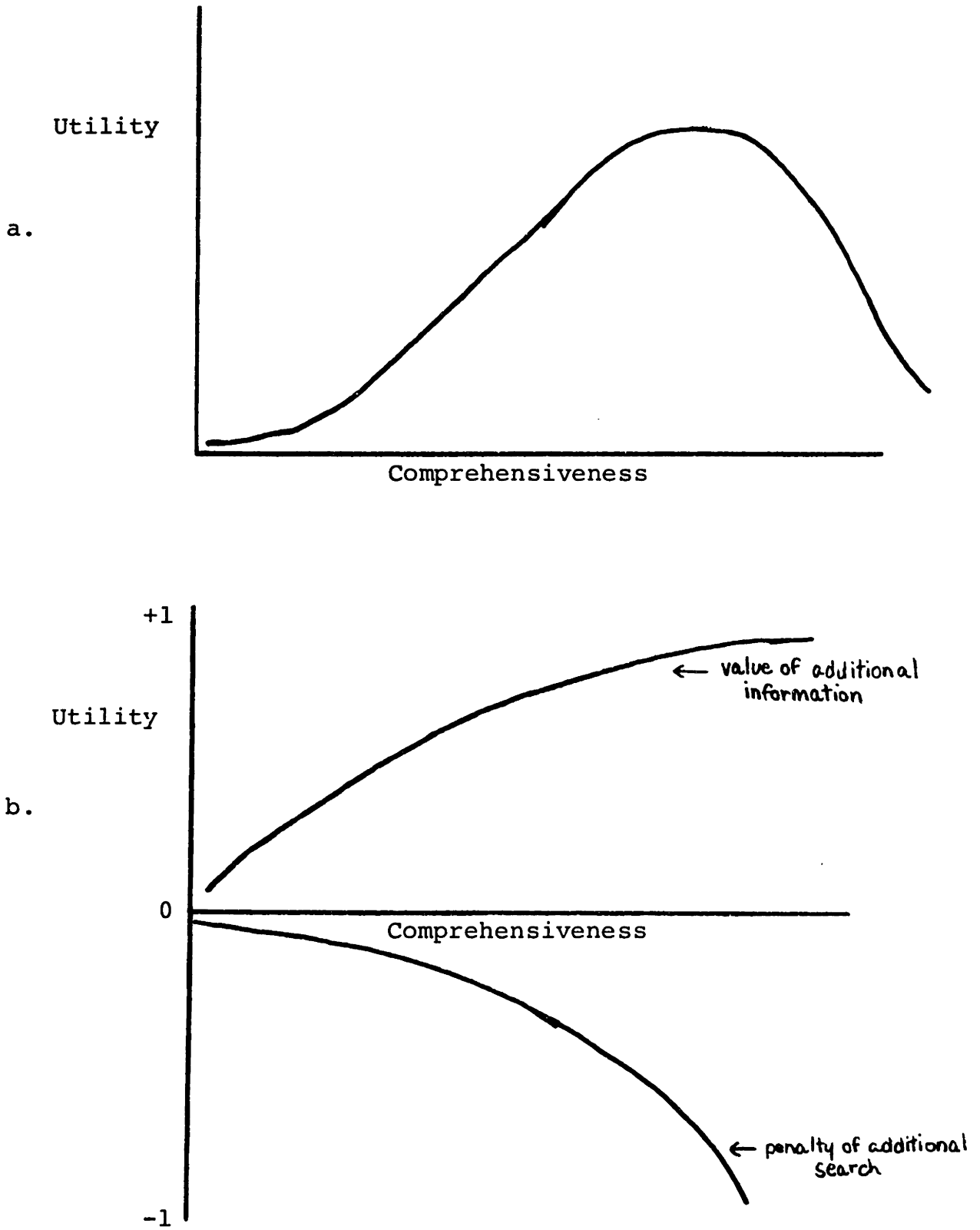
and preference data to make informed directory scoping decisions. [8]

2.3.4. Scoping And Consumer Behavior

Now, let us think more abstractly about directory scoping from the point of view of the directory user. For any individual increasing the comprehensiveness or completeness of directory content beyond some point, does not increase the value of that directory. That is, were we to plot "utility" as a function of "comprehensiveness," the graph would be decidedly non-monotonic. Figure 2.4, Panel "a", is a notional representation of this increasing and decreasing curve, and Panel "b" is a possible theoretical explanation of its non-monotonicity. Panel "b", which is formally similar to the explanation of the non-monotonic effects of fear and other emotional appeals in advertising is due to Ray (1982, Figure 10-1). McGuire (1978) suggests a multiplicative function as opposed to the additive one proposed by Ray. The net effect is the same, i.e., that two opposing effects result in an increasing/decreasing response function. Figure 2.4 tells the following story: the value of additional information rises rapidly to some asymptote while the cost (negative utility) of searching

Figure 2.4

Utility As A Function Of Comprehensiveness



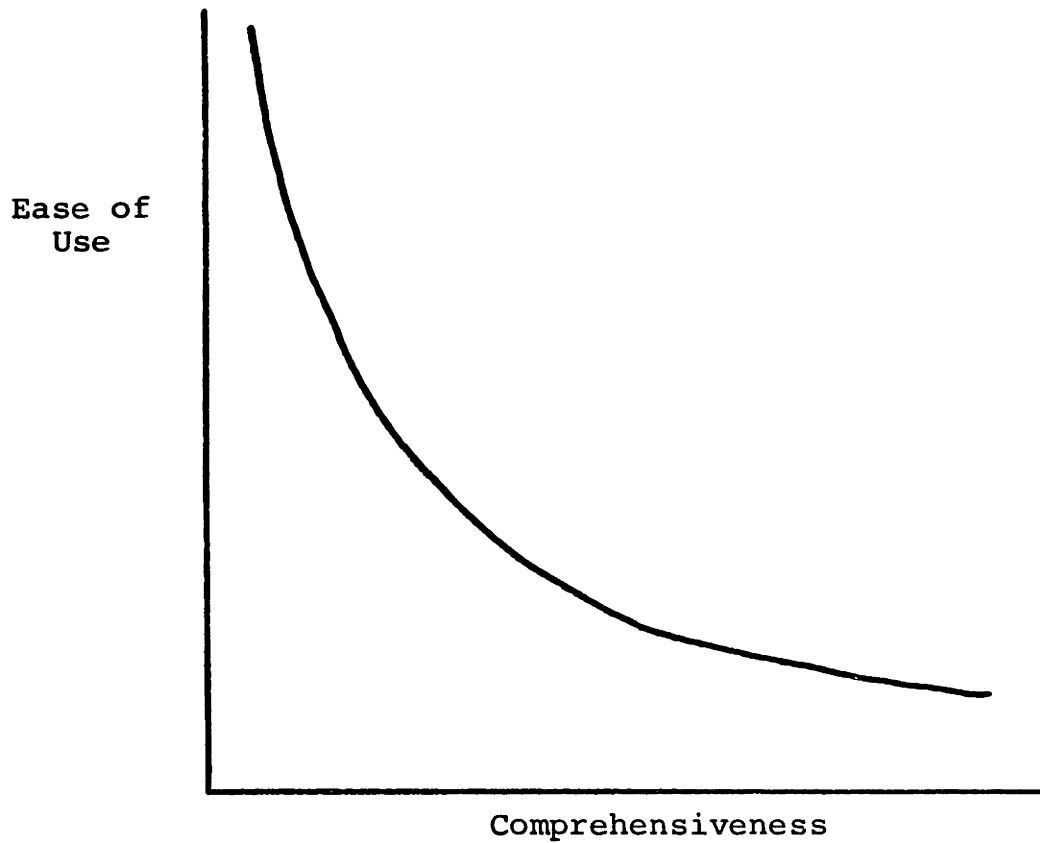
through ever increasing numbers of pages drives the resultant measured utility down.

In very general terms, the reason for this kind of a rising and falling curve is that while comprehensiveness is of itself of some value -- a directory with only two listings under four headings would be of very little use -- increasing comprehensiveness entails a cost. That cost is mainly in time, frustration, and inconvenience; a 16-volume Yellow Pages would probably be as little used by the general public as a one-page one. In a word, there is a trade-off between completeness or comprehensiveness and ease of use, which we might think of as an indifference curve, as in Figure 2.5.

Different segments of the population value these two dimensions differently so that we might envision a family of indifference curves for different user segments. A small, non-utility, neighborhood directory is able to sell advertising not only because its rates are much lower than those for the larger utility book, but also because there is some group of users who prefer to shop in the neighborhood and to locate a merchant quickly from among a few local ones than from among many all over town. We would expect the shape of the indifference curve to vary not only across user segments, but also across reference contexts.

Figure 2.5

Notional Indifference Curve



In shopping for pizza, a comprehensive listing of all the pizza parlors in the Boston metropolitan area is probably not very useful. On the other hand, in shopping for a consumer durable -- "a shopping good" like a T.V. set -- closeness to home is not as important an issue. One might be willing to travel across town for a better price on a color T.V., but no one wants to spend gas to bring home a cold pizza.

Once a product market focus and geographic area is settled on, then comprehensiveness within those scoping parameters is critical. A listing in the telephone companies' Yellow Pages is not really "free," rather, it is bundled in with the cost of a business phone, but it would not be in the utilities' interest or the directory user's interest to unbundle the rate so that only paying advertisers receive a listing. Indeed, while some non-utility books list only paying customers, most provide free listings to all for the sake of the user. As Fletcher McLellan, of Phonebook Corporation, put it, "if you pick up a local (non-utility) book and you can't find your favorite pizza parlor in it, you'll never use the book again."

While different user segments in different reference contexts have different scoping preferences, there is a recognized optimum range (of size) for general purpose

urban Yellow Pages directories. Edward Hancharik, of AT&T, says that users are most satisfied with a directory of 800-1,200 pages; that is, directories in medium size cities are preferred to and used more than the very large books. Two complementary pieces of evidence lend support to Hancharik's claim. In response to the question, "If you wanted to make a call and did not know the number, what would you do?," nearly 87% of respondents from areas served by small directories indicated that they would look the number up in a directory while only 75% of those served by very large directories said they would do so. On the other hand, Feldman and Halterman (1963) found that people in the very smallest towns were less likely to use the Yellow Pages than people in larger (in this case, medium size) cities. The very largest urban directories are, in some respects, suboptimal, but while they are likely to be complemented by neighborhood, suburban and specialized directories, it is highly unlikely that these giant tomes will be broken up. There is a need in every city for a single comprehensive listing of business activity.

2.4. THE COSTS OF MAKING A DIRECTORY

2.4.1. Analysis Of New York Telephone 1980 Costs

As part of the rate making and regulation process, telephone companies, in most states, file information on their directory revenues and expenses with the state regulatory body. Table 2.1 is the "Detail of Prepaid Directory Expenses and Directory Advertising and Sales Revenue" (Form SN994) filed by New York Telephone with the New York Public Service Commission covering calendar 1980. Table 2.2 is my analysis of the New York Telephone 1980 expenses for both Yellow and White Pages.

I used the following rules to allocate shared costs to White and Yellow Pages:

- 1) Allocate sales and promotional expenses to Yellow and White Pages in proportion to their respective advertising revenues (90.4% Yellow Pages, 9.6% White Pages);
- 2) Divide delivery on a 50/50 basis on the assumption that there are about equal amounts of Yellow and White Pages delivered -- this is substantiated by paper costs which are nearly identical for the two when one

Table 2.1

NEW YORK TELEPHONE COMPANY

DETAIL OF PREPAID DIRECTORY EXPENSES AND
DIRECTORY ADVERTISING AND SALES REVENUES

| | | | | | DECEMBER 1980 |
|---|------------|-----------------------|-------------------|--------------------------|---------------|
| 1 | (A) | (B) | (C) | (D) | |
| DIRECTORY EXPENSE (132) SUBACCOUNT | This Month | This Quarter | This Year To Date | Latest 12 Months to Date | |
| 1 Balance at Beginning of Period | 59,150,740 | | * 56,329,090 | | 1 |
| 2 Premise Salespersons' Salaries (111) | | | | | 2 |
| 3 Telephone Salespersons' Salaries (112) | | | | | 3 |
| 4 Clerical Salaries (115) | 2,923 | 8,621 | 30,735 | 30,735 | 4 |
| 5 Supervision Salaries (116) | 22,804 | 62,111 | 207,524 | 207,524 | 5 |
| 6 Total Local Sales Salaries (110) | 25,728 | 70,732 | 238,259 | 238,259 | 6 |
| 7 Premise Salespersons' Commissions (121) | | | | | 7 |
| 8 Telephone Salespersons' Commissions (122) | | | | | 8 |
| 9 Total Local Sales Commissions (120) | | | | | 9 |
| 10 Travel Expenses (130) | | | | | 10 |
| 11 Motor Vehicle Expenses (140) | | | | | 11 |
| 12 Data Processing Expenses (150) | | | 40 | 40 | 12 |
| 13 Sales Agency Expense (180) | 5,439,698 | 12,307,112 | 33,522,752 | 33,522,752 | 13 |
| 14 Other Expenses (190) | 3,285 | 11,320 | 60,249 | 60,249 | 14 |
| 5 Total Local Sales (132-100) | 5,468,711 | 12,389,165 | 33,581,301 | 33,581,301 | 15 |
| 16 Salespersons' Salaries (211) | | | | | 16 |
| 17 Clerical Salaries (215) | 1,582 | 4,535 | 17,661 | 17,661 | 17 |
| 18 Supervision Salaries (216) | 4,391 | 12,710 | 66,964 | 66,964 | 18 |
| 19 Total NYPS Salaries (210) | 5,974 | 17,245 | 84,625 | 84,625 | 19 |
| 20 Other Expenses (290) | 1,877 | 15,224 | 115,651 | 115,651 | 20 |
| 21 Total NYPS (132-200) | 7,852 | 32,470 | 200,277 | 200,277 | 21 |
| 22 Clerical Salaries (315) | | | 7,450 | 7,450 | 22 |
| 23 Supervision Salaries (316) | 906 | 2,085 | 28,373 | 28,373 | 23 |
| 24 Total Promotion and Publicity Salaries (310) | 906 | 2,085 | 35,824 | 35,824 | 24 |
| 25 Promotional Expenses (330) | 11,633 | 16,532 | 56,161 | 56,161 | 25 |
| 26 Local Publicity Expenses (340) | 134,614 | 491,166 | 586,400 | 586,400 | 26 |
| 27 National Publicity Expenses (350) | 124,718 | 236,297 | 516,051 | 516,051 | 27 |
| 28 Other Expenses (390) | 45 | 60 | 5,614 | 5,614 | 28 |
| Total Sales Promotion and Publicity (132-300) | 271,918 | 746,142 | 1,200,053 | 1,200,053 | 29 |

*Line 1 reflects elimination of 12/31/79 balance in Account 132-710 in the amount \$429,796

DETAIL OF PREPAID DIRECTORY EXPENSES AND
DIRECTORY ADVERTISING AND SALES REVENUES

DECEMBER 1980

| DIRECTORY EXPENSE (132) SUBACCOUNT | | (A) This Month | (B) This Quarter | (C) This Year To Date | (D) Latest 12 Months to Date | |
|------------------------------------|--|-------------------|---------------------|-----------------------------|------------------------------------|----|
| 1 | Contract Photocomposition Expenses (414) | | | 218 | 218 | 1 |
| 2 | Clerical Salaries (415) | 138,829 | 377,513 | 1,594,350 | 1,594,350 | 2 |
| 3 | Supervision Salaries (416) | 58,535 | 168,318 | 1,019,529 | 1,019,529 | 3 |
| 4 | Total Alphabetical Production Salaries (415-416) | 197,365 | 545,832 | 2,613,879 | 2,613,879 | 4 |
| 5 | Data Processing Expenses (418) | 463,875 | 1,165,040 | 2,602,242 | 2,602,242 | 5 |
| 6 | Other Expenses (419) | 74,716 | 191,770 | 444,312 | 444,312 | 6 |
| 7 | Total Alphabetical Production (410) | 735,957 | 1,902,643 | 5,660,653 | 5,660,653 | 7 |
| 8 | Finished Art Work (433) | | | | | 8 |
| 9 | Contract Photocomposition Expenses (434) | 1,095,953 | 2,710,618 | 9,251,144 | 9,251,144 | 9 |
| 10 | Clerical Salaries (435) | 116,357 | 338,213 | 1,398,158 | 1,398,158 | 10 |
| 11 | Supervision Salaries (436) | 40,350 | 113,340 | 628,124 | 628,124 | 11 |
| 12 | Total Classified Production Salaries (435-436) | 156,708 | 452,054 | 2,026,283 | 2,026,283 | 12 |
| 13 | Data Processing Expenses (439) | 74,913 | 216 | 877,156 | 877,156 | 13 |
| 14 | Other Expenses (439) | 36,304 | 98 5 | 546,489 | 546,489 | 14 |
| 15 | Total Classified Production (430) | 1,363,879 | 3,486 65 | 12,701,073 | 12,701,073 | 15 |
| 16 | Total Directory Production (132-400) | 2,099,837 | 5,388,909 | 18,361,727 | 18,361,727 | 16 |
| 17 | Contract Typesetting and Composition Expenses (521) .. | 6,929 | 20,602 | 97,516 | 97,516 | 17 |
| 18 | Contract Photocomposition Expenses (524) | 1,961 | 9,579 | 28,866 | 28,866 | 18 |
| 19 | Paper (527) | 646,245 | 1,485,332 | 6,424,079 | 6,424,079 | 19 |
| 20 | Printing Expenses (528) | 469,140 | 945,650 | 3,773,890 | 3,773,890 | 20 |
| 21 | Total Alphabetical Manufacturing (520) | 1,124,277 | 2,461,164 | 10,324,351 | 10,324,351 | 21 |
| 22 | Contract Typesetting and Composition Expenses (531) .. | 12,238 | 48,512 | 149,130 | 149,130 | 22 |
| 23 | Contract Photocomposition Expenses (534) | 4,388 | 19,162 | 44,713 | 44,713 | 23 |
| 24 | Paper (537) | 880,088 | 1,533,679 | 7,151,088 | 7,151,088 | 24 |
| 25 | Printing Expenses (538) | 624,630 | 1,038,687 | 4,527,336 | 4,527,336 | 25 |
| 26 | Total Classified Manufacturing (530) | 1,521,346 | 2,640,042 | 11,872,268 | 11,872,268 | 26 |
| | Total Directory Manufacturing (132-500) | 2,645,623 | 5,101,206 | 22,196,620 | 22,196,620 | 27 |

**DETAIL OF PREPAID DIRECTORY EXPENSES AND
DIRECTORY ADVERTISING AND SALES REVENUES**

DECEMBER 1980

| DIRECTORY EXPENSE (132) SUBACCOUNT | | (a) This Month | (b) This Quarter | (c) This Year To Date | (d) Latest 12 Months to Date |
|------------------------------------|---|-------------------|---------------------|-----------------------------|------------------------------------|
| 1 | Clerical Salaries (615) | 7,687 | 21,752 | 120,922 | 120,922 |
| 2 | Supervision Salaries (616) | 17,326 | 49,908 | 238,213 | 238,213 |
| 3 | Total Delivery Salaries (615-616) | 25,014 | 71,660 | 359,135 | 359,135 |
| 4 | Data Processing Expenses (618) | 26,731 | 72,503 | 263,874 | 263,874 |
| 5 | Other Expenses (619) | 31,345 | 104,071 | 197,596 | 197,596 |
| 6 | Total Local Delivery Expenses (610) | 83,091 | 248,235 | 820,606 | 820,606 |
| 7 | Initial Delivery (631) | 50,017 | 427,603 | 2,204,593 | 2,204,593 |
| 8 | Replacement and Recovery (634) | 78,738 | 241,563 | 960,609 | 960,609 |
| 9 | Total Contract Delivery Expenses (630) | 128,755 | 669,166 | 3,165,203 | 3,165,203 |
| 10 | Total Delivery (132-600) | 211,846 | 917,402 | 3,985,809 | 3,985,809 |
| 11 | Salaries-Address Tel. Directories (721) | 12,089 | 41,412 | 143,374 | 143,374 |
| 12 | Other Expenses (729) | 6,182 | 46,544 | 186,761 | 186,761 |
| 13 | Total Address Telephone Directories (720) | 18,272 | 87,956 | 330,136 | 330,136 |
| 14 | Salaries-Special No. Services (731) | | | (100) | (100) |
| 5 | Other Expenses (739) | 21,171 | 21,341 | 84,336 | 84,336 |
| 16 | Special Number Services (730) | 21,171 | 21,341 | 84,336 | 84,336 |
| 17 | Contract Processing and Distributing (741) | 314,364 | 949,503 | 3,619,367 | 3,619,367 |
| 18 | Printing and Binding (742) | 165,456 | 274,782 | 1,401,807 | 1,401,807 |
| 19 | Purchase of Directories from Non-Bell Co.'s (743) | 96,298 | 117,156 | 354,208 | 354,208 |
| 20 | Purch. of Directories from Bell Co.'s (744) | | | | |
| 21 | Receipt from Sales to Bell Co.'s - Cr (745) | | | | |
| 22 | Salaries (746) | 17,126 | 50,001 | 174,571 | 174,571 |
| 7 | Paper (748) | 319,884 | 491,544 | 2,882,651 | 2,882,651 |
| 7 | Other Expenses (749) | 13,469 | 25,864 | 36,286 | 36,286 |
| 24 | Total Foreign Directories (740) | 926,619 | 1,908,853 | 8,468,892 | 8,468,892 |
| 28 | Total Other Number Services (132-700)* | 967,063 | 2,018,151 | 8,883,265 | 8,883,265 |

() Denotes Negative Amount

* Column (D) Excludes Amounts Previously Reported in 132-710.

NEW YORK TELEPHONE COMPANY

DETAIL OF PREPAID DIRECTORY EXPENSES AND
DIRECTORY ADVERTISING AND SALES REVENUES

DECEMBER 1980

| DIRECTORY EXPENSE (132) SUBACCOUNT | | (A) This Month | (B) This Quarter | (C) This Year To Date | (D) Latest 12 Months to Date |
|------------------------------------|---|-------------------|---------------------------------|-----------------------------|------------------------------------|
| 1 | Clerical Salaries (850) | | | 15,671 | 15,671 |
| 2 | Supervision Salaries (860) | 1,429 | 2,016 | 477,895 | 477,895 |
| 3 | Total Mechanization Salaries (850-860) | 1,429 | 2,016 | 493,566 | 493,566 |
| 4 | Data Processing Expenses (880) | 96,072 | 266,756 | 777,366 | 777,386 |
| 5 | Other Expenses (890) | 6,442 | (18,569) | 95,877 | 95,877 |
| 6 | Total Directory Mechanization (132-800) | 103,944 | 250,203 | 1,366,931 | 1,366,831 |
| 7 | Production and Delivery Training Salaries (912) | 11,275 | 31,685 | 100,850 | 100,850 |
| 8 | Sales Training Salaries (914) | | | | |
| 9 | Other Expenses (919) | 448 | 1,552 | 10,102 | 10,102 |
| 10 | Total Training (910) | 11,723 | 33,237 | 110,953 | 110,953 |
| 11 | Clerical Salaries (945) | 33,449 | 96,860 | 398,166 | 398,166 |
| 12 | Supervision Salaries (946) | 145,813 | 424,610 | 1,702,122 | 1,702,122 |
| 13 | Other Expenses (949) | 81,510 | 269,540 | 885,398 | 885,398 |
| 14 | Total Other Support and General Admin. (940) | 260,773 | 791,012 | 2,985,688 | 2,985,688 |
| 15 | Prorates From Other Departments (970) | 165,054 | 310,443 | 1,533,327 | 1,533,327 |
| 16 | Total General Admin. and Support (132-900) | 437,550 | 1,134,693 | 4,629,969 | 4,629,969 |
| 17 | Prepaid Directory Expenses (132) | 12,214,348 | 27,978,345 | 94,645,856 | 94,645,856 |
| 18 | Directory Expenses Cleared (649) | 7,701,001 | 22,995,682 | 87,310,859 | 87,310,859 |
| 19 | Balance at end of Period | 63,664,087 | | 63,664,087 | |
| 20 | Local White Pages Advertising (523-01) | 1,119,906 | 3,254,547 | 12,745,588 | 12,745,588 |
| 21 | Local Yellow Pages Advertising (523-02) | 10,515,440 | 35,777,912 | 120,329,033 | 120,329,033 |
| 22 | NYPS Advertising (523-03) | 1,082,510 | 3,400,843 | 12,625,847 | 12,625,847 |
| 23 | NYPS Selling Company Commissions (523-05) | | | | |
| 24 | Lease of Street Address Directories (523-07) | 43,950 | 132,836 | 517,142 | 517,142 |
| 25 | Sale of Directories (523-08) | 17,323 | 27,131 | 103,849 | 103,849 |
| 26 | Other Directory Revenues (523-09) | 76 | 4,156 | 17,793 | 17,793 |
| 27 | Total Directory Revenues (523) | 12,780,006 | 42,597,427 | 146,339,254 | 146,339,254 |

Date Issued: JANUARY 26, 1981

R.J. ECKENRODE
VICE PRESIDENT AND COMPTROLLER

Table 2.2

New York Telephone 1980
The Make/Buy Decision: White Pages vs. Yellow Pages

| Cost Categories | Yellow Pages | | | White Pages | | | | |
|-------------------|--------------|---------|------------|-------------|-----------|---------|------------|---------|
| | Make | % Total | Buy | % Total | Make | % Total | Buy | % Total |
| Local Sales* | 215,386 | .35 | 30,304,568 | 49.23 | 22,873 | 1 | 3,218,184 | 14.25 |
| NYPs ⁺ | 84,625 | .14 | 115,651 | .19 | - | - | - | - |
| Promotion** | 88,229 | .14 | 996,615 | 1.62 | 9,370 | .04 | 105,835 | .47 |
| Production | 3,449,928 | 5.60 | 9,251,144 | 15.03 | 5,660,435 | 25.06 | 126,600 | .56 |
| Paper | - | - | 7,151,088 | 11.62 | - | - | 6,424,079 | 28.44 |
| Printing | - | - | 4,527,336 | 7.35 | - | - | 3,773,890 | 16.71 |
| Delivery** | 410,303 | .67 | 1,582,602 | 2.57 | 410,303 | 1.82 | 1,582,602 | 7.01 |
| G&A*** | 3,379,877 | 5.49 | - | - | 1,250,092 | 5.54 | - | - |
| Subtotal Costs | 7,628,348 | 12.39 | 53,929,004 | 87.61 | 7,353,073 | 32.56 | 15,231,190 | 67.44 |

Grand Total Costs 61,557,352

Cost ÷ Revenues 177%

46%

⁺NYPs revenues appear to be net of commissions
^{*}Yellow Pages revenue ÷ (Yellow Pages Revenue + White Pages Advertising Revenue) = 90.4%
^{**}Assume 50% of Total Delivery Costs = Yellow Pages Delivery Costs
^{***}Allocate G&A as the Ratio of Yellow Pages and White Pages Costs to Total Costs ⇒ Yellow Pages, 73%, White Pages

adjusts for the slightly higher cost of Yellow versus White uncoated ground wood;

- 3) Allocate general and administrative costs in proportion to the direct costs (73%, 27%) of Yellow versus White Pages.

We can gain a number of insights from Table 2.2. Note, for example, that:

- . The Yellow Pages is an extremely sales intensive business with local sales expenses accounting for nearly 50% of total costs.
- . At New York Telephone, a higher percentage of White Pages work is carried out in-house. In the "production" category (where I have aggregated several budget lines, including composition and typesetting, data processing, etc.), approximately 27% of Yellow Pages expenses are in-house while about 93% of White Pages production expenses are in-house. In all, nearly 88% of all Yellow Pages costs are "bought" rather than "made."
- . The directory business, not surprisingly, is "information intensive," that is, the preponderance of costs are for gathering,

manipulating, storing, and displaying information rather than for handling physical goods. But, the Yellow Pages, even with its much more complex physical production process (composition, etc.), is significantly more information intensive than the White Pages, that is, "materials" costs -- contract production, paper and printing, and delivery -- account for 36% of Yellow Pages costs and 53% of White Pages costs. Were we to consider contract "production" (composition, typesetting, etc.) an information activity, then "materials" still accounts for 53% of White Pages, but only 22% of Yellow Pages costs.

The Form SN994 is an accounting document and the standard accounting conventions used to compile it may distort the real cost structure of the industry. For example, the SN994 reflects only direct out-of-pocket expenses. There is a relatively small "General and Administrative" category, but overhead expenses (e.g., for rent in company-owned buildings) are not reflected nor are loadings on salaries (fringe benefits, payroll taxes, etc.). David

Wibbelsman, Vice President for Directory at New York Telephone, has indicated that these loadings account for an additional 35% to 40% of personnel expenses. The SN994 also appears to report national advertising (National Yellow Pages Service or NYPS) net of commissions. This both understates the total volume of income from the national portion of the business and the costs associated with national advertising sales. To rectify these systematic distortions in the SN994, I make the following assumptions:

- 1) Real in-house expenses, including overhead and salary loadings, are 100% higher than those reflected in the SN994.
- 2) Gross NYPS income, including a 25% commission, was approximately \$17 million as opposed to the \$12.6 million reported on the SN994.

As we can see from Table 2.3, even under these not inconsiderable corrections, the structure of costs is not appreciably different. In-house expenses are now around 20%, up from 13% in Table 2.2, and information-related out-of-house costs are down from 66% to 61%, but producing the Yellow Pages is still overwhelmingly dominated by purchased information-related services. Under the new assumption,

Table 2.3

Adjusted Yellow Pages Revenues And Costs

| | Old Based On SN994 % | New Based On New Assumption % |
|--------------------------|-------------------------------|--|
| Revenue | | |
| Local | 90.5 | 87.7 |
| National | 9.5 | 12.3 |
| Costs | | |
| Make | | |
| *Information- Related | 6.9 | 10.8 |
| G&A | 5.5 | 9.2 |
| Buy | | |
| *Information- Related | 66.1 | 61.0 |
| **Materials- Related | 21.5 | 19.0 |

*Information-Related Expenses: Sales, Promotion, Production

**Materials-Related Expenses: Paper, Printing, Delivery

materials-related expenses are reduced to a mere 19% of total costs.

The adjusted figures of the second column of Table 2.3 are probably a more accurate reflection of real costs than either the highly detailed SN994 or my summary aggregation in Table 2.2. Still, some uncertainty about cost structure remains. My analysis accounts for 86% of the costs in the SN994; expenses for "Directory Mechanization," 1.9%; and "Other Number Services," 12.2%, are not reflected in any of these analyses because the former appears to be a long term capital expense rather than a recurring yearly cost and the latter has to do with directory assistance or other services not immediately concerned with telephone book production. These omissions would not appear to misrepresent true directory costs. But, how much of the cost of data base maintenance, e.g., lines 415, 416 and 418, are appropriately allocated to the Yellow Pages in SN994, I cannot say. The service order information is a vital Yellow Pages input and the extent to which the costs of collecting and maintaining that information are expensed exclusively against White Pages, the real costs of Yellow Pages are understated.

2.4.2. A Comparative Perspective

I propose now to put our (admittedly imperfect) understanding of the Yellow Pages cost structure into perspective. First, I will briefly compare Yellow Pages costs with costs in the newspaper industry. Second, I will examine the nature of marketing expenses in the Yellow Pages industry and see how the magnitude of those expenses compares with marketing costs in some other industries.

Tables 2.4 and 2.5 are summary comparisons of the cost structures of the newspaper and Yellow Pages industries. Because different accounting conventions prevail in the two industries, e.g., with respect to the names of the cost categories and the modes of cost allocations, I suggest that the reader attend to the gross structural differences between the two industries. For example, it is clear that the costs of buying, processing and delivering paper dominate in the newspaper industry, while such "materials-related" expenses play only a relatively minor role in the Yellow Pages industry where selling accounts for nearly half of all costs. In a similar vein, note that in the aggregate, newspapers internalize costs of production while Yellow Pages publishers, as exemplified by New York Telephone, have the choice to job out the lion's share of the

Table 2.4

Yellow Pages And Newspaper Revenues
And Costs Structures

| | Newspapers* % | Yellow Pages** % |
|--------------------------------|------------------|---------------------|
| <u>% of Total Revenues</u> | | |
| Display Local | 43.3 | - |
| Display National | 5.1 | - |
| Classified Local | 23.1 | 87.7 |
| Classified National | - | 12.3 |
| Other | .05 | - |
| Circulation | 22.8 | - |
| <u>% of Total Expenses</u> | | |
| Editorial | 11.4 | - |
| Production/Information-Related | - | 22.1 |
| Production/Printing | 12.3 | 6.2 |
| Paper and Ink | 36.6 | 9.8 |
| Advertising/Promotion | 2.0*** | 1.5 |
| Delivery (Circulation) | 11.0 | 2.7 |
| Sales | 6.6 | 47.0 |
| G&A and Other | 20.1 | 10.7 |

Sources: *Compaine, 1980 data for 1978
 **N.Y. Telephone, SN994 data for 1980
 ***Notional figure based on conversation with Ben Compaine

Table 2.5

Yellow Pages And Newspaper Costs Compared:
Make/Buy, Materials/Information

Newspaper

| | Make % | Buy % | |
|---------------|--------|-------|------|
| Information % | 38.1 | 2.0 | 40.1 |
| Materials % | 23.3 | 36.6 | 59.9 |
| | 61.4 | 38.6 | |

Yellow Pages

| | Make % | Buy % | |
|---------------|--------|-------|------|
| Information % | 32.8 | 48.5 | 81.3 |
| Materials % | - | 18.7 | 18.7 |
| | 32.8 | 67.2 | |

Source: Data Recast From Table 2.4

costs by way of contractual arrangements with service suppliers.^[9]

Since marketing costs -- advertising, promotion and sales expenditures -- are such an important component of total Yellow Pages costs, it will be enlightening to put them into comparative perspective. Bell sources indicate that advertising expenses for or of (as opposed to in) the Yellow Pages on a local and national level amounted to between \$38 to \$40 million in 1982, a not insignificant sum. Such advertising has three targets. Large service providers -- L. M. Berry, R. H. Donnelley, Volt, etc. -- advertise to the trade, especially the independent telephone industry, to build their wholesale business. Likewise, the Bell System and the National Yellow Pages Service Association, the publishers' trade group, advertise in Ad Age and Media & Marketing Decisions to reach large national advertisers and their agencies. Finally, and I think most interestingly, publishers use consumer media -- T.V., radio, mass circulation magazines -- to carry two sets of messages, one to potential advertisers and the other to prospective Yellow Pages users. Edward Hancharik indicates that the walking fingers emblem and slogan have unaided recall of 85% or better, making this the most familiar and recognized logo in the United States. Experimentation has

shown that increasing and decreasing the amount of Yellow Pages mass media advertising has some marginal effect on recall and recognition, but no measurable effect on directory use. Mass media advertising, then, is essentially aimed at enhancing the corporate image rather than at selling Yellow Pages use, and advertising ostensibly aimed at the Yellow Pages user is really being used to reassure the Yellow Pages advertiser that his money was well spent. Bell's Yellow Pages advertising amounts to about 1.3% of sales or 2.8% margin. Table 2.6 puts these numbers into perspective. While Yellow Pages advertising is not the lowest in the publishing, printing, information-related industries listed in the Table, neither is it the highest or, in any way, extraordinary.

Now, let us see how cost of sales in the Yellow Pages compare with those in other industries. Sales and Marketing Management magazine compiles figures on both "Sales Force Selling Expenses" (consisting of sales force compensation and expenses) and "Total Selling Expenses" (median compensation of sales people and sales management, travel and expenses, advertising and promotion) as percentages of company sales across major industries. Mean total selling expenses as a percent of company sales across a range of five consumer goods and 16 industrial goods industries was

Table 2.6

Advertising And Promotion As A Percent Of Sales
And Margin In Communication, Publishing, And Related
Industries

| <u>Industry</u> | <u>SIC</u> | <u>% Sales</u> | <u>% Margin</u> |
|---|------------|----------------|-----------------|
| Printing Publishing and Allied | 2700 | .4 | 1.6 |
| Newspapers:Publishing-Printing | 2711 | 1.6 | 4.4 |
| Periodicals:Publishing-Printing | 2721 | 4.7 | 13.0 |
| Books:Publishing-Printing | 2731 | 4.6 | 8.5 |
| Telephone Communication | 4811 | .3 | .6 |
| Radio-T.V. Broadcasters | 4830 | 3.5 | 8.7 |
| Communication Services NEC | 4890 | 1.0 | 2.1 |
| Services: Advertising Agencies | 7311 | .3 | 2.2 |
| Services: Computers and Data Processing | 7370 | .9 | 2.6 |
| Yellow Pages | 7319 | 1.3* | 2.8 |

Source: Schonfeld & Associates in Advertising Age, August 17, 1981, data for 1980

*Source: AT&T and Analysis data for 1982

5.1% (standard deviation 3.4) in 1980. New York Telephone's 1980 selling costs were around 24% of sales, based on the SN994, or around 27% of sales based on the revised assumptions. This is nearly double the highest marketing cost for any other industry listed in Sales & Marketing Management. Put differently, based on the mean and standard deviation of the 1980 sales expenses distribution reported in Sales & Marketing Management, the Yellow Pages selling cost Z-score was 6.4.

New York Telephone uses R. H. Donnelley, in effect a manufacturer's representative, to sell its advertising. The average manufacturer's representatives' commission reported in Sales & Marketing Management was just over 7% of sales. Representatives of publishers, though, had a median commission rate of 20%, thus, while Yellow Pages selling costs are high, they are not quite as spectacular when compared with other publishing industry manufacturers' representatives' commissions. But, telephone companies that do their own selling -- e.g., Pacific Telephone -- have similarly high selling costs.

In all, the Yellow Pages industry spends modestly for advertising and heroically for selling. But, unlike most industries in the Yellow Pages, the salesman is intimately involved in the production process. In the process of

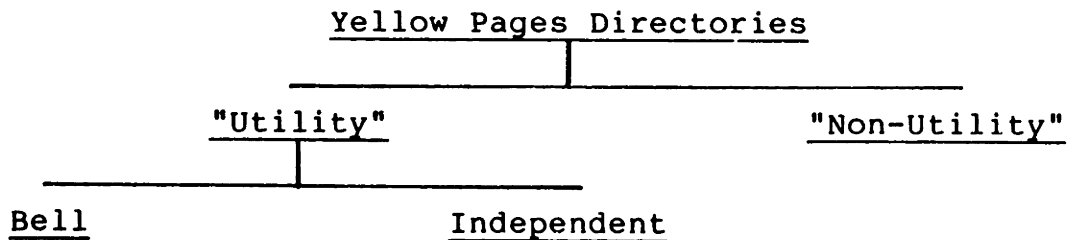
selling the ad, the salesman works with the client to create a layout and to develop copy. The salesman not only sells space, he is instrumental in creating the information that will go into the book.

FOOTNOTES
(CHAPTER 2)

[1] The listing is "free" to the extent that no extra fee is charged for it. The cost of a Yellow Pages listing can be seen as "bundled" into the business telephone monthly service charge. Business subscribers may elect not to publish their Yellow Pages listing. Businesses can, for the most part, decide on the heading under which they want to be listed although the publisher maintains ultimate discretion over how to categorize a business. Special attention is paid to the professional headings -- doctors, lawyers, dentists and the like -- to assure that subscribers listing under these headings are what they claim to be. Some publishers of independent ("non-utility") directories provide listings only to paid advertisers.

[2] Service orders can include such things as moving an outlet or installing a new extension. New England Telephone processes approximately 50,000 service orders of various kinds each day, of these, some 10,000 (20%) are directory-effecting.

[3] The following is a simple typology of Yellow Pages directories.



To distinguish between directories published by "Independent," i.e., non-Bell telephone utilities (GTE, Continental, United, etc.) and those "proprietary" directories published by entrepreneurs unrelated to telephone utilities, I have adopted the term of art used by the Association of North American Directory Publishers. A "utility" directory is one published by (or for) either

a Bell or an Independent telephone utility. A "non-utility" directory is one published by anyone else.

[4] The situation, with respect to termination of service for nonpayment of directory charges, is a bit more complex than it appears. It is not legal, at least in most states it seems, to interrupt phone service for nonpayment of directory advertising bills. On the other hand, if a delinquent advertiser can be convinced to make a commitment to pay "x" amount per month towards his overdue bill and then he fails to meet his commitment, his phone may be cut off. For instance, say Sam agrees to pay \$50 toward his advertising bill. His next phone bill comes: \$200 for telephone service and \$50 for advertising. He pays \$240, but of that, \$50 is dedicated to advertising. Thus, he is in arrears \$10 on his phone bill. Service can be terminated for this delinquency. This gives the phone company enormous leverage. On the other hand, disreputable small business operators can take advantage of the 12-month payment plan as follows. A fly-by-night contractor may take out a full page ad, pay for two or three months and build up enough of a business backlog to "go out of business" and lose his phone for five or six months. Then, just before the new directory comes out, he opens under a new name with a new full page ad, etc.

[5] This slightly understates the actual level of artistic activity because an additional cadre of free-lance artists are employed on an hourly basis to execute the more complex or time consuming layouts. A customer may provide his own art work in which case the art department's only responsibility is to produce a camera-ready screen or velox.

[6] Note: The system represented in Figure 2.1 is highly abstracted and simplified and as such represents no particular publishing system, but rather a generic type. I would like to express my thanks to Jon Notestien for his time and patience.

[7] This same catchy headline was used by Business Week to describe the newspaper publishers' reaction to electronic Yellow Pages ("Yellow Pages on TV: Newspapers See Red," April 6, 1981, p. 38).

- [8] The Directory Scope Analysis Program was seen first and foremost as a means of designing "more useful and less expensive telephone directories" (Chen & McCallum, 1977). Cost control, i.e., of paper, printing and directory assistance calls, was clearly the motivation for the original Bell Labs scoping work in the mid-1960s. By the mid-1970s, it was clear that scoping had important revenue implications as well. Still, the Management Scientists who developed DSAP continued as late as 1977 to see scoping as fundamentally a cost optimization problem. The revenue generation possibilities are cast as "an additional benefit." (Cf., Chen & McCallum, 1977.)
- [9] My guess, and it is only a guess, is that the shopper guide newspapers that consist entirely of classified advertising, have a cost structure that is intermediate between newspapers and Yellow Pages. They have no editorial content and probably higher selling costs than conventional daily newspapers but paper, printing and delivery costs must be much higher than in the Yellow Pages.

3. LAY REFERENCE BEHAVIOR

3.1. INTRODUCTION

The purpose of this chapter is to set out a context in which to frame using the Yellow Pages. That context, or framework, consists of four elements. First, I need to situate the examination of Yellow Pages use within the context of the research literature on media and information use. Next, I need to define a theoretical category of which using the Yellow Pages is an instance. The third element is empirical, that is, in order to frame Yellow Pages use as an instance of a larger category, I need to establish some preliminary base line measures of under what circumstances, how much of this category of activity takes place.^[1] A fourth and final element of the context of Yellow Pages use is my rather speculative and sketchy portrait of the lay reference user.

In developing these contextual elements, I begin with a literature review (3.2.1) in which I show that very little has been written about the kind of information-seeking behavior that is characteristic of Yellow Pages use. In the second section (3.2.2), I define lay reference and indicate how it is that the scholarly corpus has so little to say about it. In the third section (3.2.3), I discuss the

available data sources that allow us, in a very preliminary fashion, to characterize its frequency, context, and importance.

In the following section (3.3), I present what I have been able to learn about the incidence of reference in four media or media/activity contexts: use of reference book, use of instructions and how-to-guides, readership of reference materials in the newspaper and use of other, miscellaneous, printed materials. My objective in this section is to summarize all data of which I am aware about reference activity. This omnibus presentation is not in support of an argument, rather it is to provide to the reader some order of magnitude estimates of how much lay reference activity takes place. Using two simple estimation models, I present a quantitative summary of time spent on reference (3.4.1). I next consider the "importance" of reference (3.4.2), as reported by both survey respondents and a panel of experts. The survey responses lead me to believe that the perception of a particular reference activity's importance is inversely proportional to its popularity. The same "the more the less" relationship of popularity and importance obtains among other reading activities, but not as strongly.

Next (3.4.3), I attempt, inferentially, to characterize the reference user. Since a heavy reference user appears to be a heavy book reader, I propose that we can get some idea of the life-style of the frequent reference user by examining that of the heavy book reader and the library user. We shall see, in Chapter 4, that the profiles of the heavy book reader, frequent library user, the frequent reference user, and the frequent Yellow Pages user are all very congruent. I close this chapter with a brief summary.

3.2. SITUATING YELLOW PAGES USE

3.2.1. A Literature Review

How does using the Yellow Pages relate to other kinds of information use behavior? What other activities is Yellow Pages use like, in what respects? Behavioral scientists have for years studied people's media use habits^[2] and recently the "uses and gratifications" perspective has concentrated on how and why individuals make the media choices they do and what benefits (or gratifications) they enjoyed from their choices.

In his review article, "Psychological Motives and Communication Gratification," McGuire (1974) summarizes the range of kinds of motivations/gratifications that might underpin communications use. The 16 cells of his Table 1 (my Table 3.1) result from four dichotomous dimensions ($2^4 = 16$): Active/Passive, Internal/External, Cognitive/Affective, Preservation/Growth. The table is, typically for McGuire, parsimonious and elegant: a few simple dimensions span and define a mutually exclusive set of motivations in an exhaustive property space. But, none of the motivation paradigms speaks to using the Yellow Pages. That is, while the universe of interest (to and the uses and gratifications approach) is covered, Yellow Pages use seems not to

Table 3.1
A Structuring Of 16 General Paradigms Of Human Motivation

| Mode | Initiation | Active | | | | Passive | |
|-----------|--------------|----------------------|-----------------|--------------------|--------------------|----------|--|
| | | Stability | Internal | External | Internal | External | |
| Cognitive | Orientation | | | | | | |
| | Preservation | 1. Consistency | 2. Attribution | 3. Categorization | 4. Objectification | | |
| Affective | Growth | 5. Autonomy | 6. Stimulation | 7. Teleological | 8. Utilitarian | | |
| | Preservation | 9. Tension-Reduction | 10. Expressive | 11. Ego-Defensive | 12. Reinforcement | | |
| | Growth | 13. Assertion | 14. Affiliation | 15. Identification | 16. Modeling | | |
| | | | | | | | |

Source: McGuire, 1974 (Table 1)

fit into that universe. Using the Yellow Pages is somehow useful, but the "Utilitarian" Cell (#8) of McGuire's typology which entails a passive initiation does not address the decidedly active task of looking something up in the directory. Neither does "Stimulation" (Cell 6) suggest an adequate or even believable rationale for Yellow Pages use. (Can we imagine anyone saying that the reason he used the Yellow Pages yesterday was for "stimulation?") The very notion of "gratification" from using the phone book is vaguely comical.

The incongruity between a notion (deep seated) of psychological motivations and telephone book use flows, I think, from our intuition that it requires no penetrating analysis to explain why it is that a person would use the Yellow Pages. It is intuitively obvious that a person picks up the Yellow Pages to locate some very specific, timely information. Whatever kind-of-a-thing Yellow Pages use is, it would seem to fall outside of the ambit of uses and gratifications studies.

Is there, then, another literature, a different approach that might prove more fruitful of insights? Starting in the late 1940s (at about the same time as the perspective which came to be known as "uses and gratifications") communications researchers and information

scientists began to study "information needs and uses." While the communications researchers involved in the examination of "uses and gratifications" were concerned with the mass public as an audience, information needs and use studies focused, from their inception, on the scientific and technical professions.^[3] By the early 1960s there was a sizeable body of empirical investigations of information needs and uses.^[4]

The information needs and uses literature remains largely bound up with studies of science and technology. Where the lay public is the object of interest, it is treated in terms of public libraries, or governmental information and referral services, or the "potential" of little used, exotic, on-line systems. Checking the standard sources in the field (e.g., Library Literature, Information Science Abstracts, Proceedings of the Association for Information Science Proceedings, and the like) from 1975 to 1981, I found something under 20 citations of any interest for the present inquiry. I found not a single empirical study in this literature that touched on what people "look up" at home.

There is a body of research, closely aligned with the information needs and uses tradition that explicitly

studies information-seeking behavior.^[5] Atkin's "Instrumental Utilities and Information Seeking" is the single article in this line of research of which I am aware that most closely approaches the issue of using an information source like the Yellow Pages. Atkin briefly discusses "performance information" in terms of the need to reduce task uncertainty (i.e., the uncertainty involved in performing an assigned duty), enactment uncertainty (the uncertainty involved in implementing a voluntary activity), and communicatory uncertainty (the uncertainty involved in carrying out routine, informal, or interpersonal communication (Atkin, 1973, pp. 217-220). But, even in this one explicit discussion of the issue, performance information is a relatively minor category of analysis, treated under the broad rubric of "Behavioral adaptation" which is one of four types of adaptation studied -- the others being cognitive, affective, and defensive.

Atkin's discussion of instrumental information is much more concerned with mechanisms for maintaining cognitive consistency (selective exposure, etc.) than with the acquisition of information for everyday living.^[6] While this article (which I came upon only very late in my research) does explicitly mention the kind of information-seeking in support of a voluntary performance that is characteristic

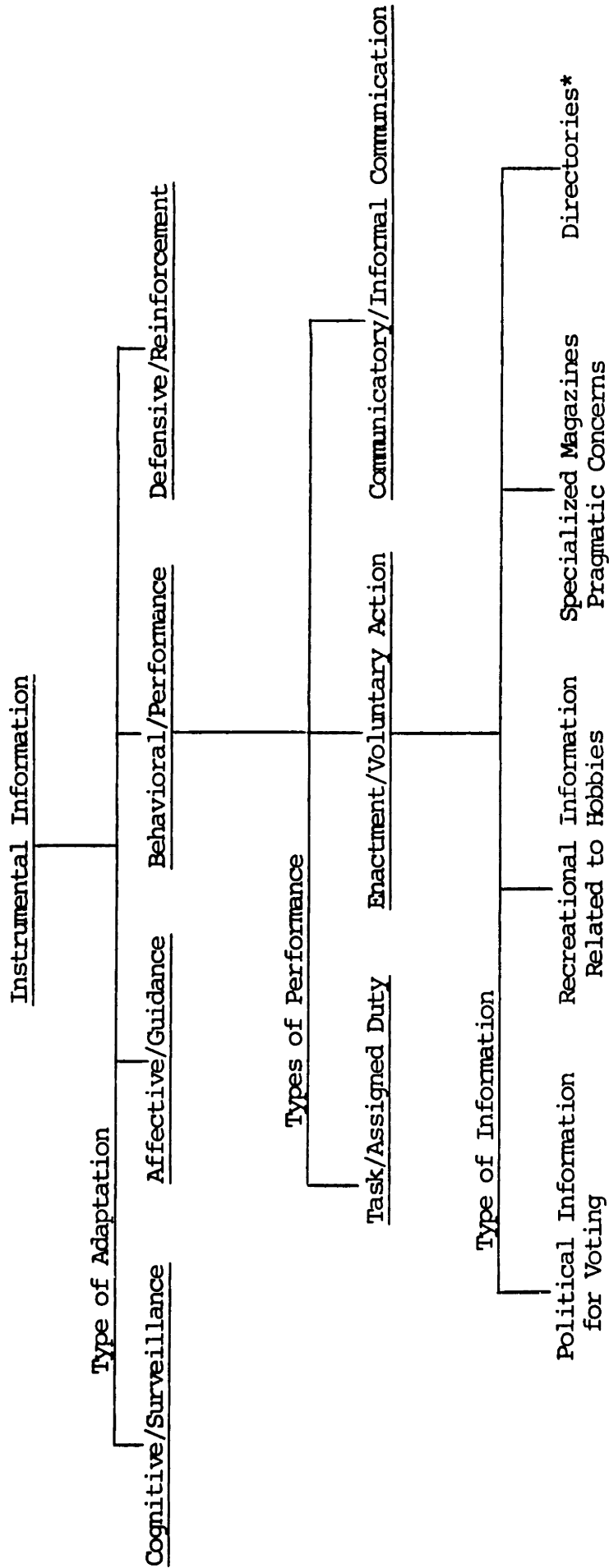
of Yellow Pages use, the mention is brief and no empirical evidence is adduced with respect to the context, frequency, or importance of such information-seeking.^[7]

Figure 3.1 reflects my understanding of the typology of instrumental information proposed by Atkin. The kind of instrumental information that would be sought and found in directories is nowhere mentioned in the article, but logically, it fits on the lowest branch, a subset of enactment information, which is a subset of performance information, which is a subset of instrumental information.^[8] The Yellow Pages is a kind of performance information source, but a very peculiar kind.

3.2.2. Reference Defined

If using the Yellow Pages is not like using the news section of the newspaper, it is something like using the classified ads. It is also something like using a dictionary, a time table, or a catalog. In all these media, use involves looking for a specific piece of information in a formal source. Moreover, the seeking of this information is almost always ancillary or intermediate to some other activity. In Atkin's terminology, these media uses involve "behavioral adaptations," more specifically, the use of "performance information" to reduce "enactment

Figure 3.1
A Typology of Instrumental Information Due to Atkin (1973)



*Note: This category is not mentioned by Atkin.

uncertainty." Using my own, I think more fortunate locution, these media uses entail "reference."

One may read a cookbook for pleasure, but one looks up the recipe for "Floating Island" or "5-Spice Pork" just in order to make "Floating Island" or "5-Spice Pork," as one looks up a word in the dictionary in order to spell it correctly and one looks up a plumber in the Yellow Pages in order to call him to come over and fix the leaking sink. One refers to a bus schedule not for the "gratification" of finding out when the bus leaves, but (generally speaking) in order to know when to catch the bus. Purposive and highly directed, offering little gratification for its own sake, "reference" is an instrumentality in the furtherance of, and ancillary to, some other primary activity. Who among the lay public looks up what and how has not been a central issue in the communications research agenda. Reference is relatively rare (people do not spend much time at it) and since it is so fundamentally ancillary to some other activity, we might well think of it as part of that other activity rather than as a distinct or theoretically interesting form of communications/information behavior. Table 3.2 presents some examples of the kinds of things to which the lay person might refer.

Table 3.2

Typical Reference Sources

Reference Books

Dictionaries
Encyclopedias
Almanacs
Books of Quotations
Thesauri
Cookbooks (for recipes)
How-To Guides and Instructional Manuals
Travel Guides
Atlases

In the Newspaper

Classified Ads
T.V. Listings
Movie Listings
Stock, Bond, Futures, Metals, etc.
(Financial) Quotations
Obituaries

Other

Lists
Timetables
Catalogs (especially as instruments rather
than as wish books)
T.V./Radio Listings (T.V. Guide or other)

Telephone Books

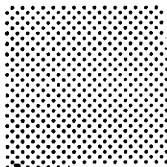
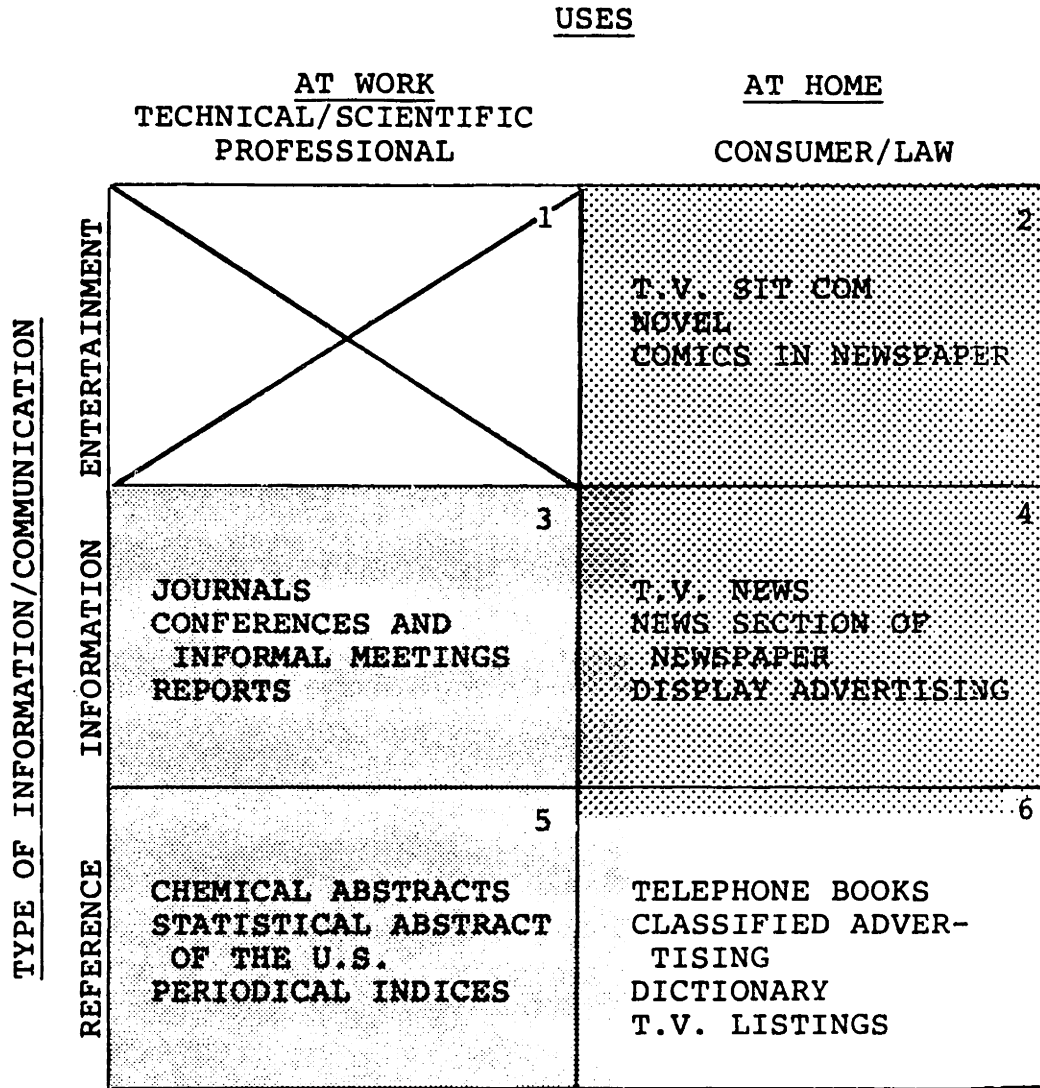
White Pages
Yellow Pages
Personal Directory (Rollodex)

In Figure 3.2, I propose a simple two dimensional representation of the information/entertainment/communications "property space." The horizontal dimension dichotomizes users or useage situations into At Work-Technical/Scientific/Professional on the one hand, and At Home-Consumer/Lay on the other. The vertical takes the standard entertainment/information dichotomy and splits it into three to reflect my interest in "reference."^[9] Overlaying the central areas of concern of "uses and gratifications" and "information needs and uses" research on my simple map clarifies why these two important traditions, which are centrally concerned with information use and which have figured so importantly in American communications and information science, have so little to tell us about reference activity. "Uses and gratifications" research treats only cells 2 and 4, and while "information needs and uses" has dealt peripherally with cells 4 and 6, it is fundamentally concerned with cells 3 and 5. Cell 6, lay reference, is simply outside the ambit of these research traditions.^[10]

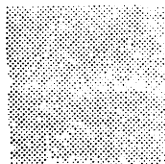
To understand Yellow Pages use we need to identify its distinctive features and one way to do that is to reflect on the respects in which Yellow Pages use is similar to or different from other forms of communications/information

Figure 3.2

Situating Lay Reference And
Communications Research



Uses and Gratifications
Studies



Information Needs and
Uses Studies

behavior. Clearly, there is a fundamental difference between a person's watching prime time network entertainment television and his looking up a plumber in the Yellow Pages. A finer and less obvious distinction is between reading the articles on the financial page and checking a specific stock quotation. (In the world of science this parallels the distinction between, say, perusing a scholarly journal and searching for a particular article in the Social Science Citation Index.) The distinctive feature of Yellow Pages use, which sets it apart from magazine reading but allies it with use of classified advertising or a dictionary, is less its commercial character (both newspaper classifieds and Yellow Pages are "commercial," a dictionary is not) than its "looking up" or reference function.

Let me define "lay reference" as a type of information use behavior of which Yellow Pages use is one important instance. First, with respect to the population of interest, I am concerned with people in their role as consumers -- not professional purchasing agents or technologists.^[11] Second, reference activity is information-seeking with the objective of finding some specific piece or pieces of data, it is not casual browsing or surveilling the environment. Third, I limit the scope of my definition to published, generally available information sources. Fourth, I am

particularly interested in direct information access, not mediated by another person (e.g., looking up a definition oneself, not calling someone else to look it up for him, although we will briefly consider telephone directory assistance). Fifth, my main concern is with reference in the home. Finally, reference, in general, entails some sort of follow-up action.

3.2.3. Identifying Sources Of Data On Lay Reference Behavior

In proposing a theoretical context within which to understand Yellow Pages use, and the use of other related information sources, I have only partially situated using the Yellow Pages. A next step is to understand the empirical context. Yellow Pages use is A Kind Of reference activity, but how much reference activity is there; who engages in it; how important is it? In this section, I review the very limited sources of data on what people look up and how much time they spend on it.

The number and use of "dial it" services is growing rapidly and some of them offer reference information (calling for the time of day is certainly a reference activity, while dialing a joke or a prayer is most certainly not.) Direct, unmediated access to reference information by way of the telephone displayed either in audio or in alpha

numeric and graphic form will become increasingly important in the future. But, for the present, reference, defined as unmediated by another person, almost necessarily entails reading. So, it is studies of reading behavior -- especially uses of time studies and readership surveys -- that might be expected to shed some light on actual lay reference behavior, that is, to begin to answer such questions as:

- Who looks up what?
- How much time (money) is spent on reference activity?
- What information sources are used? For what purposes?
- What are the demographic, psychographic, and attitudinal correlates of different levels and kinds of reference activity?
- What is the situational context of reference, that is, if reference is frequently ancillary to other activities, what is it ancillary to?
- What is the self-designate importance attributed to different reference activities? Can we calibrate these important ratings in terms of any outside, expert ratings?

Table 3.3, Sources and Contexts of Information on Reference Activity, summarizes the kinds of information available. The left hand column identifies the type of reference materials studied. The second column indicates where the data is reported. The third column specifies the kind

Table 3.3
Sources and Contexts of
Information on Reference Activity

| Type of Reference Material | Where Reported* | Type of Data Reported** | Use Context |
|---|-----------------|---------------------------------|--|
| Reference Books | | | |
| General Reference | ETS | U,T,R,V,I | Book Reading |
| Dictionaries/Thesauri | ETS/BISG | U,C,P | School/Book Reading |
| Encyclopedias | BISG | U,C,P | Book Reading |
| Facts & Figures/Trivia | BISG | U,C,P | Book Reading |
| Books of Quotations | BISG | U,C,P | Book Reading |
| Other Print Reference Materials | | | |
| Catalogs/Pamphlets | ETS | U,I,R,V,T | At School/Working Around House/Free Time |
| Lists & Schedules | ETS | U,I,R,V,T | At School/Free Time/Other |
| Maps, Timetables, Schedules | ETS | U,I,R,T | Travel |
| Telephone Books | ETS | U,I,R,V,T | Working Around House/Free Time/Other |
| T.V. Guide | Simmons | Mean Reading Days & Circulation | Magazine Mean Reading Days |
| Instructions, Manuals, and How-To Guides | | | |
| Cook Books | BISG | U,C,P | Book Reading |
| Food Prep. Instructions | ETS | U,I | Meals |
| Recipes | ETS | U,I | Working Around House |
| Instructive How-To Books | BISG | U,C,P | Book Reading |
| Instructions for Fixing, Using, etc. | ETS | U,I | Working Around House |
| Manuals & Written Instructions | ETS | U,R,V,I | Free Time/Other |
| Newspaper Reference Information | | | |
| Classified Ads | ETS/NAB | U,T,R,I | Newspaper Reading |
| T.V./Radio Listings | ETS/NAB | U,T,R,I | Newspaper Reading |
| Weather | ETS/NAB | U,T,R,I | Newspaper Reading |
| Obits | ETS/NAB | U,T,R,I | Newspaper Reading |

*Where Reported

- ETS = Educational Testing Service/U.S. Office of Education Reading Studies (1972-1973)
- BISG = Book Industry Study Group (1978)
- NAB = Newspaper Advertising Bureau (1975, 1980, 1982)

**Types of Data Reported

- U = % used = % of population that use this type of material
- T = Time = Time spent on activity
- P = Preference = Expressed "liking" for a given type of material
- R = Reason = Reason given for use
- V = Venue = Where reading took place
- I = Importance = Self-Reported importance measure
- C = Category = Use by demographic (or other) category

of information reported, from percentage of the population who uses the materials to their stated reasons, preferences, etc. (Note that not all types of data are available for each specific medium or reference source.) Finally, the right hand column indicates the context in which the measure was taken (in a few cases, e.g., "schedules," an entry is listed twice, largely because the use context and type of data collected does not allow for meaningful aggregation). As is clear from the table, the most important sources for the analysis that follows are the reports that came out of the U.S. Office of Education's sponsored Targeted Research and Development Reading Program conducted by the Educational Testing Service (ETS). A word is in order on this unique project.

In the early 1970s the U.S. Office of Education (USOE) engaged in a major research program on adult literacy. In order to operationalize the notion of "functional literacy," it was necessary to determine in some detail just what it was that Americans read, in what contexts, and for how much time. Moreover, the investigators wanted to determine how Americans judged the importance of various kinds of reading activities. Knowing very specifically what people read, for what reasons, and with what self-designated level of importance, it would be possible to

design criterion-referenced reading tests to establish base line reading levels and eventually to build a curriculum to teach functional literacy. Two of the products of the Targeted Research and Development Reading Program are Reading Activities of American Adults by Amiel T. Sharon, Educational Testing Service, December 1972, and Adult Functional Reading Study by Richard T. Murphy, Educational Testing Service, December 1973.

Reading Activities of American Adults is based on an in-depth survey of 5,067 adults aged 16 and over. The Adult Functional Reading Study details the development of a reading task inventory and includes conclusions of an expert committee on the relative importance of different kinds of reading tasks. In effect, the USOE/ETS study is a kind of combined uses of time and readership study. The study employs a 24-hour recall methodology with a significant amount of probing and directed questioning. The focus on the immediate past (questions were posed not in terms of "generally do you . . .," but rather in terms of "yesterday, when you were working around the house, did you ...") may lead to some distortion -- e.g., a person who always reads the newspaper cover to cover just happened to miss reading it "yesterday." But, the more serious sources of

error are 1) honest forgetting, and 2) "the deliberate distortion or fabrication of what was read or the amount of time spent on it." "Thus," cautions Sharon, "the interpretation of the results should be tempered by the possibility that socially desirable responses were given, although there is no information on the seriousness of this error" (Sharon, p. 6). The study considered reading occurring during 13 "General Daily Activities" (newspapers, magazines, books, mail, meals, at work, working around the house, at school, traveling/commuting, shopping, club or church activities, theater/game/event, recreation or free time, and "other") which, by their sound, are probably exhaustive but far from mutually exclusive. The attempt was to make the categories as de facto mutually exclusive as possible even if they are not logically so; thus, reading a newspaper or a book while on a bus was categorized as newspaper or book reading and not as travel reading.

In addition to the ETS/USOE studies, some evidence on reference reading (in books) is available in "The 1978 Consumer Research Study on Reading and Book Purchasing" conducted by Yankelovich, Skelly and White, Inc. for the Book Industry Study Group (BISG). Additional data on reference reading in newspapers is provided by the Newspaper Advertising Bureau (NAB).

The studies from which I draw my data are few in number but they are rich in detail -- there are over 330 pages of tables in the ETS studies and about 150 in the BISG report. Moreover, while the data reported in the various sources are by no means identical -- e.g., the demographic characteristics of the classified ad audience appear to be markedly different in the ETS and Newspaper Advertising Bureau studies -- they are, in general, convergent. For example, where the BISG and ETS studies, conducted six years apart and using different methodologies, pose the same sort of a question, they receive convergent answers. Thus, ETS reports 5% non-readers and BISG 6% in the U.S. population. ETS says that 50% of the respondents report reading a book in the "past few days" with 33% indicating that they had done so within the 24-hour survey period. BISG reports that some 55% of the population are book readers and 25% are "moderate to heavy" readers, having read 10 or more books in the past six months. With nearly perfect agreement on the magnitude of the reading and book reading populations, the ETS' 33% of book readers "yesterday" converge nicely with BISG's 25% "moderate to heavy" book readers.

3.3. LAY REFERENCE: AN EXPOSITION AND ANALYSIS

In this section, I discuss what reference sources are used, how frequently, by what people, for what purposes. I treat four kinds of reference materials: reference books; instruction manuals and how-to-guides; newspapers; other print reference materials. In the following section, I take a more analytical approach to the data. I estimate how much time is spent on reference, both by activity and in the aggregate. I discuss the "importance" of reference from the standpoint of survey respondents and expert panelists. Finally, I attempt, by inference, to characterize the regular or frequent reference users and to indicate how the users of some reference materials differ from users of other reading materials. The attempt here is to present the relevant data from several hundred tables in a condensed, summary form, to suggest a first approximation of the circumstances under which reference occurs, and the amount of time spent on it.

3.3.1. Reference Books

According to BISG, 16% of book readers (or 9% of the population) indicate that they "like" to read encyclopedias, 11% "like" dictionaries and thesauri and book of

facts and figures, and 7% "like" to read books of quotations. However, of the total population, only around 5% report having actually read an encyclopedia or a dictionary and thesaurus, 3% a book of facts or trivia, and 2% a book of quotations within the past six months. These figures are based on multiple responses so it is not possible, based on available data, to calculate just what percent of the encyclopedia readers are also trivia book readers, etc.

There is a clear "heavy hitter" phenomenon in the serious reference book category, that is, while 10% of those having read any books at all in the last six months have looked at an encyclopedia (9% dictionary/thesaurus), fully 20% of those reading 25 or more books in the last six months (18% of all book readers or 10% of the general population) have looked at an encyclopedia (15% dictionary/thesaurus). This same disproportionate reference activity among heavy readers is present, though much less pronounced among readers of less serious reference books -- facts and figures/trivia and books of quotations (BISG, pp. 149-150).

The ETS study groups all reference books together under the rubric of "general reference books." Six percent of book readers (or about 2% of the total population) report having read a reference book - 4.9% at home, 1.9% at work, and .9% elsewhere - in the last 24 hours. That the

sum of readers by venue is greater than the total number of readers suggests either 1) there is some error in the data (unlikely, given the scrupulous care with which Response Analysis Corp., the survey research subcontractor, seems to have worked), or 2) a number of the reference book readers use references both at home and at work or school. The latter inference supports the "heavy hitter" phenomenon which we noted in the BISG data set.

Mean time spent on reading general reference was slightly over half an hour. To arrive at an estimate of the amount of time spent on general reference we multiply the percentage of "general reference book" readers times mean time spent reading general reference books. That is,

$$1.9\% \quad x \quad 30.81 \text{ minutes} = .59 \text{ minutes} \quad [3.1]$$

3.3.2. Instructions, Manuals, And How-To Guides

I have grouped a second type of reference materials under the rubric "Instructions, Manuals, and How-To Guides."^[12] BISG reports that cookbooks (their category is cookbooks/home economics) are among the most popular of both fiction and non-fiction books used by 22% of book readers within the last six months.^[13] Instructive

"how-to" books are used by 14% of the book readers and by around 20% of the moderate to heavy readers.

ETS reports the use of manuals and written instructions not in the context of book reading, but rather, in context of recreation and "other" activities.^[14] About 9% of those who reported reading as part of their recreational activity -- under 5% of the population -- read manuals or instructions "yesterday." Not surprisingly, most of these people sought to gain "specific information" and/or instructions and directions. (A minority reported reading such materials for "general" information.) Within the context of meals, nearly 13% of the population reported reading meal and food preparation instructions "yesterday" while recipes were read by nearly 6% of the population in the context of "working around the house." Cooking is an activity that takes place in nearly every household and "looking up" recipes or following food preparation instructions would appear to be a common form of reference activity.

No direct measurement of time spent in the general category of instructions and how-to materials is given in the ETS study, but if we are willing to make a rather heroic assumption, we can estimate at least an order of magnitude time expenditure.^[15] We know that the mean time

spent on reading while "working around the house" is just under 15 minutes and the mean number of types of reading while "working around the house" was 2.4. Now, the mean is a weighted average which we can define as follows:

$$\text{Time Working Around House} = \sum_{i=1}^8 P_i T_i \quad [3.2]$$

where P_i = percentage of the population engaging in activity i

T_i = time spent on activity i

which, based on the reported data, gives rise to the following expression:

$$\begin{aligned} 14.9 = & (.326 \times T_{\text{labels}}) + (.202 \times T_{\text{catalogs}}) + \quad [3.3] \\ & (.123 \times T_{\text{recipes}}) + (.204 \times T_{\text{instructions}}) + \\ & (.316 \times T_{\text{phonebook}}) + (.442 \times T_{\text{TV words}}) + \\ & (.180 \times T_{\text{notes}}) + (.205 \times T_{\text{other}}) \end{aligned}$$

This is a single equation in eight unknowns and thus not mathematically solvable. If we assume (heroically) that the time spent reading catalogs, recipes, instructions, and telephone books, around the house is equal (that is, in Bayesian terms, if, in the absence of information, we assume uniform priors for the reference categories), we use

the mean time spent as T in the above equation. 14.9 mean minutes divided by the 2.4 mean activities gives a 6.2 minute per activity average time spent.^[16]

Following the same estimation procedure we arrive at between 11 and 12 minutes on the average spent on free time reading, the "activity" category in the ETS study that covers manuals and written instructions; and about four minutes on reading at meals in which covers food preparation instructions.

3.3.3. Newspaper Reference Activity

While most of the space in a newspaper is given over to "information" (e.g., news, editorials, some columns) and "entertainment" (e.g., comics, other columns, etc.), there is a significant body of reference material in the newspaper.

Table 3.4, entitled Reference Material in the Boston Globe February 14, 1984, is the result of a quick content analysis of a single, randomly chosen Tuesday morning edition of the Boston Globe highlighting the quantity and kind of material that might be classified as reference materials (as opposed to news, entertainment, display advertising, etc.). Summarizing the table we see that over 55% of the

Table 3.4

Reference Material In The Boston Globe
(February 14, 1984, Vol. 225, No. 45)

Page Length = 21.25 inches
 Page Width = 13.25 inches

| Page Number | Item | Square Inches | % of a Page |
|-------------|---|---------------|-------------|
| 4 | The Lottery | 9 | 3 |
| 22 | Obituaries | 281.6 | 100 |
| 23 | Obituaries | 29.2 | |
| 26 | New England Ski & Stay Directory (Advertising) | 25.5 | 9 |
| 28 | Olympic Score Board | 57.8 | 20 |
| 28 | Boat & R.V. Classifieds | 9 | 3 |
| 32 | Suffolk Charts (Horse Racing) | 125 | 44 |
| 33 | Score Board (Sports) | 266.6 | 95 |
| 35 | School Sports (Sports) | 263.4 | 94 |
| 36 | Over the Counter Stocks (Financial) | 244.1 | 87 |
| 43 | The Extra Index (Financial) | 61 | 22 |
| 46 | Commodities, Dividends, etc. (Financial) | 47.3 | 17 |
| 47 | More Over the Counter and Fish Pier (Financial) | 58.5 | 21 |
| 47 | Gold Coins & U.S. Account (Financial) | 4.5 | 2 |
| 48 | Combined N.Y. Stock Exchange (Financial) | 249.3 | 88 |
| 49 | American Stock Exchange and Port of Boston (Financial) | 154.5 | 55 |
| 50 | Mutual Funds, Spot Metals, etc. (Financial) | 79.5 | 28 |
| 52 | New York Bonds and Office Space Classifieds (Financial and Advertising) | 220.3 | 78 |
| 55 | Town & Country Dining (Classified Restaurant Ad) | 48 | 17 |
| 56 | Theater Ads and Film Times (Advertising) | 63.75 | 23 |
| 57 | Movie Ads (Advertising) | 167.6 | 60 |
| 59 | Weather | 100.75 | 36 |
| 59 | Righter's Horoscope | 22.75 | 8 |
| 60 | T.V. and Radio Listings | 127.5 | 45 |
| 61 | Legal Notices and Market Basket | 116.9 | 42 |
| 62 | Classifieds | 281.6 | 100 |
| 63 | Classifieds | 281.6 | 100 |
| 64 | Classifieds | 281.6 | 100 |
| 65 | Classifieds | 281.6 | 100 |
| 66 | Classifieds | 281.6 | 100 |
| 67 | Classifieds | 281.6 | 100 |
| 68 | Happy Valentine's Day Personals | 216.2 | 77 |
| 69 | Classifieds | 281.6 | 100 |
| 70 | Classifieds | 281.6 | 100 |

Summary:

| | # of Pages | % of Reference | % of Total |
|---------------|-------------|---|-------------|
| Financial | 4.0 | 21.2 | 5.6 |
| Sports | 2.5 | 13.3 | 3.5 |
| Advertising | 10.3 | 54.6 | 14.5 |
| Other | <u>2.0</u> | <u>10.6</u> | <u>2.8</u> |
| Total: | 18.8 | 100.3 (due to rounding error) | 26.4 |

reference material consists of advertising (mostly classified), another 13% is sports and racing information, 21% is financial, and about 11% is miscellaneous other reference materials including horoscopes, weather information, T.V. and radio listings, etc. In all, reference materials make up slightly over one quarter (about 26%) of the entire paper with classifieds as the dominant type of reference material. [17]

ETS found that, in 1972, 73% of readers (that is, over 69% of the total population) reported reading or looking at the newspaper "yesterday." Of that 73%, over 40% reported having looked at classified advertising, over 36% at the T.V./radio section, and 10% at obituaries and over 1% at the weather. The figures from the Newspaper Advertising Bureau (NAB) are even higher. In a 1982 analysis of 1981 Simmons data entitled "The Readership of Newspaper Pages and Sections: Demographic Breakdowns," the Bureau claims that 77% of all adult newspaper readers look at the classifieds, 82% at the entertainment section, and 79% at the T.V./radio listings every day. A 1975 NAB study indicated that 70% of all households had one member that looked at the classified in the last week. And a 1980 NAB study indicates that, based on a conservative "recall" methodology (which tends to understate readership), 58% of adults saw

some classified advertising within the last week. It is reasonable to conclude that while the 75% daily exposure to classifieds reported by NAB is grossly inflated, about 60% of adults are exposed to classifieds each week.

As we look more deeply into the ETS data on newspaper readership, we see that some of the ostensibly "reference" materials are consulted for more "general information." In particular, we note that while nearly 16% of the respondents indicated that they read the classifieds for "specific information," over 18% said that they did so for general information and "general information" was the overwhelming reason given for looking at the obituaries. (Newspaper display advertising was looked at by nearly 36% of all newspaper readers and, not surprisingly, the overwhelming reason given by 31% was for "general information.") Nearly 23% of the newspaper readers indicated they read the classifieds for five minutes or more, but only 29% of classified readers considered this form of reading "very important." (Contrast this relatively low figure with the 84% of reference book readers who considered reading general reference books "very important.")

All of this suggests that some (many, most) classified readers are not engaged in highly directed reference

activity. That is, they are not searching out some particularly relevant piece of pieces of information in an instrumental fashion in order to accomplish some specific other goal. Rather, most of the individuals who peruse the classifieds are doing just that, perusing, or browsing. There appear to be two very different modes of using the classifieds. On the one hand, a very large percentage of the newspaper reading public -- which means a very large percentage of American adults -- casually browses or sees (without looking at) the classifieds.^[18] On the other, a much smaller percentage use the classifieds for the kind of directed information search and follow-up that I have characterized as "reference." If reference entails follow-up, we can roughly estimate the proportion of reference use of the classifieds. In an average week, 18% of adults "follow up or intend to follow up one or more ads" (NAB, 1980, p. 5). Of the 56% of respondent households that purchased goods in one of 16 general merchandise categories typically advertised and sought in the classifieds in a six-month period, 40% indicated that they, in some way, used the classifieds in the purchase. That is, over a six month period, 22% of households used the classifieds to make or to inform a purchase. We can bracket the browsing and reference use of the classified ads as follows: something over

58% of adults see a classified each week and something over 20% of households use the classifieds in a purchasing situation in a six-month period.

3.3.4. Other Print Reference Materials

A final category of reference materials is a miscellaneous group of which includes pamphlets and catalogs, maps, lists, schedules and timetables, and telephone books. ETS queried respondents about their use of these materials in the context of school, working around the house, recreation, and "other" activities. In the school context, no importance measurements were taken (probably on the reasonable assumption that adults in school consider their school-related reading as generally very important) and reasons for engaging in specific school-related reading were not assessed. In the recreation/free time category, the reasons given for consulting catalogs tended to be for general information rather than for specific information (this confirms the notion of catalogs as "wish books," Cf., Note 10, supra). When asked their "reasons" for reading lists and telephone books, respondents overwhelmingly indicated that they were seeking "specific information." This is hardly a surprising response. Indeed, we would be astonished if consumers looked at directories and lists for

"general information," or any of the other "reason" categories -- e.g., information and pleasure, pleasure, social, spiritual, self-improvement. In saying that their "reason" for using telephone books (and lists) was to find specific information, the ETS respondents are merely confirming our intuition that people use these quintessentially reference media for reference. It is also noteworthy that over 50% of telephone book users in three different usage contexts -- free time, working around the house, and other -- rate its use as very important.

T.V. Guide, America's third largest circulation magazine (after Parade and Reader's Digest) is also one of the most frequently consulted of lay reference sources. "Mean reading days" is a measure of the number of times a periodical is picked up and read within its publication cycle. The research department at T.V. Guide supplied the following figures, from the 1982 Simmons' study, to suggest just how often their magazine is used. [19]

| <u>Publication</u> | <u>Cycle</u> | <u>Mean Reading Days</u> |
|---------------------|--------------|--------------------------|
| T.V. Guide | Weekly | 5.0 |
| Reader's Digest | Monthly | 3.4 |
| True Story | Weekly | 3.0 |
| National Geographic | Monthly | 3.2 |
| Bon Appetit | Monthly | 2.7 |
| Time | Weekly | 2.1 |

Based on these and other available data, it is possible to arrive at an order of magnitude estimate of the number of references to T.V. Guide per annum. A first method involves estimating the number of times T.V. Guide is used per reading day. (I suggest two separate references, either by the same reader at different times, or by two different readers.) Then the circulation figure reported in the 1982-83 Standard Periodical Directory and the mean reading days reported in the 1982 Simmons' study suggest the following estimate.

| | <u>Source</u> |
|--------------------------------------|------------------------------------|
| Mean Reading Days Per Cycle | 1982 Simmons |
| x References Per Mean Reading Day | Notional Estimate |
| x Number Of Cycles Per Year (Issues) | Fact |
| x Circulation Per Cycle | 1982 Standard Periodical Directory |

= Number Of References Per Year =

$$5 \times 2 \times 52 \times 1.8 \times 10^7 = 9.4 \times 10^9$$

I checked this estimate with T.V. Guide's research department. They would not confirm or disconfirm my estimate of number of references per mean reading day, but suggested an alternate approach based on more recent data. The 1983 Simmons Report reports 4.2 Mean Reading Days for T.V.

Guide, down from 1982 but still the highest of all periodicals surveyed. Simmons, in 1983, also reports average numbers of readers per copy. The research department indicated that T.V. Guide uses a circulation figure of 17 million on their current advertising rate card. The following calculation -- based now not on a notional estimate of references per Mean Reading Day, but rather on measured readership per copy -- is suggested.

| | <u>Source</u> |
|-----------------------------|---------------|
| Mean Reading Days Per Cycle | Simmons 1983 |
| x Readers Per Copy | Simmons 1983 |
| x Number Of Cycles Per Year | Fact |
| x Circulation | T.V. Guide |

= Number Of Reference Per Year =

$$4.2 \times 2.04 \times 52 \times 1.7 \times 10^7 = 7.6 \times 10^9$$

Two different estimating procedures based on different years and sources of data both indicate that Americans refer to T.V. Guide slightly less than ten billion times each year.

3.4. REFERENCE BEHAVIOR: SOME PRELIMINARY CONCLUSIONS

3.4.1. Statistical Summary: Time Spent On Reference

Table 3.5 is a statistical summary of reference reading activity (outside of work) garnered from the ETS reading study. The first column lists the "Material Read," the second specifies the context in which the reading took place. The third column gives the percent of the total population that reported having read the material and the fourth gives the percentage of those engaging in that reading activity who reported it as "very important." The sixth column gives the importance index -- which is the product of columns 4 and 5 (Cf., ETS, 1972, pp. 14-15). The seventh column, "Time Spent," is based on disaggregating the total time spent within general activities (Cf., Expressions [3.2] and [3.3]) except for those entries marked with an asterisk which are reported directly in the ETS study. "Total Time Spent," column 8, is the product of columns 6 and 3 (Cf., Expression [3.1]) and "Important Time Spent" is the product of columns 4 and 8. All the time expenditures reported in Table 3.5 are based on means of highly skewed distributions (Cf., Figure 3.3 (Figure 1 from ETS)). Because the mean is sensitive to outliers (in this case, the few people who spend lots of time reading), it

Table 3.5

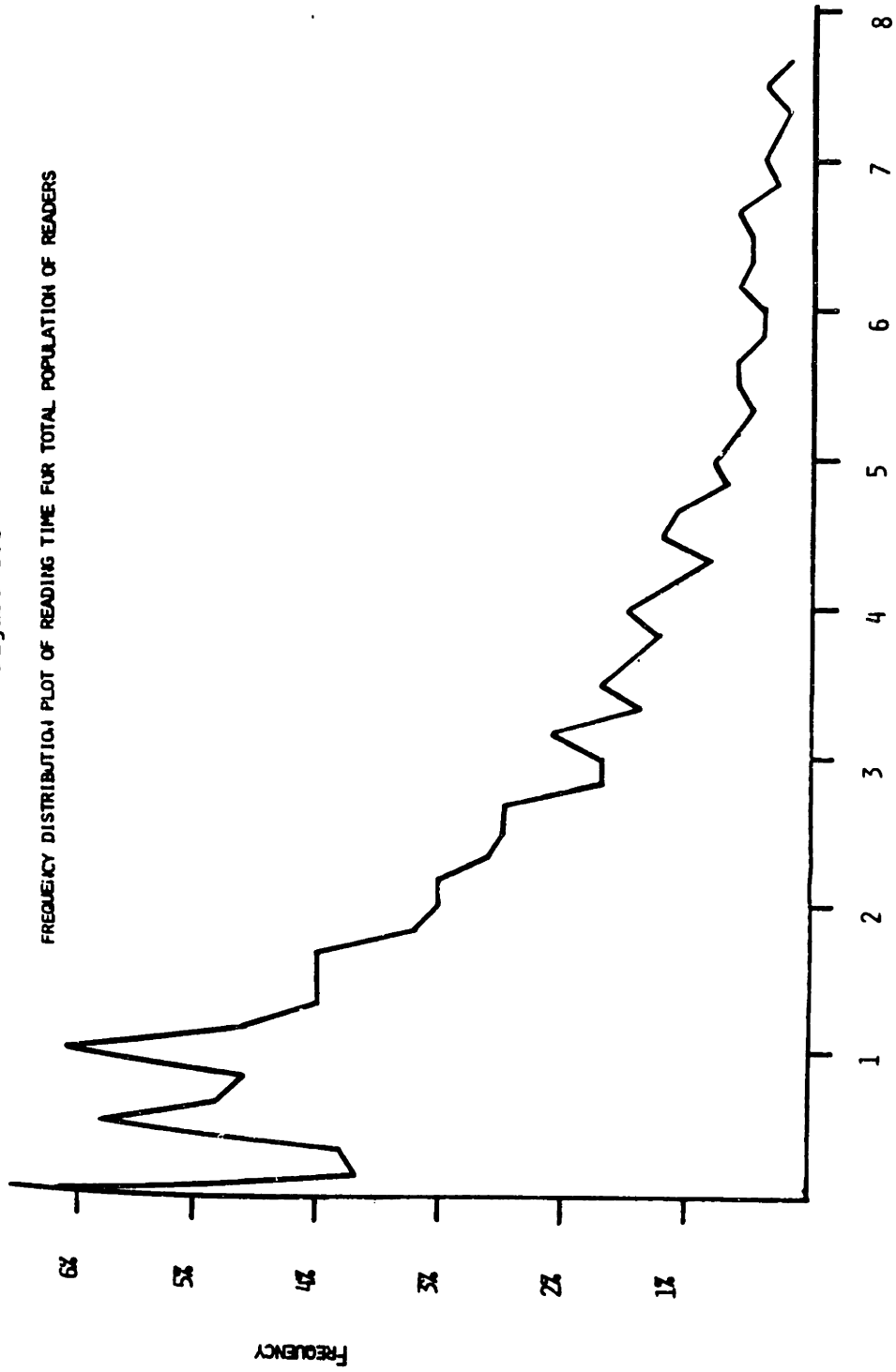
Statistical Summary Of Data On Reference Reading

| (1) Material Read | (2) Context | (3) % Total Popu- lation | (4) % Report- ing Very Important | (5) Import- ance Score/ Total | (6)* Time Spent | (7) Import- ant Time Spent | (8) Total Time | |
|--|----------------------|-----------------------------------|---|---|-----------------------|-------------------------------------|----------------------|-------|
| General Ref- erence | Book Read- ing | 1.9 | 84 | 1.6 | 31* | .50 | .59 | |
| Dictionary | At School | 1.0 | - | - | 16* | .16 | .16 | |
| Food Prep. Instructions | Meals | 12.5 | 62 | 7.8 | 4 | .31 | .50 | |
| Recipes | Work Around House | 5.7 | 58 | 3.3 | 7 | .23 | .40 | |
| Instructions for _____ Using | Work Around House | 9.4 | 67 | 6.3 | 7 | .44 | .66 | |
| Manuals & Written In- structions | Free Time | 4.6 | 76 | 3.5 | 12 | .42 | .55 | |
| Manuals & Written In- structions | Other | 3.3 | 66 | 2.2 | 16* | .35 | .53 | |
| Classified Ads | Newspaper Reading | 29.5 | 29 | 8.6 | 7 | .60 | 2.06 | |
| TV/Radio Listings | Newspaper Reading | 26.9 | 19 | 5.0 | 4 | .20 | 1.08 | |
| Obituaries | Newspaper Reading | 7.2 | 44 | 3.2 | 3 | .10 | .22 | |
| Catalogs/ Brochures | Free Time | 6.0 | 25 | 1.5 | 12 | .18 | .72 | |
| Catalogs/ Things to Buy | Work Around House | 9.3 | 38 | 3.5 | 7 | .25 | .65 | |
| Pamphlet/ Catalog | At School | .4 | - | - | 20* | .08 | .08 | |
| Schedules/ Lists | At School | 1.8 | - | - | 10* | .18 | .18 | |
| Maps/Time- tables/ Schedules | Travel | 5.3 | 60 | 3.2 | 3 | .10 | .16 | |
| Lists/Sched- ules | Other | 2.2 | 55 | 1.2 | 12 | .14 | .26 | |
| Telephone Book | Free Time | 6.4 | 53 | 3.4 | 12 | .41 | .77 | |
| Telephone Book | Work Around House | 14.6 | 54 | 7.9 | 7 | .55 | 1.02 | |
| Telephone Book | Other | .4 | 75 | .3 | 11 | .03 | .04 | |
| Total: | | | | | | | 5.23 | 10.63 |

*Items with asterisk = actual measurements given in report;
others = estimates

Source: ETS, 1972

Figure 3.3
FREQUENCY DISTRIBUTION PLOT OF READING TIME FOR TOTAL POPULATION OF READERS



HOURS OF READING TIME (In Ten-Minute Intervals)

tends to overstate the "average" amount of time spent by the "average" reader.

Even with this systematically positive bias, we see that the total amount of time spent on "reference" (outside of the work context) is rather limited. In 1972 the average American adult spent something under 11 minutes a day on reference, broadly construed. Since reference is instrumental to some other activity, we would expect that true reference activity -- as opposed to casual browsing of some reference-like material (which is not "reference" at all) -- would be seen by its agent as relatively "important." Thus, a better (less inflated) measure of reference time spent may be estimated by considering the "important time spent" (column 7). Total important time spent on reference is just over five minutes per day and my guess (based now not on data, but mere intuition) is that even this small figure overstates considerably the amount of reference in which people typically engage on a daily basis. To set this 11 (or 5) minutes into perspective, according to ETS, the average American outside of the work context in 1972 read (and this includes all non-work reading from perusal of billboards to cereal boxes at breakfast time to newspapers, magazines, and books) just under an

hour per day; serious (that is, "important") reference accounts for around 8% of total reading time.

3.4.2. The "Importance" Of Reference

While 84% of general reference book users said that such reading was "very important" (as did 76% of all "free time" readers of instructions and manuals), only 19% of radio/T.V. listings readers (in the newspaper) and 25% of "free time" catalog/brochure readers considered these forms of reading very important. The ultimate non-reference reading is outdoor advertising which was read by nearly 35% of the population, 93% of whom reported that they read it because it "just caught the eye."

Going back to Table 3.5, we see that newspaper classifieds account for about 19% of total reference time spent but only 11% of important reference time, while use of telephone directories^[20] accounts for 17% of total reference time and about 19% of important reference time.

The more popular the reading fare, the less important it is judged, or put negatively, the fewer the people that use a particular (specialized) type of information, the more important they tend to view it. General reference book reading is on one side of this continuum (low readership, high importance) and billboard reading on the other

(high readership, low importance). This relationship is apparent in the very strong ($r = -.68$) negative correlation between columns 3 and 4 of Table 3.5. In order to see whether this was a more general phenomenon or merely a small sample fluke, I randomly sampled 22 out of the nearly 200 non-work-related reading activities reported in ETS. The same "the less the more" phenomenon (the less popular the more important) obtained in the general, non-reference reading activities but the correlation was not as strong ($-.46$ for the non-reference versus $-.68$ for reference activities). [21]

We can get another perspective on "importance" by comparing the amount of time spent on reference to the amount of time spent in other free time media activities. According to Robinson (1983), just under 25% of Americans' time in 1975 (at about the same time as the ETS research was done) was "free time" and of that, about 35%, over 14 hours per week or two hours per day, was spent on T.V. viewing. [22] Reference, then, accounts for around 1.4% (at most) of free time activity. Using a low estimate of T.V. viewing time (two hours per day) and a high estimate of reference time (five minutes per day), we see that the "average" American spent conservatively 25 times as much

time watching T.V. as looking things up. A less conservative estimate would be on the order of 100 times more time spent on T.V. viewing than on reference.

I have emphasized the notion of "importance" because my understanding of reference behavior suggests that if a reading activity is truly unimportant, it probably is not a reference activity. So it is apposite here to investigate just how valid, or at least how reasonable, the self-reported importance ratings are. As part of the Adult Functional Reading Study, ETS convened a panel of experts to advise on the project's rationale and overall direction and to provide some independent judgments of the benefits and relative importance of various kinds of reading activities. "The panel rated approximately 100 specific reading activities on a 5-point scale from 0 (low benefit) to 4 (high benefit)" (Murphy, (1973), p. 59). The survey respondents used a 3-point scale -- "not important, moderately important, very important" -- to rate approximately 130 specific reading activities. About these two independently derived sets of importance weights, Murphy says:

"The agreement about what activities are the most important and most beneficial within each of the thirteen general categories is striking. The few disagreements are interesting . . . There is general agreement between the respondents in the National Reading Activities Survey and the members of the review panel in rating ordinary reading tasks

for importance and benefit. Where differences do occur, the panel members give higher ratings to more pragmatic tasks like reading classified ads in newspapers, reading the dictionary at school, reading books on health, and reading magazines on family, marriage and childcare."

(Murphy, 1973, (pp. 61-62))

It is noteworthy, I think, that the expert panel tended to see as more important than the general public, the kinds of activities that I have characterized as "reference." Thus, the panel ranked classified ad reading as second most important, after reading the "main news," in the newspaper; and while the respondents "importance" measurement put phone books second, the panel ranked reading the telephone book as the most important reading activity when working around the house.

3.4.3. Who Are The Reference Users?

We now have some rough, preliminary notion of what kinds of reference materials are read, for how long in non-work contexts. The BISG study provides some basic information on who read books -- heavy book readers tending to be white, women, well-educated, relatively affluent and relatively young -- and we saw, in the case of general reference books, that reference book readers tended to be disproportionately "heavy" book readers.

"Heavy" book readers also tend to frequent the public library (Cf., BISG, pp. 208-219). Michael Madden, Director of the Schaumburg, Illinois Public Library, provides an interesting sketch of the lifestyle, or psychographic characteristics, of library users (1979). While female non-users tend to be older and relatively home-bound, female heavy users are almost precisely the opposite -- "activity and involvement characterize the female heavy user. They like to read, take classes, swim, walk, belong to clubs, go to church, give dinner parties" (p. 80). This group tends to be between ages 35 and 50, to have gone to college, and to be of middle to upper middle class.

Here, reproduced from Madden's article, are the 15 survey items most positively correlated with heavy library use, followed by the 15 most negatively correlated. 29% of women in Madden's sample are heavy library users.

Most Positive Correlations

1. Went to library.
2. Finished reading a book.
3. Went to school.
4. Most friends have graduated from college.
5. Went swimming.
6. Went for a walk.
7. Attended a lecture.
8. Like to spend a year in London or Paris.
9. Did volunteer work.
10. Went to a club meeting.
11. Brought work home.
12. Tried new recipe.
13. Listened to a tape or record.

14. I am interested in politics.
15. Belong to one or more club.

Most Negative Correlations

1. Get satisfaction out of cleaning.
2. Television is primary source of entertainment.
3. Often wish for the good old days.
4. All men should be clean shaven every day.
5. If given the right opportunity, most men would cheat on their wives.
6. Like the look of a large lamp in a picture window.
7. Everyone should use a mouthwash.
8. I am a homebody.
9. U.S. better off without hippies.
10. A house should be dusted and polished.
11. Stay home most evenings.
12. All couples should have at least one child.
13. Okay for women to be teachers or nurses, but not to go into business.
14. Woman's place is in the home.
15. There are not enough recreational facilities.

While Madden's discussion is of library users and non-users, I think it is reasonable to infer that the profile he presents would also characterize the users of lay reference materials, especially users of reference books, instructions and how-to guides. [23]

This profile does not, though, characterize the readers of newspaper reference materials. For example, the ETS study indicates that the oldest and youngest of the age cohorts tend to be the heaviest users of radio/T.V. listings with the oldest cohort spending considerably more time and judging the activity as considerably more important than others. (Interestingly, the single heaviest user

group of radio/T.V. listings are the most highly educated, but they report the lowest importance score.) The NAB research confirms heavy use of radio/T.V. listings by the oldest cohorts but not by the youngest. We would expect obituary readers to be older than the population as a whole and our intuition is, not surprisingly, confirmed. That is, while 7.2% of the total population reads them, 2.7% for five minutes or more, 3.2% consider them very important, 10.7% of the oldest cohort reads them 5.5% spending five minutes or more and 6.4% (precisely double the overall population) consider them very important.

The image of the classified ad reader that emerges from the ETS study (Cf., Murphy, 1973, Appendix A, Tables 4-1 to 4-7) is quite different from that of the reader of reference books and instructional how-to guides. Those who spend longer periods of time looking at the classifieds have a high school to junior college education. Occupationally, classified readers tend to be semi-skilled, in small business, or to hold clerical or technical jobs. They tend to have 1972 family incomes of between \$5,000 and \$15,000. Again, according to ETS, low income young people and students are relatively heavy users of the classifieds.

Since classified advertising is such an important contributor to the newspapers' revenue stream, the Newspaper

Advertising Bureau has devoted several studies to measuring and characterizing the classified advertising audience. The Bureau's 1982 study, "The Readership of Newspaper Pages and Sections: Demographic Breakdowns," indicates that about 62% of the sample usually looks at every page of the paper. (This remarkably high percentage may reflect a common response bias, i.e., that rather than have to answer 10 extra questions about specific sections, the respondent says he has looked at them all.) With respect to looking at the classifieds, all of the demographic groups -- by age, education, sex, income, and employment -- tend to cluster very closely (within two percentage points or so) about the grand mean. That is, on almost all demographic breakdowns, 77% of the group reported usually reading the classifieds every day. In contrast to the ETS study, which indicated relatively high levels of classified use by young adults, the NAB study shows that a low of 71% of the 18-24 age cohort reports reading the classifieds. (This low number, in part, results from the low percentage of readers of every page of the paper among this youngest age cohort.) According to NAB (1982), the groups most likely to report looking at the classifieds every day are adults with one to three years of college and professionals and managers. Both of these groups report 80% usual use of the classifieds.

One of the few issues on which my various data sources do not converge is the size and makeup of the classified audience. A shorthand summary of the ETS data is that the classified audience is large and tends to be lower middle class. On the other hand, the Newspaper Advertising Bureau indicates that the classified audience is huge and says that "households with female homemakers under 40 years of age" have higher than average exposure to classifieds (1975, p. 3), and that "classified readership is highest among the young, the well educated, and the affluent" (1980, p. 5).

This divergence of data is of concern because one of the issues of interest in this dissertation is how the Yellow Pages audience compares with the audience for other reference media. If the classified audience is as the NAB data suggests, then it is quite similar to the Yellow Pages audience and to the future audience for videotex-like services. On the other hand, if the classified audience is as the ETS data suggests, then it is quite different from that of the Yellow Pages and (potentially) videotex.

One plausible explanation for the discrepancy (aside from the natural tendency for interested parties -- here the newspaper industry and later the Yellow Pages industry -- to construe the data in the manner most favorable for

its own industry) is that casual browsers of the classifieds may tend to have one set of demographic characteristics while reference users have another. Casual browsers, being such a large proportion of the population, would consist of a relatively undifferentiated cross-section of the adult public. Reference users might then be a smaller, more clearly defined subset of the newspaper reading public.

I should emphasize that the demographic/psychographic profiles I have drawn are probabilistic, representing statistical tendencies that are not overwhelmingly powerful. Often, only a few percentage points separate a "likely" from an "unlikely" user group in any activity category of interest. The argument is not that "All A are B" or "No C are D," it is rather "if you are a B, chances are that you are also an A" and "if you are a D, you are relatively unlikely to be a C." Thus, even ETS shows that upper middle class people use the classifieds and working class people do use reference books. What emerges from the survey responses analyzed here is (with the exception of the divergent data regarding classified readership) a coherent profile of the reference user as an active, relatively well-educated, upscale reader. Without trying to oversell these findings, I think they are worthy of note.

3.4.4. Reference Behavior: A Summary

Lay reference behavior is a category of information seeking and information using that has gone largely unstudied by social scientists. The purposeful seeking out of information in order to accomplish some other, generally speaking, primary goal is relatively rare compared to other information and entertainment uses of the communications media. The sources of information on reference behavior are few in number but rich in detail. My major source on time spent on reference is a single large-scale survey conducted in the early 1970s. Additional data on reference in books and newspapers was drawn from industry-sponsored studies. None of the sources I used explicitly discuss reference so the analysis of time spent and audience makeup is inferential.

Few people outside of the context of work refer to serious reference books. On the other hand, some reference media -- cookbooks, instruction manuals, T.V. listings, classified ads, and telephone directories -- are used routinely and frequently. The more specialized the information sought and the smaller the population involved in seeking it, the more important it is perceived to be. While this relationship holds true of all reading materials, it is particularly strong in reference materials.

Experts (on reading, coping skills, etc.) agree that reference is an important intellectual skill and respondents who engaged in reference concur.

Classified advertising is one of the most frequently perused of reference sources. It is clear that classifieds are used both for browsing and for reference. It is arguable, but by no means self-evident from the reported data, that classified browsers and reference users have, in addition to different motivations, different demographic characteristics. Users of reference materials other than classifieds tend to share certain characteristics which are quite similar to those of the frequent library user, and as we shall see, to those of frequent Yellow Pages users.

FOOTNOTES
(CHAPTER 3)

- [1] That portion of this chapter is rather slow going with a good deal of detailed exposition and not much argument. I hope that other researchers can use the data for their own analyses.
- [2] Cf., e.g., Berelson, 1949, on "What Missing the Newspaper Means."
- [3] With the expansion in scientific and technical information in the post-war period (as Daniel Bell would have it with the transition to a knowledge-based, post-industrial society), it became imperative to understand the information needs and uses of the technological sector in order to design appropriate information systems (electronic data processing was emerging at this time) and to enhance the productivity of scientific and technological workers.
- [4] I traced the development of the needs and uses perspective by way of a series of important review articles on "Information Needs and Uses" that appears in the Annual Review of Information Science and Technology (ARIST) beginning with Menzel's (1966) classic article, "Information Needs and Uses in Science and Technology," in Volume 1. Menzel delineates the field of Information Needs and Uses as follows:

"The domain of this chapter is taken to include empirical studies of scientific communication in process among scientists and technologists in the course of their professional activities. When approached from the point of view of the scientist or technologist, these are studies of scientists' communication behavior. When approached from the point of view of any communication medium, they are use studies. When approached from the point of view of the science

communication system, they are studies in flow of information among scientists and technologists."

(p. 43)

By 1974, Martyn, writing in Volume 9 of ARIST, notes a growing realization that "science and technology are not the only areas in which information is generated and used" (p. 4). In 1978 (Vol. 13) Crawford shows that some information needs and uses studies focus on information needs of the poor, elderly, minorities, etc. and that others specifically deal with the information needs and uses of policymakers. There is a Centre for Research on User Studies at Sheffield University and some interesting conceptual work is being done currently (Cf., e.g., Wilson, "On User Studies and Information Needs," 1981). But the field of information needs and uses seems to be less exciting than it was fifteen years ago. Research interest has concentrated on questions of productivity in R&D laboratories, technical problem solving strategies, diffusion of innovation, and network analysis, and while the number of use and user studies continues to grow, the approach is not seminal to the field of communication researcher as it once was. Some evidence for this waning interest in the face of a growing literature is evident in the history of Information Needs and Uses articles in ARIST.

Year 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82

Information
Needs &
Uses Review

Articles ✓ ✓ ✓ ✓ ✓ ✓ no ✓ no no no ✓ ✓ no no no no

It is interesting to note the intellectual filiation of various communications research traditions: the Voting Studies (The Peoples Choice, 1948; Voting, 1954) begat Personal Influence (Katz and Lazarsfeld) which (in conjunction with some other traditions) begat diffusion research which begat The Diffusion Medical Innovations (Coleman, Katz and Menzel) which begat (or, again, helped beget or fell into the tradition of) Information Needs and Uses Studies in which Menzel is one of the key early figures. Meanwhile, Katz helped beget Uses and Gratifications research.

- [5] Cf., Donohew, "Analysis of Information Seeking Strategies," 1978.
- [6] Eleven of the 14 empirical studies on which the article is based deal with exposure to political communications. Of the remaining three, one deals with abortion information, one with newspaper reading, and the last with leisure time activities.
- [7] Thanks to Raul Katz for bringing this "information seeking" literature to my attention.
- [8] Atkin acknowledges that little is known about specific needs satisfied by performance information or about what media are used with what frequency in this kind of information seeking. The kind of information sources envisioned by Atkin -- specialized magazines, how-to television programs, etc. -- tend to be more diffuse in focus than a telephone directory. Moreover, the motivation for watching a cooking show on T.V. (one of the examples of enactment information cited by Atkin) might involve the inherent enjoyment of watching the show as well as the need for specific performance information.
- [9] I make no attempt in Figures 3.1 and 3.2 to scale the cells in proportion to in time or money spent in each of them. Note that cell number 1 is void because scientists do not engage in entertainment activities qua scientists. A person at the movies is a movie-goer (consumer) whether she is a housewife or an engineer. Some students, of say deviant behavior, might be interested in the free time activities of participants at a dental convention, but for the present purposes, cell number 1 embodies a distinction but not a difference.
- [10] There is one kind of reference-like activity that the uses and gratifications perspective might well elucidate: the use of reference materials, especially catalogues, but also the Yellow Pages, for fantasy -- the if-I-had-a-million-dollars game. Use of the Yellow Pages for fantasy would appear to be fairly rare, though not unheard of; in any case, it is tangential to the present task of situating Yellow Pages use in a

framework of consumer reference behavior (Cf., Raul Katz' semiotic analysis of a French mail order catalog, "Analyse de Contenu du Catalogue de Vente Par Correspondance," unpublished manuscript, Universite de Paris II, 1979-1980).

- [11] When an hydrologist's toilet at home is broken and he needs to get a plumber, he is a consumer.
- [12] Unlike the books just discussed (which are strictly for reference, hence the title "reference books"), a reader might peruse a how-to guide for the pleasure of learning about something without ever actually engaging in the activity explained. Thus, some of the materials in this group are no doubt sometimes used for entertainment and information rather than strictly for "reference." I know of no way to isolate the "for fun" from the more strictly "instrumental" use of this type of material and I report it as if it were all reference.
- [13] Cookbooks, with 29% of book readers "liking" to read them, are the second most popular non-fiction genre after biographies and autobiographies (which, incidentally, with a 44% rating, is the most popular fare, fiction or non-fiction). Overall, cookbooks are tied for seventh place with modern historical drama; action/adventure, historical novels, mysteries, short stories, and humor are all more popular fiction genres.
- [14] "Other" being the residual category encompassing everything that is not one of the following: newspapers, book, magazine, and mail reading; meals, work, working around the house, school, traveling, shopping, club or church activities, theater, game or event.
- [15] To arrive at a better estimate it would be necessary to reanalyze the original survey data rather than the aggregate data reported in Sharon (1972) or Murphy (1973).

[16] Note Expression [3.2] looks like an Expected Value calculation, but $\sum P_i \neq 1$, that is, some individuals engage in more than one activity.

[17] I also analyzed a Monday morning edition of the Boston Globe (March 14, 1983), a thin paper without stock or much other financial data. The accompanying table indicates that the breakdown of reference materials is quite similar. About a quarter of the paper is given over to reference material with classified advertising accounting for most of the space. Most of the material that I have counted as "reference" in these analyses is used as an ancillary to some other action -- e.g., looking up a movie to inform one's evening entertainment plans -- but some of the content of the Globe which I have labeled as reference -- Sport's Scores -- is consulted for general information or even entertainment.

Reference Material In The Boston Globe
March 14, 1983

| <u>Page</u> | <u>Title</u> | <u>Size In Inches</u> <u>h x w</u> | <u>Description</u> |
|--------------|----------------------------------|--|---|
| p. 2 | The Lottery | 3.75 x 3.75 | Report of New England Lottery Numbers |
| p. 17 | Today at the State House | 11 x 2.75 | Schedule of Government Activities |
| p. 19 | Film Times | 4 x 4.75 | Schedule of Films |
| p. 19 | Movie Ads/Display and Classified | 7.5 x 16 + 4.5 x 3 + 6 x 6.5 | Film Advertising with Exhibition and Schedule Information |
| p. 20 | Obituaries | Whole Page | |
| p. 22 | T.V. and Radio Guide | 7.75 x 15 | |
| p. 22 | Horoscope | 3.25 x 6 | |
| p. 28 | Scoreboard | Whole Page | Sports Standings |
| p. 29 | Today's Racing | 1/3 Page | Scratch Sheet |
| p. 30 | Today's Racing | 3 x 15 + 3 x 21 | |
| p. 33 | Weather | 11.25 x 7.5 | |
| pp. 39 to 45 | Classifieds | 7 Pages (I consider page 46 "display advertising") | |

Summary

Of Pages

| | |
|-------|---------------|
| 7 | Classifieds |
| 1 | Obits |
| 1 | Sports |
| 1/3 | Scratch Sheet |
| 1-3/4 | Other |

- [18] Two out of ten purchases made through the classifieds appear to result from "impulse" buying by such casual browsers (NAB, 1975, p. 22).
- [19] T.V. Guide has much more detailed data on which pages are used -- T.V. listings are reference material, articles are not -- how often and by what demographic groups. But, this information is highly proprietary and not available.
- [20] The ETS report does not specify whether these are White or Yellow Pages or specialized (e.g., personal) phone books.
- [21] The mean reported importance was higher for reference than for the sample of all reading activities, but given the high variance, a conservative Two Sample T-Test did not indicate a statistically significant difference.
- [22] This is a rather low estimate of time spent watching T.V., but Robinson makes a good case for discounting or deflating the three plus hours a day spent watching T.V. reported by some audience researchers. If we were to follow Robinson's practice (of dividing time spent reading instructions while "working around the house" between house work and reference), then the amount of time spent on reference would be even lower, two minutes per day or less.
- [23] Cf., ETS, 1973, Appendix A, Tables 3.1-3.7 for a characterization of users of reference materials while "working around the house." It closely parallels the one offered by Madden.

4. USING THE YELLOW PAGES

4.1. INTRODUCTION

This chapter is about the Yellow Pages and consumer behavior. I begin with a brief review of the published literature on Yellow Pages use and report in summary form some of the more interesting and consistent findings from that literature. I then present an analysis to suggest an order of magnitude estimate of the number of Yellow Pages references in the United States per day, week, month, and year; my estimates converge with others in the published literature. The longest part of the chapter is taken up with a detailed multi-dimensional characterization of Yellow Pages audience demographics. I contend that the Yellow Pages user has certain recognizable characteristics and that those audience characteristics are highly stable over the 20 years of available data. In the final substantive section of the chapter, I offer four propositions on what information is sought and how it is found in the directory. I close with a short summary that integrates my conclusions about the nature of the audience, content, and use of the Yellow Pages.

4.2. IDENTIFYING A RELEVANT LITERATURE

In considering Yellow Pages use as a kind of reference, the first thing that strikes (and embarrasses) one is the richness, depth and specificity of available research on it, as contrasted to the paucity of available information on generic reference behavior. The embarrassment arises because it is clear that much more is known about the instantiation than about the category -- as if the only information available on T.V. viewing had to be teased out of two major studies on "entertainment habits of Americans" but there were hundreds of studies on "The Guiding Light".

Upon reflection, it makes sense that we should have more information about the instantiation than the category. First, the category of "lay reference behavior" is largely my own, it has not been considered as distinct from more general information seeking or as Tydeman, et al. (1982) characterize it, "information retrieval." Knowing what people look up or refer to, outside of the context of professional and scientific activities has simply not been a burning issue on the communications/information research agenda, nor is it quantitatively very important (in terms of the use of time) in comparison to almost any other media-related behavior one might investigate. That there should be a good deal of research specifically on Yellow

Pages use is hardly surprising because there are enormous business (versus scholarly) incentives:

- 1) to understand Yellow Pages utilization: who uses it, how often, for what purposes, and
- 2) to document that understanding so that potential advertisers can be shown just how effective their space purchase will be.

Because of these economic incentives, a number of different types of organizations have sponsored a variety of studies over the years. Table 4.1 is a list of the Yellow Pages utilization studies (and fragments thereof) that I have identified and located in my research. On the horizontal axis I consider whether the study is basically about lay (consumer) or business (professional) use of the Yellow Pages and on the vertical whether the information available is "complete" or "fragmentary." When I speak of a "fragmentary" study, I mean to say only that the portions of the study which I have in hand are fragmentary.

The first thing to note is that the "studies" listed in the upper half of Table 4.1 (e.g., Feldman and Halterman, 1963; Foote Cone & Belding/Wahlstrom, 1981) are just that, complete research reports with detailed accounts of methodology, copious tables and explicit verbal discussion. Those on the lower half are studies only small

Table 4.1

Yellow Pages Use Studies

| | Business/Professional | Lay |
|-------------|---|--|
| Complete | Simmons Market Research Bureau (1980) | Feldman & Halterman (1963) Feldman (1965) Simmons Market Research Bureau (1980) Foote, Cone & Belding/Wahlstrom (1981) |
| Fragmentary | Thomas Register (1974) Burke Marketing Research (1980) | Audits & Surveys (1966 and 1976) Creative Research, Inc. (1978) Chilton's Research Services (1976?) J.D. Powers (1979) Bell of Pennsylvania (1979) Indiana Bell and Herron Associates (nd) Statistical Research Inc. (1978-1981) DIAL and Association for Research in Behavior (1980) Russell Marketing Research Inc. (nd) R.H. Donnelley (1982) Rhodes, et al. (1979) |

fragments of which are available, largely in the form of self-congratulatory promotional literature. This is in no way to gainsay the truth or validity of this latter class of findings, but the piecemeal fashion in which they are presented -- usually only the name of the research organization conducting the study and the size of the sample is reported -- makes them less credible than the findings reported in the context of full research reports.^[1]

Different studies examine different aspects of Yellow Pages use. Most attempt to determine who uses the Yellow Pages, how often, under what circumstances, and for what purposes. At a slightly deeper level the question becomes what are the behavioral consequences (as well as the antecedents) of Yellow Pages use; that is, having ascertained that the respondent looked something up, some studies attempt to determine what the respondent did as a result of the reference. Several of the studies (especially Burke (1980) and Thomas (1974)) are comparative. They attempt to find out what other sources of information are used. At least two of the better documented or complete reports (Feldman & Halterman (1963) and Foote, Cone & Belding/Wahlstrom (1981)) explicitly study "attitudes" or "perceptions" of respondents vis-a-vis Yellow Pages use. Six of the studies (Feldman & Halterman (1963), Rhodes, et al.

(1979), DIAL (1980), Foote, Cone & Belding/Wahlstrom (1981), Russell (nd), and R.H. Donnelley (1982)) involve some level and form of copy testing. Typically, subjects are asked to identify which among several ads to which they would refer and/or respond. J.D. Powers (1979), Creative Research Services (1978), and Thomas (1974) explicitly set out to investigate the use of "non-utility" directories (Foote, Cone & Belding/Wahlstrom makes a passing reference to the frequency of ownership of non-telephone-company directories). Most of the Yellow Pages utilization studies concentrate on the "consumer" or "lay" audience but two -- Burke (1980) and Thomas (1974) -- focus exclusively on the business audience. Feldman (1965) studies intercity shopping and communications behavior as well as Yellow Pages utilization to inform the directory scope decision.

In Table 4.2, Selective Summary of Yellow Pages Utilization Data, I have identified 27 dimensions of utilization reported in one or more of the studies. Because the Table is a summary of summaries, it should be used with some caution.^[2] I also encourage the reader to recall the commercial interest that informed the selection of data to be reported in the promotional literature for the Yellow Pages. Still, most of the research reported was undertaken by reputable independent research firms and there is no reason

Table 4.2
Selective Summary Of Yellow Pages Utilization Data

| | Feldman + Halterman (1963) | Feldman (1965) | Thomas Register (1974) | Creative Research Services (1974) | ID Flowers (1979) | Chilton's (nd) | Chilton's (nd) (LA Metro. Area) | Burke (1980)* Business Users | Statistical Research, Inc. (1981-8) | DIAL + Assoc. For Research in Behavior (1980) | Fode Gene Building (1981) 48 | Simmons Market Research Bureau (1980) | Russell Marketing Research (nd) | ETS 1972 (All Telephone Books) |
|----------------------------------|----------------------------|----------------|------------------------|-----------------------------------|-----------------------|------------------------|---------------------------------|------------------------------|-------------------------------------|---|------------------------------|---------------------------------------|---------------------------------|--------------------------------|
| % USED YESTERDAY | - | - | - | - | - | - | - | 101.8% | - | - | - | - | - | 34.8% |
| # OF TIMES USED YESTERDAY | 47.2% | 45% | - | - | - | - | - | 101.0% | - | - | - | - | - | ND |
| % USED WITHIN WEEK | YES | YES | - | - | - | - | - | 90.0% | - | - | - | - | - | ND |
| # OF TIMES USED WITHIN WEEK | 60.7% | - | - | - | - | - | - | 90.0% | - | - | - | - | - | ND |
| % USED WITHIN MONTH | - | - | - | - | - | - | - | 16.0% | - | - | - | - | - | ND |
| % USED WITHIN YEAR | - | - | - | - | - | - | - | 16.0% | - | - | - | - | - | ND |
| # TIMES USED WITHIN YEAR | 88.7% | 87% | 80% | 91% | 3.9 x 10 ⁶ | 2.86 x 10 ⁶ | 4.5 x 10 ⁶ | 16.0% | - | - | - | - | - | ND |
| % USED, USUALLY/REGULARLY USED | - | - | - | - | YES | - | - | - | - | - | - | - | - | ND |
| % FREQUENCY PER INDIVIDUAL USER | - | - | 55% | 39% | YES | - | - | - | - | - | - | - | - | ND |
| % FREQUENCY PER FAMILY USER | - | - | 80% | 21% | - | 48% | 3.4% | 23.0% | 60% | - | - | - | - | ND |
| % USED WITH CONTACT INFO IN HAND | 64% | - | 80% | - | - | 5% | 54% | 7% | 60% | - | 64%-85% | - | - | ND |
| % USERS NUMBER CONTACT IN HAND | - | - | 55% | - | - | 5% | 54% | 7% | 60% | - | 77%-84% | - | - | ND |
| % USERS FOLLOWING UP | 81% | - | - | - | - | 84% | 83% | 66% | - | - | YES | - | - | ND |
| SEX OF USERS | 30-49 | YES | - | - | YOUNG | - | - | - | - | - | 25-49 | YES | - | YES |
| AGE | HIGH | - | - | - | HIGH | - | - | - | - | - | \$20K+ | YES | - | YES |
| INCOME | HIGH | - | - | - | LARGE | - | - | - | - | - | - | YES | - | YES |
| FAMILY SIZE | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EFFECTS | YES | - | - | - | POSITIVE | - | - | POSITIVE | - | - | - | - | - | YES |
| EFFECTS OF AD STYLE | YES | - | - | - | - | - | - | YES | - | YES | YES | NO | YES | NO |
| EFFECTS OF AD CONTENT | YES | - | - | - | - | - | - | YES | - | YES | YES | NO | YES | NO |
| EFFECTS OF POSITION | YES | - | - | - | - | - | - | POSITIVE | - | - | - | - | - | NO |
| USER ATTITUDES/PRICE PERMS | YES | YES | - | - | POSITIVE | - | - | - | - | - | - | - | - | YES |
| USE BY PRODUCT CATEGORY | YES | - | YES | - | - | - | - | - | - | YES | YES | YES | - | NO |
| USE IN HOME | YES | - | NO | - | - | - | - | NO | - | - | - | YES | - | - |
| USE OUT OF HOME | YES | - | NO | - | - | - | - | - | - | - | - | YES | - | - |
| USE AT WORK | - | - | YES | - | - | - | - | YES | - | - | - | YES | - | 21.4% |
| FOR BUSINESS | - | - | ONLY | - | - | 38% | - | ONLY | 41% | - | - | YES | - | 13.4% |
| FOR PERSONAL | - | - | NO | - | 62% | 62% | - | NO | 59% | - | - | YES | - | - |

* REPORTS OF THE SAME BURKE STUDY VARY. RANGE OF REPORTED RESPONSES GIVEN WERE.
 ** RANGE GIVEN FOR "USUALLY" AND "EVER".

to discard it merely because it is incomplete or commercially motivated. Many of the findings from the complete and highly credible studies are corroborated by the more fragmentary reports. Let me highlight here some of the consistent and believable (to me) findings. It is clear that between 80% and 99% of the American adult public use the Yellow Pages. The range is partially explained by wording of different questions, that is, nearly everyone reports having used it "at some time," but over 80% consistently report using it "generally," "frequently," etc. Between 37% and 47% report having used it "last week." Over 80% of Yellow Pages users follow up on their use with some kind of action: making a phone call, paying a visit, writing a letter, or making a purchase. The Yellow Pages is used in both business and personal contexts (in about a 40/60 proportion), in the home and out of the home. People use the Yellow Pages both when they know a product category but not a specific business name and when they have a specific name in mind.

4.3. HOW OFTEN ARE THE YELLOW PAGES USED

On Table 4.2 I note several reports of aggregate use of the Yellow Pages. The number of times the Yellow Pages are used within a week, month, and year, attributed to Simmons (1980), are not quoted directly from the Simmons Market Research Bureau Volume on Yellow Pages use; rather, they are derived from my analysis of some raw response data reported there. Thus, on the first page of Volume P-12, Simmons displays a table, reproduced here as Table 4.3.

To transform these data into estimates of total Yellow Pages utilization, it was necessary to multiply the projected number of individuals in each useage category by the average number of uses within the category and to standardize the different time periods (days, weeks, months) to a common metric. Because the use categories do not specify an unambiguous mean frequency (and because there is certainly a good deal of error in the respondents' own recall), I chose to do a simple sensitivity analysis and to generate a range of aggregate daily, weekly, and monthly use estimates for both business and at-home use. As a first step, I created a set of explicit frequency weights; that is, given a respondent indicates that he uses the Yellow Pages at home "2 or 3 times a week," the actual average use may be 2, 2.5, or 3 times a week. Likewise, a

Table 4.3
Frequency Of Yellow Pages Use

| | Place of Business | | | Home Or Elsewhere | | |
|--|-------------------|------|------------|-------------------|------|------------|
| | '000 | % | Unweighted | '000 | % | Unweighted |
| 3A. About How Often Do You Use The "Yellow Pages" Classified Section Of The Telephone Directory, Either At Your Place Of Business, At Home Or Elsewhere? | | | | | | |
| A. More Than Once A Day | 5092 | 3.2 | 458 | 3056 | 1.9 | 295 |
| B. Once A Day | 5231 | 3.3 | 449 | 3410 | 2.2 | 309 |
| C. 2 Or 3 Times A Week | 11610 | 7.3 | 1165 | 13104 | 8.3 | 1325 |
| D. Once A Week | 8743 | 5.5 | 829 | 13623 | 8.6 | 1432 |
| E. 2 Or 3 Times A Month | 12882 | 8.1 | 1249 | 25256 | 15.9 | 2546 |
| F. Once A Month | 8707 | 5.5 | 879 | 16471 | 10.4 | 1652 |
| G. Less Than Once A Month | 20564 | 13.0 | 1998 | 35739 | 22.6 | 3465 |
| H. Never | 85608 | 54.0 | 7975 | 47779 | 30.2 | 3978 |

n = 15,002

Source: Simmons, 1980 (Vol. P-12, p. 0001)

"once a month" user may actually average 1.1 times a month or .75 times a month. Table 4.4 is the matrix of weighting coefficients -- standardized to the number of uses per day -- that I used in my analysis. Table 4.5 displays the results of the analysis. An intermediate step involves the multiplication of the data in Table 4.3 by the coefficients in Table 4.4 and the aggregation into meaningful time categories, i.e., the "more than once a day" and "once a day" are added to come up with a number of uses per day in Table 4.5.

The figures I report in Table 4.2 reflect the "High Medium" estimates of my analysis. But, note that the difference between the highest and lowest estimates generated by very different frequency weighting coefficients is only slightly more than a factor of two. The estimates are within the same order of magnitude and are corroborated by other studies (e.g., of Statistical Research, Inc. and Chilton's) on Table 4.2.

I do not want to gloss over the differences between the high and low estimates either within the Simmons data or between Simmons' (n = 15,002) and Statistical Research's (n = 11,325) findings, but, I would propose that the most striking fact is the order of magnitude convergence in two independent, very large sample studies. We have every

Table 4.4
Weighting Coefficients For Sensitivity
Analysis Of 1980 Simmons Yellow Pages
Use Data (Expressed As Number Of Uses Per Day)

| | >1/day | 1/day | 2-3/wk | 1/wk | 2-3/mo | 1/mo | <1/mo |
|-----------|--------|-------|--------|------|--------|------|-------|
| High | 3 | 1.1 | .43 | .16* | .1 | .04 | .03 |
| Med. High | 2.5 | 1 | .36 | .14 | .08 | .03 | .02 |
| Med. Low | 1.5 | .75 | .29 | .11 | .07 | .03 | .02 |
| Low | 1.1 | .5 | .21 | .07 | .05 | .02 | .003 |

*Note: To recast coefficients from per day to per week, multiply by 7, i.e.,

High Estimate of Weight for the Once A Week Response = $.16 \times 7 \approx 1.1$ Times Per Week

Table 4.5
Estimates Of Aggregate Yellow Pages Use
Based On SMRB 1980

| | Home (000) | | | | Business (000) | | | |
|-----------|------------|--------|--------|------------------------|----------------|--------|---------|------------------------|
| | Day | Week | Month | Year | Day | Week* | Month** | Year*** |
| High | 24647 | 172529 | 749268 | 8.97 x 10 ⁶ | 32848 | 164240 | 712802 | 8.21 x 10 ⁶ |
| Med. High | 20883 | 146181 | 634843 | 7.60 x 10 ⁶ | 27874 | 139370 | 604866 | 6.97 x 10 ⁶ |
| Med. Low | 15002 | 105014 | 456061 | 5.46 x 10 ⁶ | 19478 | 97390 | 422673 | 4.87 x 10 ⁶ |
| Low | 10483 | 73381 | 318683 | 3.82 x 10 ⁶ | 13760 | 68800 | 298592 | 3.44 x 10 ⁶ |

| | Total | | Year |
|-----------|------------------------|------------------------|-------------------------|
| | Week | Month | Year |
| High | 3.37 x 10 ⁸ | 1.46 x 10 ⁹ | 1.72 x 10 ¹⁰ |
| Med. High | 2.86 x 10 ⁸ | 1.24 x 10 ⁹ | 1.46 x 10 ¹⁰ |
| Med. Low | 2.02 x 10 ⁸ | 8.79 x 10 ⁸ | 1.03 x 10 ¹⁰ |
| Low | 1.42 x 10 ⁸ | 6.17 x 10 ⁸ | 7.26 x 10 ⁹ |

Note:
 *Business Week = 5 days
 **Business Month = 21.7 days
 ***Business Year = 250 days

Days are not strictly addable because At Home week is calculated on the basis of 7 days and the Business Week on the basis of 5 days.

reason to believe that the Yellow Pages are used tens of millions of times per day, hundreds of millions of times each week, and tens of billions of times each year.

4.4. CHARACTERIZING THE YELLOW PAGES USER

Since my main interest is in "lay" or consumer reference, in the balance of this chapter I concentrate on characterizing the at-home user (the right hand side of Table 4.3) and the nature of his use of the Yellow Pages directory. I begin with a thumbnail survey of cumulative Yellow Pages "reach" as reported in a number of frequently cited surveys. Next, I develop a demographic and media use profile of the at-home Yellow Pages user. I then consider, in more detail, the demographic profile of "heavy" or frequent Yellow Pages users and examine the degree of demand-side concentration in the Yellow Pages industry. Next, I examine Yellow Pages use as a function of income. I close this section with some speculations about the continuity of use patterns over a span of two decades.

4.4.1. Who Uses The Yellow Pages

Just about everyone uses the Yellow Pages. An often quoted Chilton Research Company study indicates that about 80% of the adult U.S. population uses the classified directory. 90% of Burke Marketing Research's sample of 5,000 business buyers say that they use the Yellow Pages. Fully 98.7% of Feldman & Halterman's sample of Kansas housewives indicated that they used the Yellow Pages at home. 99% of

the Foote Cone & Belding/Wahlstrom's 1981 sample of 200 relatively young, upscale, urban dwellers used the Yellow Pages in the last six months. The 1990 Simmons study of Media and Markets reports that nearly 70% of the population uses the Yellow Pages at home and nearly 50% at work. Altogether, over 82% of the Simmons sample reports using the Yellow Pages in one or another setting, a finding that converges nicely with the Chilton study. We can say with some assurance then, that based on a number of independent studies conducted over a 20-year period, about four out of five people in the general population use the Yellow Pages.

Are there, among consumers, consistent demographic correlates of Yellow Pages use and non-use? That is, are Yellow Pages at-home users distributed randomly throughout the population or are there a few (related) variables that are associated with (or could be used to predict) user and non-user groups?

Simmons reports an "index of selectivity" which gives the relative likelihood of a particular demographic group to be part of the population of interest. For example, if men were especially likely to use the Yellow Pages at home, they would have a high index and women a low one. As it happens, both men and women have an index score of 100, indicating that sex is not a predictor of at-home Yellow

Pages use. We would expect there to be some random variation in this index so that rather than report all scores greater or less than 100 in the following two tables, I highlight only those demographic groups that have indices higher than 110 or lower than 90; that is, those at least 10% more likely to be (or not to be) Yellow Pages users than the entire universe of American adults.^[3] Simmons provides data on 68 demographic categories. People in 15 of these (i.e., those with index scores of > 110) are particularly likely to be at-home Yellow Pages users and those in 11 others particularly unlikely to be. Table 4.6 is a demographic profile of the "likely" user and Table 4.7 is a profile of the "likely" non-user.

The likely user is relatively young, well-educated, employed and affluent, living in a relatively costly home in the West.^[4] The unlikely user is old (age 65+), without a high school education, living alone on a low income in the Northeast or South. Blacks are unlikely to be users whereas people who are neither White nor Black (Orientals?) are particularly likely to be users. Simmons' selectivity index is a probabilistic measurement -- it speaks to tendencies and not to individual behavior. Thus, the low index score for Blacks points out that while Blacks make up 11%

Table 4.6

Demographic Profile Of The "Likely"* User

| Group | % of Total User Population | Index |
|--|----------------------------|-------|
| Age: 25-34 | 25.0 | 111 |
| Education: College Graduate | 17.8 | 120 |
| Attended College | 19.1 | 115 |
| Employment: Employed Women | 27.6 | 110 |
| Employed Part-Time | 9.2 | 113 |
| Professional/Manager | 21.3 | 119 |
| Clerical/Sales | 16.2 | 110 |
| Ethnicity: Not White or Black | 2.0 | 111 |
| Location/ Housing: West (Census) | 22.7 | 110 |
| Pacific (Market) | 18.1 | 110 |
| Own House of Value \geq \$40K | 42.8 | 110 |
| Household Income: \$35K+ | 16.3 | 117 |
| \$25K+ | 35.5 | 114 |
| \$20-25K | 14.2 | 112 |

*Index Score \geq 110

Source: Simmons, 1980, (Vol. P-12, p. 0022)

Table 4.7

Demographic Profile Of The "Unlikely"* User

| Group | % of Total YP User Population | Index |
|---|----------------------------------|-------|
| Age: 65+ | 11.8 | 79 |
| Education: Did Not Graduate High School | 23.6 | 78 |
| Employment: Not Employed | 35.2 | 90 |
| Ethnicity: Black | 8.1 | 74 |
| Household: Divorced/Sepa- rated/Widowed Single Person Household | 13.6 | 83 |
| | 9.7 | 83 |
| Location/ Housing: South (Census) County Size D** Non-Metro | 29.4 | 90 |
| | 12.8 | 81 |
| | 23.9 | 89 |
| Household Income: \$5-10K <\$5K | 11.3 | 84 |
| | 6.2 | 68 |

*Index Score < 90

**County not in largest 25 SMSA's and
40,000 > County Population.

Source: Simmons, 1980 (Vol. P-12, p. 0022)

of the sample, they make up 8.1% of the Yellow Pages users (8.1% ÷ 11% = .74).

Another way to characterize Yellow Pages users is in terms of their use of other media. According to the Simmons' 1980 data, Yellow Pages users tend to be newspaper readers, but the tendency is not overwhelming. That is, aside from the heavy newspaper readers (probably suburbanites, who read both a city and a suburban newspaper and have indices generally over 110), Yellow Pages users are only slightly more likely to be newspaper readers (index around 103) than the general population. They also tend to be radio listeners (except for religious and Black formats where Yellow Pages users are relatively under-represented) with indices consistently, if only slightly, higher than 100 for almost all day parts, formats, and networks. On the other hand, except for sports programming, where they tend to have indices over 110, they are relatively light television viewers, scoring in the low to middle 90s for all day parts and programs except for prime time where they, like just about everyone else, score an even 100.

Yellow Pages users are unusually heavy magazine readers. Simmons cross tabulates the number of times the Yellow Pages are used at home against readership of 121 general circulation magazines. The average index score

(averaging across magazines) for the approximately 70% of the population who have used the Yellow Pages outside of a work setting is slightly higher than 111. Among the 21% of the population who are heavy Yellow Pages users (once a week or more), the mean index is over 128, i.e., frequent Yellow Pages users are 28% more likely to read the "average" magazine than is the U.S. adult population. (The correlation between the magazine readership indices of the total "used at home" group and the frequent user "used once a week or more" group is very strong, $r = .68$.) Following the same procedure as I used for demographic categories, I have listed on Tables 4.8 and 4.9 those magazines whose Yellow Pages readership is greater and less than one standard deviation from the mean for the respective use class. There are few surprises in these Tables.^[5] Heavily read magazines -- Harper's, Gourmet, Psychology Today, Barrons -- tend to appeal to an educated, upscale audience and those lightly read are aimed at Blacks -- Jet, Ebony, Essence -- or at a relatively low-brow audience -- Soap Opera Digest, The Star, National Enquirer, True Story.

4.4.2. Heavy Users

Figure 4.1 is the frequency distribution of Yellow Pages use "last week" from Feldman & Halterman's Kansas

Table 4.8

Magazines Likely To Be Read By The
Yellow Pages User

| Magazine Title | Used At Home Or Elsewhere | Used Once A Week Or More |
|--------------------------|------------------------------|-----------------------------|
| | $Z \geq 1$ | $Z \geq 1$ |
| American Baby | 122 | 154 |
| Baby Talk | -** | 158 |
| Barron's | - | 169 |
| Bon Appetit | 123 | - |
| Cuisine | 122 | - |
| Decorating Craft & Ideas | 121 | - |
| Forbes | 119 | 148 |
| Fortune | 120 | - |
| Golf Magazine | - | 158 |
| Gourmet | 127 | 175 |
| Harper's/Atlantic | 124 | 172 |
| Harper's Bazaar (sic) | 120 | - |
| House Beautiful | 119 | - |
| Money Magazine | 120 | - |
| Ms. | 123 | 178 |
| National Lampoon | 119 | 154 |
| The New Yorker | 121 | - |
| Omni | 122 | 151 |
| Psychology Today | 119 | 156 |
| Scientific American | 124 | - |
| Smithsonian | 123 | 155 |
| Sunset | 124 | 152 |
| Travel & Leisure | - | 167 |
| Travel/Holiday | 122 | 167 |
| Wall Street Journal | 124 | - |
| Working Woman | - | 145 |
| World Tennis | - | 158 |
| | $\bar{x} = 111$ | $\bar{x} = 128$ |
| | S.Dev. = 7.85 | S.Dev. = 19.04 |
| | $119 \cong Z = 1$ | $147 \cong Z = 1$ |

**A dash ("-") indicates that the readership index in this category was not $\geq Z = 1$.

Source: Simmons, 1980 (Vol. P-12, pp. 0024-0025)

Table 4.9

Magazines Unlikely To Be Read By The
Yellow Pages User

| Magazine Title | Used At Home Or Elsewhere | Used Once A Week Or More |
|---------------------------------|------------------------------|-----------------------------|
| | Z < -1 | Z < -1 |
| *Car Craft | 101 | 77 |
| *Chic | 100 | -** |
| Ebony | 83 | 90 |
| Essence | 88 | 103 |
| Flower & Garden | 99 | - |
| Gentleman's Quarterly | 98 | - |
| Jet | 83 | 94 |
| National Enquirer | 102 | 105 |
| National Supplement Package | - | 108 |
| New York Times Daily Edition | - | 109 |
| New York Times Magazine | - | 107 |
| 1001 Decorating Ideas | - | 105 |
| Organic Gardening | 102 | 108 |
| Parade | - | 104 |
| Popular Hot Rodding | 102 | - |
| Soap Opera Digest | 102 | 108 |
| Southern Living | - | 93 |
| Sport | - | 103 |
| Sports Afield | 103 | - |
| The Star | 98 | 101 |
| Sunday | - | 103 |
| True Story | 96 | - |
| TV Guide | - | 108 |
| U.S. | - | 147 |
| | $\bar{x} = 111$ | $\bar{x} = 128$ |
| | S.Dev. = 7.85 | S.Dev. = 19.04 |
| | 103 \equiv Z = -1 | 109 \equiv Z = -1 |

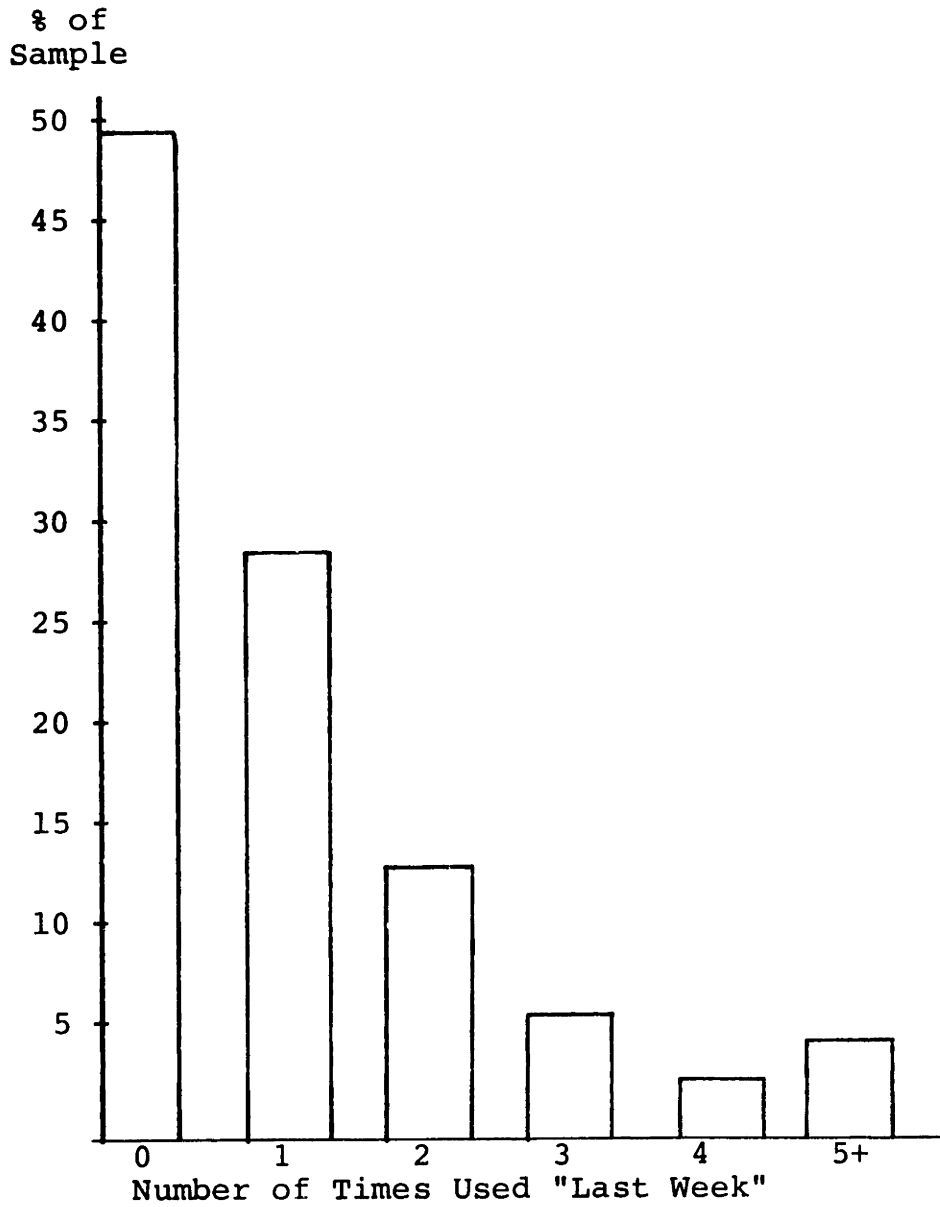
*Small sample size makes these figures relatively unreliable.

**A dash ("-") indicates that readership index in this use category was not $\leq Z = -1$.

Source: Simmons, 1980 (Vol. P-12, pp. 0024-0025)

Figure 4.1

Frequency Distribution Of Yellow Pages
Use "Last Week," Kansas 1961



Source: Feldman & Halterman, 1963,
Table 1.2

data. (The horizontal axis is the number of times used and the vertical axis is the percent of the population reporting that number of uses.) Even in the extremely homogeneous population of (generally middle class) housewives living in medium-sized cities in Kansas in 1961, there is a good deal of variability in use frequencies. While nearly 99% of the respondents said they used the Yellow Pages at home at one time or another, nearly 50% did not use it at all "last week" and a few (3.4%) used it five times or more. Not everyone uses the Yellow Pages at home and not everyone who does use it uses it the same amount; that is, the distribution is far from uniform.

Table 4.10 is a demand-side analysis of market concentration based on my sensitivity analysis of the Simmons data.^[6] It answers the question: Given the non-uniform distribution of use, what proportion of total Yellow Pages use is accounted for by what proportion of the population? The Table should be read as follows: "The 'one time per day or more frequently' use class consists of 4.1% of the population and accounts for 50% of total Yellow Pages use." This is an extreme "heavy-half" phenomenon. Heavy users, the 21% who consult the Yellow Pages at home once a week or more, account for over 83% of Yellow Pages use (another instance of the 80-20 Principle).

Table 4.10

Market Concentration Analysis: Yellow Pages Use

| Frequency Class | % Of Population | Cumulative % of Population | % Of Use | Cumulative % of Use |
|---------------------|-----------------|----------------------------|----------|---------------------|
| > 1 time per day | 1.9 | 1.9 | 34.2 | 34.2 |
| 1 time per day | 2.2 | 4.1 | 15.8 | 50.0 |
| 2-3 times per week | 8.3 | 12.4 | 24.2 | 74.2 |
| 1 time per week | 8.6 | 21.0 | 9.2 | 83.4 |
| 2-3 times per month | 15.9 | 36.9 | 10.8 | 94.2 |
| 1 time per month | 10.4 | 47.3 | 2.8 | 97.0 |
| < 1 time per month | 22.6 | 69.9 | 3.0 | 100.0 |
| never | 30.2 | 100.1* | 0 | |

*Due to Rounding Error

Source: Simmons, 1980 (Vol. P-12, p. 0001)

We have already characterized the demographic attributes of likely and unlikely user groups and a further analysis of the Simmons data allows us to do the same for the subset of heavy (once a week or more often) users. Tables 4.11 and 4.12 profile the characteristics of the likely and unlikely heavy user groups. Not surprisingly, groups likely to be heavy users have, generally speaking, the same characteristics as those likely to be users, only more so. Groups especially unlikely to be heavy users are precisely those who were relatively unlikely to be users at all.

A powerful confirmation of these findings comes from the 20-year old Kansas study. Table 4.13 is a profile of light and heavy Yellow Pages users drawn from Feldman & Halterman (1963).^[7] There were essentially no "non-users" in the Kansas sample, but as we saw in Figure 4.1, frequency of use varied a good deal. The Use Index in Table 4.13 is not probabilistic; rather, it is a direct measure of the average number of Yellow Pages uses per 100 respondents "last week" by demographic group. The grand mean of uses per hundred respondents was 99 per week; that is, just under one use per respondent "last week." An index of 80 for respondents of income less than \$4,000 -- for urban dwellers in Kansas, that represents the 25th percentile and

Table 4.11

Demographic Profile Of The "Likely"* Frequent User

| Group | % Of Frequent User Population | Index |
|--------------------------|----------------------------------|-------|
| Education: | | |
| College Graduate | 19.8 | 134 |
| Attended College | 20.5 | 124 |
| Employment: | | |
| Employed Women | 29.5 | 117 |
| Employed Part-Time | 10.9 | 135 |
| Professional/Manager | 23.0 | 128 |
| Clerical/Sales | 17.7 | 120 |
| Location: | | |
| West (Census) | 25.0 | 121 |
| West Central (Marketing) | 19.9 | 115 |
| Pacific (Marketing) | 19.5 | 119 |
| County Size C** | 20.3 | 120 |
| Metro Central City | 38.2 | 122 |
| Household Income: | | |
| \$35K+ | 17.5 | 126 |
| \$25K+ | 37.4 | 120 |

*Index Score > 115

**County not in 25 largest SMSA's and
40,000 < Population < 150,000

Source: Simmons, 1980 (Vol. P-12, p. 0022)

Table 4.12

Demographic Profile Of The "Unlikely"* Frequent User

| Group | % Of Frequent User Population | Index |
|------------------------------|-------------------------------|-------|
| Age: | | |
| 55-64 | 11.5 | 85 |
| 65+ | 9.6 | 64 |
| Education: | | |
| Did Not Graduate High School | 21.7 | 71 |
| Ethnicity: | | |
| Black | 8.3 | 75 |
| Household: | | |
| Divorced/Separated/Widowed | 13.8 | 84 |
| Single Person Household | 9.7 | 83 |
| Location: | | |
| Northeast (Census) | 17.3 | 79 |
| Northeast (Marketing) | 18.5 | 78 |
| County Size D** | 10.3 | 65 |
| Non-Metro | 21.5 | 80 |
| Household Income: | | |
| \$5-10K | 10.6 | 78 |
| <\$5K | 6.5 | 71 |

*Index Score < 85

**County not in 25 largest SMSA's and 40,000 > County Population

Source: Simmons, 1980 (Vol. P-12, p. 0022)

Table 4.13
Profiles Of Heavy And Light Yellow Pages
Users, Kansas 1961

| | Heavy YP Users Index > 105 | Index | Light YP Users Index < 95 | Index |
|-----------|---|-------------------|---|----------|
| Age: | 30-49 | 109 | 69+ | 63 |
| Income: | \$8,000-\$12,000 (approx. 73rd- 90th percen- tile) | 131 | <\$4,000 (25th percen- tile and below) | 80 |
| SES: | Upper Group Middle Group | 113 108 | Lower Group | 91 |
| Mobility: | Moved at least once in past 5 years All migrants Migrants from larger cities | 107 106 128 | No moves during past 5 years Long time resi- dents | 93 87 |
| Location: | Larger city | 107 | Smaller city (Town) | 82 |

Source: Feldman & Halterman, 1963, Tables 1-3 to 1-7

below, according to the 1960 Census -- indicates that people in this income class reported using the Yellow Pages "last week" an average of 80 times per hundred respondents, or 20% less than the grand mean. In addition to the anticipated effects of age, income, and socio-economic status (SES) (a composite of "household income and educational level required in the occupation of the head of the household" in the Feldman & Halterman study), the Kansas data confirms the importance of city size and touches on an interesting variable not reported in the Simmons study -- mobility. Highly mobile populations, especially those migrating from larger cities, are heavy Yellow Pages users while sedentary populations are light users.

4.4.3. Life Style And Buying Characteristics

There are clear and consistent demographic correlates of Yellow Pages use, and it is reasonable to imagine that there are likewise consistent "psychographic" -- personality and lifestyle -- correlates. Unfortunately, no one of whom I am aware has done an analysis of Yellow Pages use like the analysis of library use conducted by Madden (1979). The 1982 Simmons survey, though, does include a number of questions about the buying style and self-image

of the respondent. Cross-tabulating these sets of questions and some additional questions about product purchase and use against Yellow Pages use, we can get a first, very incomplete glimpse of these psychographic dimensions.^[8]

Highlighting only those responses with indices higher than 110 or lower than 90, the following profile emerges. In terms of buying style, Yellow Pages users tend to see themselves as economy-minded planners not easily persuaded by advertising claims. As to self-concept, Yellow Pages users see themselves as amicable, intelligent and, trustworthy as well as efficient, dominating, and stubborn. Like library users -- and by my earlier speculation like heavy reference users in general -- Yellow Pages users are extremely active in voluntary associations and in civic and recreational activities (heavy Yellow Pages users have an index of 179 for regularly participating in three to five civic activities). They are heavy book buyers and readers (index of 132 for heavy Yellow Pages users buying three to five books per year and 152 for those buying six or more books per year). Moreover, and this has important implications for the future of electronic directories and videotex, Yellow Pages heavy users are disproportionately likely to own video games (index 139), video cassette equipment (index 112), subscribe to cable and pay T.V. (indices 111

and 121, respectively), and perhaps most interestingly to own a home computer (index 126). Perhaps because of their busy schedules, or because they enjoy the convenience of it, or because of their penchant for looking things up, heavy Yellow Pages users are likely to purchase via catalog (index 126) and mail order (index 135) and to spend a good deal of money at it (index for mail orders totalling over \$200 per annum for heavy users is 147).

4.4.4. Use As A Function Of Income

If 90% of some group engaged in an activity in which only 20% of the population as a whole participated, that group would have a sensitivity index of 450. But, if this group comprised only .05% of the population, its absolute importance would still be quite small. We know from Tables 4.6 and 4.11 that relatively wealthy households have high index scores; what Table 4.14 indicates is that these households account for a large, absolute proportion of frequent users. Over 37% of frequent users have household incomes of \$25,000 or more, incomes at or above the 69th percentile of the Simmons sample. In sum, frequent users account for over 80% of consumer Yellow Pages use. Not only are the affluent relatively over-represented in the

Table 4.14
Income Distribution In The U.S. (1980) And In The
 Simmons Sample By Frequency Of Yellow Pages Use

| Household Income | U.S. (a) % | Total Sample (b) % | YP Used at Home (b) % | Used Once a Week or More (b) % | Used 1, 2 or 3 Times a Month (b) % | Used Less Than Once a Month (b) % |
|---------------------|---------------|--------------------------|--------------------------------|---|---|--|
| <\$5,000 | 10.6 | 9.2 | 6.2 | 6.5 | 6.7 | 5.5 |
| \$5,000-\$9,999 | 14.5 | 13.5 | 11.3 | 10.6 | 10.0 | 13.4 |
| \$10,000-\$14,999 | 13.7 | 19.8 | 18.1 | 17.7 | 17.5 | 19.1 |
| \$15,000-\$19,999 | 12.4 | 13.8 | 14.7 | 13.8 | 15.1 | 15.1 |
| \$20,000-\$24,999 | 11.6 | 12.7 | 14.2 | 14.0 | 14.8 | 13.8 |
| \$25,000+> | 37.2 | 31.1 | 35.5 | 37.4 | 36.0 | 33.1 |
| \$35,000+> (c) | 19.7 | 13.9 | 16.3 | 17.5 | 17.4 | 13.7 |

Sources: (a) Statistical Abstract of the
 United States, 1982-83 data
 for 1980

(b) Simmons, 1980 (Vol. P-12, p. 0022)
 data for 1980

(c) Note: Incomes >\$35,000 is a
 proper subset of Incomes
 >\$25,000

frequent user class (i.e., high index scores), but they also account for a substantial portion of that class.

On Figure 4.2 I have plotted the sensitivity index as a function of income for each of the four use frequency classes -- Used At Home; Once A Week Or More; 1, 2, 3 Times A Month; and Less Than Once A Month.^[9] An examination of this graph is, I think, quite revealing. The "Used At Home" curve, which includes all use categories, is (more or less) S-shaped; it rises sharply from the left and then its slope tapers off to the right, suggesting a ceiling effect whereby more income beyond a certain point (just beyond the median income \$16,500 or slightly to the right of the origin on the graph) produces diminishing returns in propensity to use. The "Once A Week Or More" graph looks remarkably linear except at the two extreme points. At the upper right (high income, high use), the ceiling effect is again evident and at the lower left (low income, low use), the effect of moving from the very lowest to the second lowest income category is not as great as moving from the second and beyond. If these graphs are representative of current Yellow Pages use (and there is no a priori reason to believe they are not), then it would appear that relative propensity to use the Yellow Pages (and especially to use them heavily) is a (simple linear?) function of income.

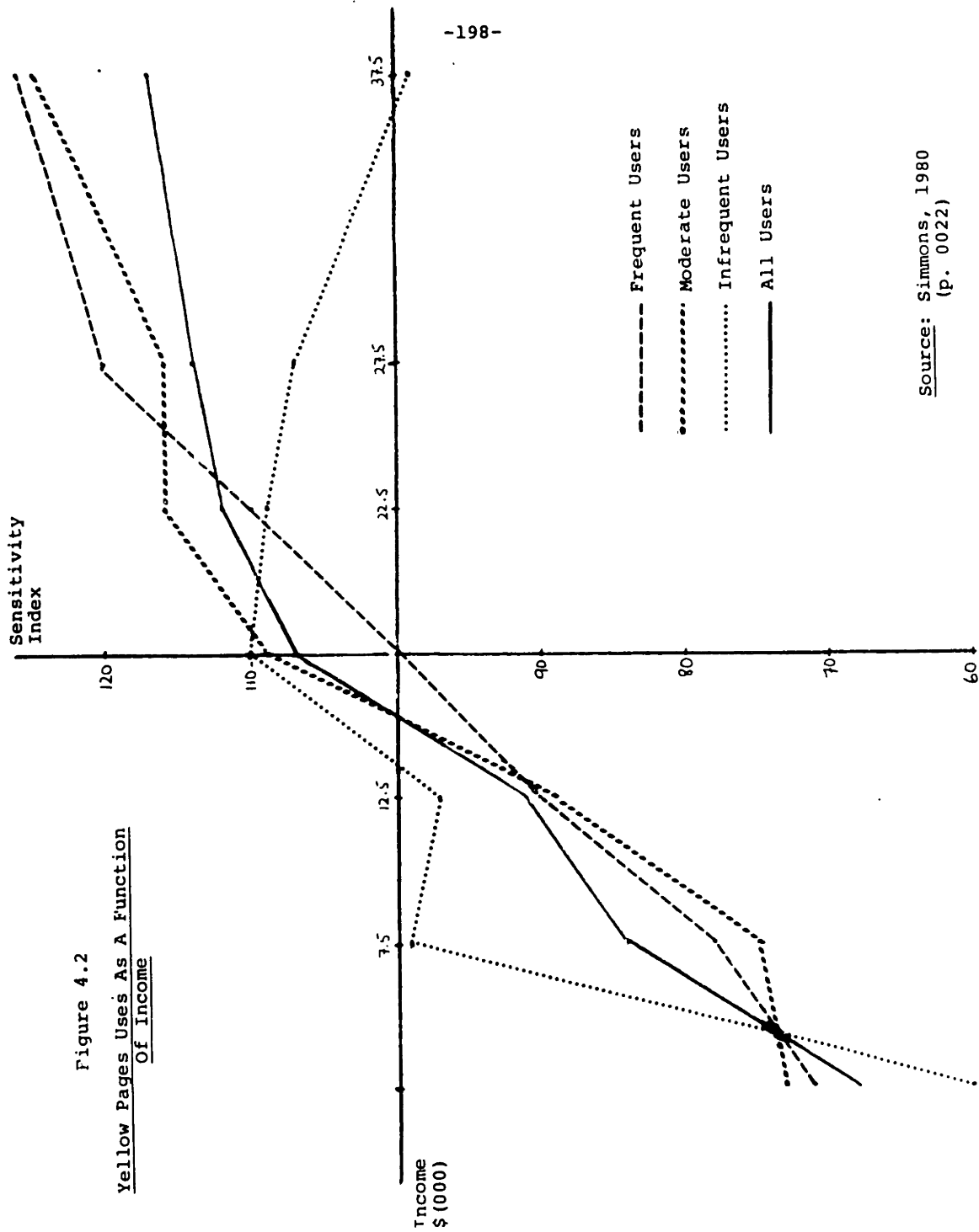


Figure 4.2
Yellow Pages Uses As A Function
Of Income

Source: Simmons, 1980
(p. 0022)

Between the 9th and 86th income percentiles of the Simmons sample, the likelihood of being a heavy user (that is, in the user category that accounts for 80%+ of all Yellow Pages use) appears to increase in direct proportion to household income increase. The curve for the moderate user category (once, twice or three times per month) is, in general, S-shaped, but steeper than the overall "Used At Home" curve.

The only function which is not monotone rising is the infrequent users curve. The very poorest of the Yellow Pages users are the very least likely to be very infrequent users (index = 60), but the rise between the poorest and second poorest group is the steepest of all the graphs. It is the moderate income group (in the 42nd through 56th income percentile clustering around the median 1980 U.S. household income) that is disproportionately likely to use the Yellow Pages infrequently. Note also that as income rises over the median, Yellow Pages utilization in this infrequent use category actually falls so that infrequent Yellow Pages use is about as typical for the second lowest and the highest income categories (both having an index of 99). It would appear that if affluent people use the Yellow Pages (as they tend, in general, to do), then it is unlikely for them to use it very infrequently.

4.4.5. Continuity In The User Profile Over Time

The Yellow Pages industry has undergone a major transformation, becoming more market-oriented and competitive as well as bigger over the past 15 or so years. Production technology has changed radically as has the scope and contents of many directories. Classified directories, though, still look to the user much as they did 20 years ago, and it seems that use patterns have changed relatively little.

I know of no study, report, or data base that has tracked user demographics and behavior over time. (This is not to say that such a thing does not exist, merely that if it does, it is probably highly proprietary.) Yellow Pages studies are cross-sectional, not longitudinal. What can be done to lend a time dimension to our understanding of Yellow Pages use is to go back and look at old studies.

I have implicitly followed this procedure in my discussion of Yellow Pages use behavior, e.g., in presenting convergent evidence from a number of studies conducted at different times, all of which suggested that something over 80% of the adult American public uses the Yellow Pages. In my discussion of heavy users, I called upon user profiles collected two decades apart that underlined nearly identical salient demographic attributes. Figure 4.2 shows that the distribution of Yellow Pages use in 1961 was highly

skewed which suggests a concentrated market. Table 4.10 confirms that the demand-side of the market remains highly concentrated. [10]

In Table 4.15, I compare data on recency and frequency of Yellow Pages use garnered from two major sources. The data are not identical, nor are they strictly comparable. I would argue, and others might well disagree, that the differences are more a function of the different sampling frames employed (a non-generalizable Kansas housewife sample in 1961 versus a nationally projectable sample in 1980) than of fundamental changes in user behavior.

In the foregoing discussion I have emphasized data on relatively "hard" demographic and readership variables. But the (limited) findings on affect -- liking, trust, etc. -- also tend to be remarkably stable over time. Feldman & Halterman found that users' attitudes about the Yellow Pages as a medium (based on expert-scored word association tests) were "predominantly neutral but tend toward the positive" (p. 92). Attitudes about Yellow Pages advertisers were strong and positive.

"About six in ten persons hold definite attitudes about business firms who advertise in the Yellow Pages; of this group 97 percent associate desirable qualities with business firms who use Yellow Pages advertising."

(Feldman & Halterman, p. 61)

Table 4.15

Comparison Of Recency And Frequency Of
Yellow Pages Use, 1961-1980

| Time of Last Yellow Pages Use | Kansas (1961) ^(a) Home | Lower 48 (1980) ^(b) Home and Business |
|--|--------------------------------------|---|
| Within last 3 days | 24.0% | - |
| 4-7 days ago | 23.3% | - |
| Within last 7 days | 47.2%* | 37.5% |
| 1-4 weeks ago | 13.5% | 19.1% |
| Within last month | 60.7%** | 56.6%** |
| 1-2 months ago | - | 8.6% |
| 2-3 months ago | - | 4.7% |
| 1-6 months ago | 10.8% | - |
| >3 months ago | - | 10.2% |
| >6 months ago | 2.7% | - |
| Do not recall | 24.5% | 2.8% |
| Never use | 1.3% | 17.1% |
| <u>Average Number Of YP Users Per 100 People At Home</u> | | |
| Within last week | 99 ^(a) | 92 ^(c) |

*Within last 7 days = Within last 3 days + 4 to 7 days ago.

**Within last month = Within last 7 days + 1 to 4 weeks ago.

Sources: (a) Feldman & Halterman, 1963
 (b) Simmons, 1980
 (c) High-Medium Estimate from Sensitivity
 Analysis of Simmons data (Cf., Footnote
 10)

High = 109; Medium High = 92;
 Medium Low = 66; Low = 46;
 Average of Estimates = 78

The Foote Cone & Belding/Wahlstrom researchers found confirmatory evidence in their 1981 investigation of the effects of advertisement size on the customers' "image" of the advertiser. Not only did the respondents indicate that larger ads are "highly informative," easy to find and to read, but more importantly, for the present discussion, the larger the ad, the greater the customers' impression of the advertiser as trustworthy, "well-established," and "high quality." Yellow Pages promotional literature trumpets the high credibility of the medium for users and the survey evidence tends to confirm this claim over two decades. In all, continuity would seem to have dominated change in the use of and the attitudes toward the Yellow Pages over the past 20 years.

4.5. OF GROCERS AND GUNSMITHS, CESSPOOLS AND CLAMBAKES:
FOUR PROPOSITIONS ON WHAT IS SOUGHT AND HOW IT IS
FOUND IN THE YELLOW PAGES

In this section I offer four propositions to frame some content-analytical and survey evidence on what people seek in the directory and how they go about finding it.

4.5.1. Proposition 1. Notwithstanding the growth of national Yellow Pages advertising (approaching 15% of total revenues in the early 1980s), the medium remains highly local and its content and use are conditioned by the local culture and economy.

The evidence in support of this proposition can be drawn from both survey research and content analysis. Feldman & Halterman report some of the 1,409 specific items sought by their respondents "last time you used the Yellow Pages." Below are listed a few of these "last sought" items:

| | |
|-------------------|-------------------|
| chicken boxes | duck food |
| western shirts | chicken wire |
| clothesline poles | fence posts |
| jar lids | metal flower beds |
| rabbit food | moonvine seeds |

The most frequently sought set of product categories, accounting for over 7% of all "last references," were lumber, building materials, and farm equipment. The Feldman & Halterman study was conducted in small towns in Kansas. I think it highly unlikely that farm equipment and building supplies would have been the most frequently sought product

category in New York City in 1961 or that the care and feeding of domestic farm animals would have been mentioned four separate times by a sample of New Yorkers.

The content analytical evidence is also suggestive.

- . The 1983 Chicago Consumer Yellow Pages has no heading for "Clambakes," but the 1983 Boston Area book has 22 listing, eight of which are bold listings and three others space ads. In addition, there are nine large display ads, accounting for nearly a page and a half of the directory.
- . The 1983 Boston Area directory, serving a population of 2,120,000, has 25 listings under "Cesspools" and "Cesspools - Cleaning" with six relatively small in-column ads occupying about one-half a page or .003% of the book. The 1980 Moriches Area directory, a non-utility book serving 17 small semi-rural Long Island communities with a combined population of about 66,000, has, under the "Cesspool Building and Cleaning" heading, 37 listings -- 10 full page, 10 half page, 7 quarter page, and 5 one-eighth page ads -- accounting for 19-1/2 pages or 7.2% of the

book. Cesspools are about 2,400 times more significant to the content of the Moriches directory than to the Boston directory.

Clambakes are not part of the culinary culture of the mid-west. Everyone has a cesspool in rural Long Island, and, given the competitive environment, a large display ad in the local directory appears to be an accepted cost of being in the cesspool business.

4.5.2. Proposition 2. The kinds of information sought by consumers in the directory are highly various.

A relatively small number of headings accounts for a very large proportion of all references (Cf., Table 4.16). Feldman & Halterman's tabulation of headings "last referred to" indicates that a mere 1.6% of the classifications account for nearly 24% of total references and an additional 8.6% account for a further 33.9% of use. I have already shown that there exists a "heavy half" of Yellow Pages users. What Feldman & Halterman indicate here is that there is a heavy ten or so percent of classifications that accounts for nearly 58% of references.

On the other hand, 50% of the classifications used account for just over 10% of all references. So, even if a few headings account for a disproportionate share of the directory's use, a signal value of the Yellow Pages, from

Table 4.16

Number Of Yellow Pages Classifications Last
Used By Respondents At Home, Classified
By Frequency Of Use

| Number of Respondents | Number of Classifications | Total Number of Last Uses | Percent Of Classifications | Percent of Uses |
|-----------------------|---------------------------|---------------------------|----------------------------|-----------------|
| 40 or more | 5 | 377 | 1.6 | 23.9 |
| 10-39 | 26 | 477 | 8.6 | 33.9 |
| 2-9 | 122 | 445 | 40.3 | 31.6 |
| 1 | <u>150</u> | <u>150</u> | <u>49.5</u> | <u>10.6</u> |
| Total | 303 | 1,409 | 100.0 | 100.0 |

Source: Feldman & Halterman, 1963, Table 2-2.

the perspective of both the user and the advertiser, is its very comprehensiveness which permits one to find not only the frequently sought category, but also the rarely sought, unusual (fugitive or hard to find) product or service.

In highlighting the "variousness" of the information sought in the Yellow Pages, I am speaking not only of many headings, but also of various ways of using the directory. People use the Yellow Pages both when they have only a category of product or service in mind (but not a specific company name) and when they have a particular company in mind. The Chilton Research Company finding of the late 1970s -- that 57% of users have no firm in mind and that 43% have a firm in mind but choose the Yellow Pages rather than the alphabetical listing -- is frequently cited in the Yellow Pages promotional literature. The reasons given for these two different use patterns are also frequently cited. Figure 4.3 is from a promotional page in the 1982-83 Atlanta Yellow Pages (the 1982 Central Indiana Business to Business directory makes an almost identical claim). It is not clear from these sources whether these "reasons" are drawn from the survey responses or whether they are reasonable (but post hoc) explanations of the responses.

The more recent Statistical Research Inc. study indicates that the proportions in these two use categories are

Figure 4.3

"Who Are Your Customers"

57%*
of Yellow Pages users
have no firm in mind--

NEWCOMERS, TRANSIENTS

- . Must find new sources
of supply

EMERGENCY BUYERS

- . Unexpected need...fast
service now

DISSATISFIED BUYERS

- . Unhappy with present sup-
plier

INFREQUENT BUYERS

- . Have a need for seldom
purchased item or service

COMPETITIVE BID BUYERS

- . Make comparison...will
buy

43%*
of Yellow Pages users
have a firm in mind--

RECOMMENDED CUSTOMERS

- . Referred by a satisfied
customer

ADVERTISING INFLUENCED CUSTOMERS

- . Saw or heard your advertising

SOLICITED CUSTOMERS

- . Received a visit, phone call
or letter

PASSERS BY

- . Saw your location, building,
displays

FORMER CUSTOMERS

- . Previously did business with
you

These buyers are looking for meaningful information about
products and services and the firm offering them!

Source: 1982-83 Atlanta Yellow Pages

precisely reversed -- that 60% know the company name and 40% do not have a name in mind. My own conclusion is that there is probably a good deal of uncertainty in this proportion. First, the questions were probably posed differently in different studies.^[11] Second, the respondent may well not recall in which mode the book was used. Third, and most important, it is likely that many respondents use the Yellow Pages in both ways at different times depending on the circumstances.

Table 4.17 is reproduced from the 1981 Foote, Cone & Belding/Wahlstrom study of the heavy user segment. Respondents were presented with a series of use occasions (or use contexts) and asked whether they "ever" and whether they "usually" used the Yellow Pages in this way. The report's authors indicate "overall use patterns were similar in the four markets [studied]" and conclude that:

- The great majority of respondents have, at some time, used the Yellow Pages in each way inquired about;
- The most common usual use was: to find a dealer who offers specific products, brands, service;
- Most agree they usually use the Yellow Pages in many ways."

(p. 43).

Table 4.18 (2-7 from Feldman & Halterman) confirms this finding about the variety of types of information

Table 4.17
Information "Usually" And "Ever" Sought
In The Yellow Pages

| <u>Use . . .</u> | <u>Uses Of The Yellow Pages</u> | |
|---|--|---|
| | <u>Agree That</u> <u>Ever Used</u> <u>This Way</u> | <u>Agree That</u> <u>Usually Used</u> <u>This Way</u> |
| To find a dealer who offers specific products, brands, services | 89% | 77% |
| To call ahead to find if a specific product is available | 87 | 65 |
| To find the phone number of a dealer I already know about | 85 | 61 |
| To check the address of a dealer I intend to visit | 82 | 60 |
| To call ahead for the price of a product | 78 | 56 |
| To get a store's phone number to call about the hours | 85 | 55 |
| To get a store's number to call to get directions to the store | 73 | 33 |
| (Base = 200) | | |

Table 4.18

Types Of Information Sought By Respondents Who
Turned To The Yellow Pages Advertisements For Information

| Information | Number of Respondents | Percent Distribution |
|---|-----------------------|----------------------|
| Types of goods or services offered | 351 | 46.9 |
| Availability of branded products | 115 | 15.4 |
| Location of firms or organizations | 90 | 12.0 |
| Price information or availability of credit | 58 | 7.7 |
| Hours of operation | 27 | 3.6 |
| Delivery information | 14 | 1.9 |
| Other information about specific practices and policies | <u>94</u> | <u>12.5</u> |
| Total Responses | 749 | 100.0 |

Source: Feldman & Halterman, 1963, Table 2-7.

sought in the Yellow Pages. When asked what more they would like to see in the Yellow Pages, respondents in the Kansas Study made an average of two suggestions each (interviewers were only allowed to record three each, so the mean was constrained by the data collection procedures). They requested additional intelligence on selection and availability of specific goods and services, hours of operation, delivery, prices, credit, and a raft of other "specific business practices and policies" headings. An overwhelming majority of the Kansas respondents indicated that they would use the telephone and/or directory if they were newcomers to a town and needed, e.g., a refrigerator, a plumber, or a T.V. repairman. When asked to give the number of their preferred drug store, two out of three respondents turned to the Yellow Pages. Yellow pages were seen by a sizeable minority as a particularly useful tool for tracking down the products or services found "hardest to shop for."

I have concentrated on purchase-related use of the classified section of the directory since the available research speaks almost exclusively to this sort of information seeking. But, directories are often used for primary information and referral to government agencies (many of the larger directories have separate "blue pages" sections

dedicated entirely to state, local, and federal government listings). Community guides -- with information on, e.g., public libraries, parks and recreation facilities, and private, non-profit, service providers -- are becoming an increasingly popular feature of directories. Yellow Pages directories contain zip code guides, transit maps, and seating information for local auditoriums and stadiums.^[12]

4.5.3. Proposition 3. There is no direct relationship between the amount of economic activity represented by a Yellow Pages heading and the amount of use of that heading. That is, there are categories of goods and services for which Yellow Pages use is particularly appropriate vehicle, and others for which it is not.

The best evidence regarding this proposition comes not from survey responses about Yellow Pages use, but instead, from a direct examination of the content of the directory. Although it is received wisdom in communications research that knowledge of content is not equivalent to knowledge of effect (or use of that content), the argument for inferring use patterns from Yellow Pages content is quite strong. If a business advertises under a heading it is because that business believes that its potential customers will use the Yellow Pages and be exposed to its message. If none of the businesses listed under a heading advertise, it is, conversely, because they do not see the Yellow Pages as a

useful means to speak to their customers. Of course, any single business or even a whole category (heading) of competing businesses can be wrong. It may be that they advertise and no one looks or that they do not advertise and their customers are underinformed. In general, though, it is reasonable to expect that advertisers know when it is appropriate to spend money on Yellow Pages advertising and when it is not. The medium is old and the advertisers have had plenty of years to ascertain what works.

What follows is an analysis of the content under three not altogether randomly selected headings in the 1983 New England Telephone Boston Area Yellow Pages. I chose to look at "Grocers - Retail" because it had been suggested by Bell System insiders that this was a relatively infrequently used heading. My selection of "Grocers - Wholesale" and "Guns and Gunsmiths" followed as these were the two major headings immediately after "Grocers - Retail."

Under the "Grocers - Retail" heading, there are seven full columns of listings (at approximately 80 listings per column, that is about 560 separate listings) containing six bold listings (1%) and one small space ad. Under the "Grocers - Wholesale" heading, there are less than two columns containing approximately 53 separate listings. Of these, 11 (21%) had bold listings and eight more (15%) had some

form of in-column space ad or trademark ad. There is no display advertising under either of the "Grocer" headings. [13]

On the next page, under the heading "Guns and Gunsmiths," there are 34 separate listings. Several appear five times under various trademarks. (That is, a gun store has its own listing and appears up to four additional times as a dealer for four brands of fire arms.) This heading has 16 bold listings (47%), eight in-column space ads (24%), and three-quarters of a page of display ads -- five quarter columns, two double quarter columns, and one triple quarter column -- for an additional 24%. In terms of total space, the 34 gun dealers occupy nearly a page and one-quarter (1/27th of a page each) while the 53 wholesale grocers occupy slightly less than half a page (1/106th of a page each) and the 560 retail grocers occupy about one and three-quarters page (1/320th of a page each). I have estimated aggregate 1982 retail gun and ammunition sales, based on IRS excise tax data, to approach \$1.5 billion, not a paltry sum. But, total 1982 U.S. retail food store sales amounted to \$253 billion (according to the 1983 U.S. Industrial Outlook), which suggests a "guns to butter" ratio of about 1 to 168.

Just because everyone buys groceries and nearly everyone uses the Yellow Pages, there is no reason to believe that everyone (or, for that matter, anyone) uses the Yellow Pages to aid their grocery shopping. It is likely, though, that people in the market for guns do use the Yellow Pages.

What kinds of things would we expect to be sought in the Yellow Pages? First, the Yellow Pages is a telephone directory so that we would expect it to be used when use of the telephone is likely to be involved in the transaction. Second, the directory provides directional information to help the consumer locate the source for some non-routinely purchased good. Third, we would expect the Yellow Pages to be used for relatively large purchases where the expected value of additional information might be significant. Finally, we would not expect the Yellow Pages to be used for routine, frequent or impulsive purchases.

The (very limited) content analytical evidence we have examined jibes with our expectations and so does the survey evidence. According to the Simmons and TMI surveys in the late 1970s and early 1980s, a high proportion of adults (as many as 80%) actively in the market for the following "big ticket" items -- automatic dishwashers, microwave ovens, home video recorders, snowblowers, central airconditioners, tractor-type mowers, walk-behind mowers, snowmobiles,

motorcycles, ski equipment, and C.B. radios -- used the Yellow Pages to investigate them.^[14]

According to the Feldman & Halterman Study, nearly two-thirds (65.9%) of "last references" to the Yellow Pages were for services, 26% for for "personal services" (doctors, beauticians, and the like), 22% for household repair and improvement services, and the remaining 18% for automobile, amusement and business, and other services. Some services -- long distance moving or real estate brokerage -- are big ticket items involving infrequent outlays of large sums of money. Services in general -- aside from routinely purchased ones like public transportation or utilities -- have a variety of characteristics that make them particularly likely candidates for Yellow Pages reference. Services have no "shelf life;" since they are performed in real time, frequently the only way to maintain "inventory" is through some kind of cueing or reservation system. The telephone is vital in making service reservations -- "I'll drop my car off on Thursday for a tune-up," -- or for ordering a service -- "send a taxi to ...". Some services may even be provided over the phone and, in general, the telephone is more central to the production distribution and marketing of services than it is in the parallel functions in tangible products. The retail outlet

for a service is likely to be less familiar than that for a product. Christopher Lovelock, a specialist in service marketing at the Harvard Business School, has suggested that the Yellow Pages are a kind of "supermarket for services" in which one's "walking fingers" make their way through the aisles.

4.5.4. Proposition 4. The conceptualization and execution of a Yellow Pages search involves both learned routines or skills and a certain amount of randomness or muddling through.

In order to use a classified directory, one must be able to read, to think in terms of product or service categories, and either to find an (I say "an" rather than "the") appropriate heading, or know how to follow a cross-reference, or know how to use an alphabetical subject index. The skills required to use a directory are not all that different from those necessary to use a library card catalog and many college students are not particularly adept in this latter endeavor.

In the Foote, Cone & Belding/Wahlstrom Study, respondents were asked "what is the first heading or category in which you would expect to find _____" and then "where else would you expect to find it if it weren't in the first listing you mentioned?" The respondents were queried on 17 separate items ranging from branded home appliances --

e.g., an Electrolux Vacuum Cleaner Dealer, an Amana Microwave Oven Dealer -- to generic services -- e.g., Property and Casualty Insurance, Information on Airlines. The researchers wanted to establish patterns of where (that is, under what heading) Yellow Pages users looked for specific information in order to inform the advertising placement strategy of major national advertisers. From a slightly more academic perspective, the search patterns that emerge from the Foote, Cone & Belding/Wahlstrom Study provide insights into how it is that lay people conceptualize a search through the most familiar and quotidian of data bases.

After presenting detailed tabulations on each stimulus item, the report's authors conclude:

"- People very often expect a product/service to be listed under a key word in its description

-- e.g. 'televisions' for Zenith color televisions, 'vacuum' for Electrolux vacuum cleaners, 'pool' or 'swimming pool' for swimming pool chemicals

- Often, the heading expected would be quite a broad, general one

-- e.g. 'appliances' was applied to many mechanical/electronic items, including televisions; film processing was expected by some under the heading 'camera'

- Fair numbers wrongly believed that popular brand names would have their own listings

-- e.g. 'Amana' as a heading for micro-waves, 'Kodak' as a heading for film processing, 'Zenith' as a heading for televisions

- Responses on a number of items were scattered, meaning many headings were plausible to different people, and suggesting the need for multiple listings."

(pp. 37-38)

Searching a directory involves a good deal of muddling through. Searches generally start with a key word, but frequently with the wrong key word.

Feldman & Halterman investigate how consumers implement a search, that is, how they physically locate a heading and select a particular entry once a heading has been selected. They observed, in the experimental portion of their research, that over 66% of Yellow Pages users start from the back of the directory and go forward (rather than from the front to the back) (Cf., their Table 3.1). Moreover, survey evidence indicates that while some users occasionally start from the top of the heading and call the first listing first, the second second, etc. ad seriatum, such a practice is relatively infrequent. Over half of the respondents never follow this practice and only 11% use it "often" (Cf., Feldman & Halterman, Table 3-8). In addition (again based on field experimental evidence), Feldman & Halterman note:

"When listings extend over several pages, about half the users do not turn the page for additional listings"

and

"Most users of the Yellow Pages tend to select listings from pages that 'dominate' specific classifications."

The information regarding back-to-front search must be taken in the context of a jointly bound White and Yellow Pages directory with, as is customary, the Yellow Pages after the White Pages.^[15] The use pattern suggested by Feldman & Halterman's research challenges some commonplace conventional wisdom. For example, if the consumer does not scan listings alphabetically, then there is no advantage to "Acme," "AAA," "AAAA," "ABC," etc. garage doors. It would appear that many companies select their names on the basis of their Yellow Pages placement, but this may be a misguided choice. Moreover, in many directories, display advertising is placed on the basis of size with the largest ads first and then the smaller ones in descending order; but, if the largest ads are placed before the "dominant" page (often a two-page spread), then the advertiser may be paying more for less.

4.6. CONCLUSION

Having explored who looks things up in the Yellow Pages and what kinds of things they look up, we can synthesize a coherent story about the medium's use. Nearly every adult uses the Yellow Pages at one time or another, but the relatively young, affluent, well-educated and mobile tend to be users while the old, rural, less educated and less affluent tend not to be. A small number of heavy users account for a large proportion of the directories' use and heavy users (the 20% who account for 80% of reference) are disproportionately likely to be well-educated, affluent, etc.

Only relatively affluent people with relatively large disposable incomes can afford to buy the big ticket consumer durables and services advertised in the Yellow Pages. Younger families in the early phases of the family life cycle are more apt to purchase such goods, thus the age skew in the user population. A mobile population is less likely to have established long term relationships with merchants.^[16] Since use of the Yellow Pages presupposes certain intellectual skills -- at a minimum, the user must feel somewhat comfortable in using printed verbal information since the icon, image, and narrative play such a small role in the Yellow Pages -- it is hardly surprising to find

that Yellow Pages users are relatively heavy readers or relatively well-educated. Moreover, educational level and affluence are highly correlated.

The incidence of light usership and non-usership are also comprehensible in terms of what we know about what is in the book and how it is used. The older segment of the population (age 65+) is less affluent and less likely to buy consumer goods (the wealthier segment of the older population already has the refrigerator, dishwasher, etc.). The older population tend to have established long term relationships with merchants and professionals. Blacks, as a group, are less educated and less affluent than the population as a whole and we would therefore expect them to be relatively light users.

When I plotted Yellow Pages use as a function of income, I found that the curve for infrequent users was distinctly non-monotonic, it moves upward to a peak at around the median income and then moves down and to the right. That is, the middle income group is the most likely to be infrequent Yellow Pages users. My explanation is that this group does not have the discretionary income to buy lots of consumer durables, but they are familiar with the Yellow Pages and use it either in the infrequent purchase of durables or perhaps in emergency situations -- when one needs

a plumber at 3:00 a.m., there is nowhere else to look, but how often does one need a plumber at 3:00 a.m.?

The value of a Yellow Pages user to an advertiser involves more than the user's disposable income and the frequency of his Yellow Pages references. I am aware of no research that indicates that take-out pizza or beauty parlors are the especial province of the 70th income percentile and above and many "downscale" or income-indifferent product categories are heavily represented in the Yellow Pages. Indeed, it may be that it is precisely the infrequent user who refers to the Yellow Pages only when it is essential (e.g., the kitchen sink drain is plugged, the roof is leaking, or some other household crisis) who is particularly likely to follow up with a purchase. It is certainly the case in some product categories (e.g., long distance moving services) that frequent references are not nearly as crucial as timely ones.

From my definition of reference as an instrumentality in the furtherance of some other primary goal, it follows that reference is "rational" in the following respects: it is purposive, goal-oriented, and (generally speaking) devoid of gratification for its own sake. In using the Yellow Pages, the consumer acts as a "naive Bayesian." That is, the use of the Yellow Pages entails some cost -- in

time, effort, foregone opportunities for immediate gratification, etc. -- and that such a cost is borne only after the potential reference user has conducted a "preposterior analysis of the expected value of additional information." In characterizing the user as "naive," I mean only that he may well not think about his actions in terms of a preposterior analysis. Still, before launching into an information search, he does implicitly ask himself whether the fruits of such a search are worth the trouble to take the trouble to harvest.

This explains why there are essentially no ads under the "Grocers - Retail" heading and why there are so many under "Guns" and "Gunsmiths." The consumer already knows where to find the grocery store and it is not worth it to him to call the store to find out the price of a 33-cent can of mushrooms. The cost of getting the information is higher than its value. On the other hand, a prospective gun buyer is likely to seek advice from other gun owners, perhaps check in gun magazines and talk with the salesperson at one or more stores before making a purchase. He might well refer to the Yellow Pages to find a dealer of a particular brand, one who sells reconditioned guns, one nearby, or with convenient hours.

Although the evidence on this point is far from conclusive, I believe that the reference user, the library user, and the Yellow Pages user share a common demographic and psychographic profile and that the same relatively small group of individuals account for the lion's share of all of these activities.^[17] I also believe that the user of future, consumer-oriented, on-line information services will share precisely the same characteristics and will come from the pool of current reference users.

FOOTNOTES
(CHAPTER 4)

- [1] An example of how perfectly reasonable research findings can be distorted, take the case of "How Ad Sizes Affect Results," (Source: P.3, Arlington-Belmont Yellow Pages (c), New England Telephone & Telegraph Co., 1981). We will explore the Yellow Pages copy testing evidence that bears on the relationship between ad size cost and "results" in Chapter 5. For now, it is appropriate merely to set these reported findings back into their original context. Feldman and Halterman argue that:

"These results cannot be projected to apply in other cases because the differences in average response in these tests are the result also of differences in copy and differences in position from one advertisement tested to another."

(Section IV, p. 11)

That is, the kind of "context free" unqualified report of these "hard numbers" is precisely what the authors wished to avoid.

What is at stake here is the different intentions of different users of social science, in this case marketing data. The researchers conducting the study want to generate some useful non-obvious results and devise an ingenious but highly local, that is, not generalizable, experiment. They report the findings with specific caveats about their limits. The New England Telephone Company, while not demonstrably out to dupe anyone, is in the business of selling advertising space, the more the better, and "How Ad Sizes Affect Results" is clearly a piece of promotional or sales literature. It is not, strictly speaking, false but neither is it safe to incorporate, as is, into a serious investigation of the behavioral impacts of the Yellow Pages.

How Ad Sizes Affect Results

This is the size of a
1/4
 column ad

Though only twice the size of the above, with effective copy and an attractive illustration this ad will produce

5 TIMES

the results obtained by the 1/4 column ad
 Actual "Cost Per Response" by comparison is

60% LESS

This ad is four times as large* as the 1/4 column ad, yet, with effective copy and an attractive illustration this ad will produce

15 TIMES

the results obtained by the 1/4 column ad

Actual "Cost Per Response" compared to the 1/4 column ad is

73% LESS

EFFECTIVENESS OF LISTING COLUMN ADVERTISEMENTS AS COMPARED TO A REGULAR LIGHT TYPE LISTING ...

Bold Type Listing 3 to 1
 1-inch Advertisement 9 to 1

DISPLAY ADS (Ratio to Regular Light Type Listing)

1/4 Column 13 to 1
 1/2 Column 64 to 1
 1 column 193 to 1

*"CONSUMERS USE OF THE YELLOW PAGES" BY: Sidney P. Feldman, Associate Professor of Business Administration, School of Business, The University of Kansas, Jean C. Heltzman, Associate Professor of Marketing, The Graduate School of Business, Indiana University



New England Telephone
 Yellow Pages

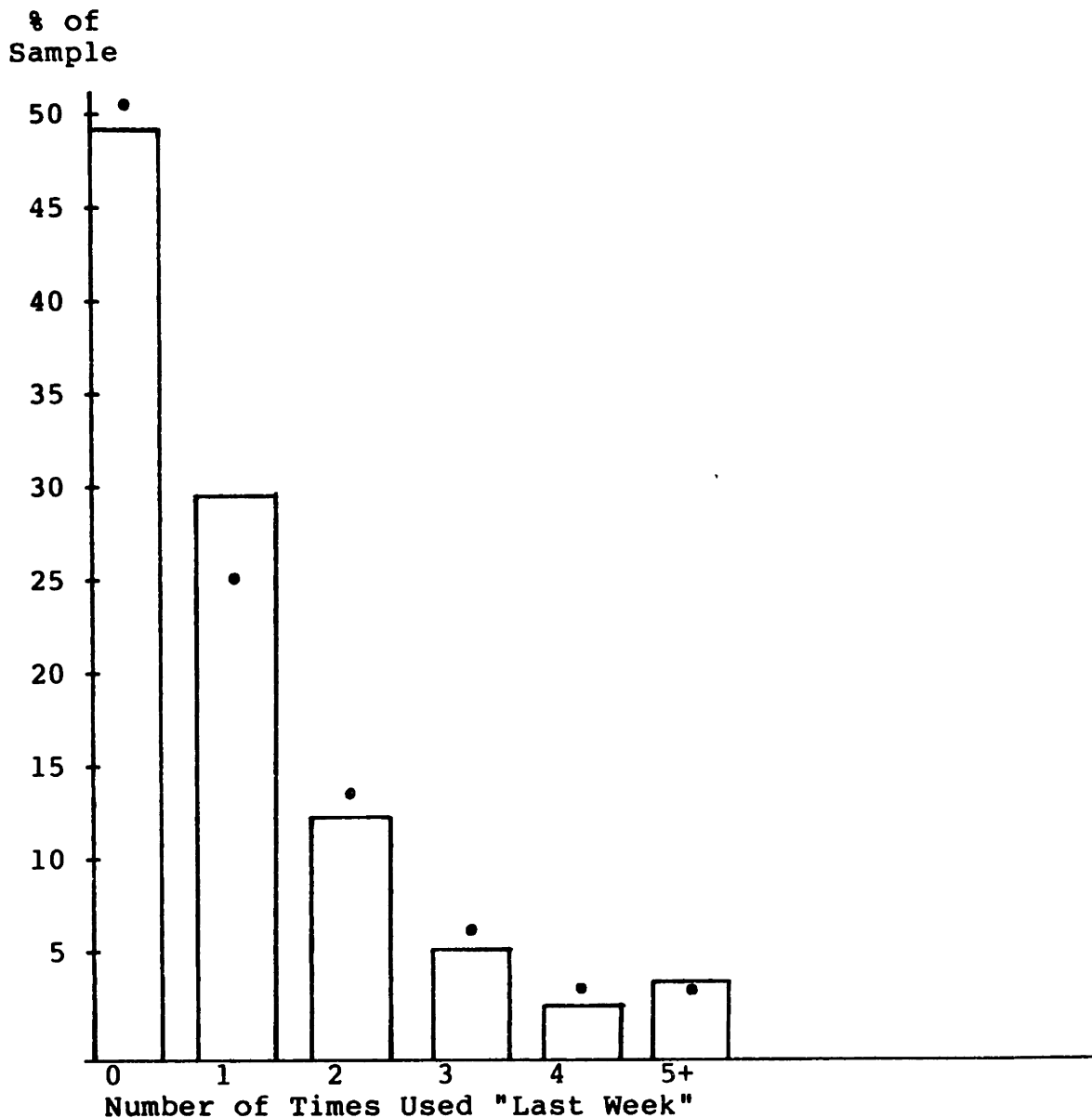
- [2] First, a word on the notation and conventions I used in assembling the data is in order. A reported percentage or number is either quoted directly from the report or inferred on the basis of my analysis of reported numbers. A horizontal dash in a cell (-) indicates that no data is available. On the other hand, a "no" means that given the nature of the study, I have good reason to believe that no such information was collected. (Of course, the more complete the report, the more likely I am to be confident of what is not reported as well as what is.) A "yes" indicates that information on the dimension of interest is reported, but in a way that does not lend itself to recapitulation in a single percentage or number. Often, a whole table or discussion is devoted to the issue, e.g., of the effect of advertising size on attention, so that no single number has much meaning.
- [3] Ten points also happens to be one standard deviation, mean = 100, of the index scores across 68 demographic variables in the overall "used at home or elsewhere" column.
- [4] This profile had so entered the commonplace, accepted wisdom that the 1981 Foote Cone Belding sample consisted of the "Yellow Pages' heavy user group (aged 25-49 years, with household incomes of \$20,000 and up." (p. 1).
- [5] The only unanticipated finding was that frequent Yellow Pages users are relatively unlikely to look at the New York Times. That is, while they have index scores of over 100, the Z score for the Times is about -1.
- [6] The table is drawn from the Simmons sensitivity analysis. It is based on the mean of High, Medium High, Medium Low, and Low estimates. Market concentration is about the same under any of the weighting coefficients.

'Tables 1-3 through 1-7.

- [8] I am grateful to Richard Feldman for his enthusiastic assistance in the conceptualization and execution of this analysis.
- [9] The Simmons household income data is reported in ranges -- e.g., under \$5,000, \$5,000-\$9,999, \$10,000-\$14,999, etc. To plot the data, I used the mid-point of each income range. Moreover, while the data is for discrete ranges, I have connected the points to suggest a continuous function rather than a table function. Finally, I selected the points of \$27,500 and \$37,500 to represent the "\$25,000 or more" and "\$35,000 or more" categories. Moving these data points slightly to the right or left would not materially affect the present analysis.
- [10] If we were to recast the data in Figure 4.1 in terms of Gamma-Poisson model -- with underlying use rates being Gamma distributed and manifest use frequency being Poisson distributed about each underlying rate -- we could perform a market concentration analysis which, I venture, would look quite similar to the one in Table V. I have done some preliminary work on fitting the data in Figure 4.1 to a Gamma Poisson or Negative Binomial Distribution. I think the fit is good, but more work needs to be done.

Frequency Distribution Of Yellow Pages
Use "Last Week," Kansas 1961

(Fitted with a Gamma-Poisson Model)



$\bar{x} = .9914$

$a = .925$

$\chi^2 = 23.74$

Source: Feldman & Halterman,
Table 1.2

- [11] The Thomas Register Study uses a very peculiar and precise set of question wordings involving various combinations of whether the trade name, local distributor, and manufacturer names are known or unknown and how that affects differential use of the Yellow Pages versus the Thomas Register by industrial customers.
- [12] On a lighter note, when told that I was studying "how people use the Yellow Pages," several clever wags have insisted I not neglect its use as a booster seat for junior or a pedestal for the slide projector. Klienfield (1981), in his chapter on the Yellow Pages, suggests several more interesting uses, e.g., as a poor man's safe deposit box and as bullet-proof armour in Latin American mail trains. Just as one cannot wrap fish in an electronic newspaper, so one cannot perch an electronic Yellow Pages; I think this category of use, though, is well relegated to a footnote.
- [13] Cf., Boston Area Yellow Pages, 1983, pp. 601-603.
- [14] An explanation of the operationalization and measure of those "actively involved" in the market for an item is given in Chapter 5. The "potential coverage" measurement is, as I indicate below, problematical.
- [15] Such co-bound directories make up about 90% of the total number of directories printed in the United States. I have seen no evidence one way or the other on whether people using a separately bound Yellow Pages directory search from front to back or back to front.
- [16] A particularly interesting Donnelley new-product is a Yellow Pages New Neighbor Guide, reaching newly arrived households who have not yet established any local buying allegiances and who are likely to need, e.g., paint, hardware, a new refrigerator, doctor, dentist, etc.

[17] The newspaper classified browser appears not to share these characteristics while the reference user of classifieds may. In any case, the behavior of browsing is fundamentally different from the behavior of directed information search as an ancillary to some other planned action.

5. ADVERTISING IN THE YELLOW PAGES

5.1. INTRODUCTION

This chapter is about advertising in the Yellow Pages. Most of it is devoted to specifying and measuring the comparative and absolute "effectiveness" of Yellow Pages advertising; the balance is given over to speculating about why Yellow Pages advertising is as effective as it is and exploring some of the implications of this kind of an advertising medium. We begin by examining (Section 5.2) the evidence from Yellow Pages copy testing research to establish which elements of Yellow Pages advertisement's content and presentation make it "effective." I discuss some operational measures of "effectiveness" and offer an annotated list of the relevant studies. The inescapable conclusion is that the user attends to, prefers and acts upon a Yellow Pages ad to the extent that the ad is informative. In a word, what makes a Yellow Pages ad effective is information.

In the next portion of the chapter (Section 5.2.2), I present an analysis of the data on the forms of the advertising response functions in the Yellow Pages. The central questions are 1) How do various measures of user response

vary with respect to ad size and dollars spent? and 2) What is the evidence regarding increasing and decreasing returns to scale? Here, the conclusions are more equivocal. Some of the evidence points to decreasing returns as predicted by theory. Other evidence suggests that, under some circumstances and by some measures, the Yellow Pages provide the advertiser with increasing returns.

The following section (5.2.3) attempts to frame and measure Yellow Pages effectiveness, value and cost effectiveness. First, I present a simple stochastic model of advertising effects due to McGuire (1978). Next, I estimate the model parameters to bracket a range of Yellow Pages "effectiveness." With the probability of purchase as our measure of advertising effectiveness, I suggested an Expected Value approach to estimating the worth of different Yellow Pages advertisements. "Worth," defined as expected sales response to advertising, varies a great deal depending both on the size of the ad and on the nature of the goods advertised. I close this section with a comparative analysis of the effectiveness and cost effectiveness of Yellow Pages and television advertising.

In the following section (5.3), I speculate briefly about why the Yellow Pages appear to be so effective. I discuss the antecedents of Yellow Pages use, and comment on

the nature of reference behavior and directional advertising. I close the chapter with some normative claims about the social welfare implications of Yellow Pages advertising.

5.2. THE DIMENSIONS OF EFFECTIVENESS

5.2.1. What Makes An Ad Effective?

In this section we explore what factors make one Yellow Pages advertisement (I define a simple "listing" as one type of advertisement) more or less effective than another. The issue here is not of comparing media, say, Yellow Pages to T.V. (as we will do in a later section), but merely of comparing the impact of the different executional elements -- size, layout, position, graphics, copy -- available within the Yellow Pages medium.

The investigation of the relative effectiveness of different advertising executions in the same medium is generically known as "copy testing," a form of communication research whose reputation for validity and reliability is at best equivocal. Ostlund (1978) argues that copy testing is a blunt instrument capable of discriminating only grossly between the very best and very worst ads, a discrimination that might better be made on the basis of solid managerial judgment. Urban & Hauser (1980) respond that "pure judgment has not proven much better than random selection" (p. 364) and that some form of copy testing, imperfect though it may be, is better than nothing.

Like direct mail, and unlike most other advertising media, the Yellow Pages presents an opportunity for direct measurement of actual customer response to different copy treatments. A publisher might plant a series of ads for bogus companies in the directory and monitor the telephone responses generated. Since the Yellow Pages ad is the only source of information, differential response patterns (numbers of calls) would be a direct result of different copy treatments. Rather than plant bogus ads, the publisher might run split editions with the very same company receiving different ad treatments with different telephone numbers, or the same company might advertise under two different names. The difference between the number of calls received on each of the two phone lines would be a good measure of the relative effectiveness of different copy treatments. A less controlled but potentially valuable study with a single edition might involve keeping track of the number of calls received by two competitors who were in other respects quite similar but who had different Yellow Pages ads, perhaps provided gratis by the publisher in exchange for the data on numbers of calls received.

Of these techniques -- bogus ads, split editions, companies advertising under different names, and comparable companies -- the first is the least and the fourth the most

susceptible to potentially confounding effects. Any two companies, unless they are both started afresh, tabula rasa, have established locations and somewhat different reputations, customer bases, etc. The variance in calls due to these non-advertising related factors are difficult to measure and control. Likewise, a company with different names in a single directory or different ads in different editions of a directory (again, unless it was a new venture) would probably have one old phone number and one new one. Parceling out the variance due to advertising effects might again prove quite difficult, especially if the advertising effects were subtle as we might expect them to be. To obtain credible data in a real world (i.e., non-laboratory) setting would require an experimental design with a relatively large number of advertisers collecting detailed information on the number of calls received, whether the caller was an old or new customer, etc. I am aware of no research program that has attempted to collect and analyze these kinds of data.^[1]

Rather than use field experimental procedures, researchers conducting experimental and quasi-experimental inquiries into Yellow Pages copy effectiveness have relied on laboratory studies measuring two types of behavioral responses -- verbal and physiological -- both at some remove

from actual purchase. Verbal measures include respondents' self-reported recall, preference, affect (liking and disliking), and intention. That is, the respondent, having been shown some mocked-up directory pages, may be quizzed on which ads he remembers (recall); which one(s) he liked better or best (preference); what he felt about the advertiser (affect); and which one he would choose to call or patronize if he were in need of the product or service advertised. This last measure involves a degree of role playing -- if you were new to town and if you needed a plumber, which one would you select? Why? -- and is less a direct measure of intention than the respondent's subjective estimate of the probability of some hypothetical behavior.

Physiological measurements can involve multiple measure polygraph-type technology, but more frequently, copy and package testing research are limited to tracking and timing eye movement. The technology allows the researcher to determine what was noted first, how the eye scans the page, which ads are considered more than once and how long each item was observed. The various kinds of verbal and physiological data which can be collected are by no means mutually exclusive. It is possible to collect both

physiological data and a variety of verbal responses by way of a post-experiment survey. [2]

I have been able to locate (more or less fragmentary) evidence from six separate investigations of Yellow Pages copy effectiveness, the earliest dating from 1963 and the most recent from mid-1982. Table 5.1 classifies the studies on the basis of their completeness, their disinterestedness, [3] and the nature of the responses measured. A number of copy variables - notably ad size, position, graphic treatment, and information content - were manipulated in the various studies. Some of the research took place in laboratory settings, while other studies involved small groups or in-home interviews.

As in the research on user characteristics and use patterns, the research on copy effectiveness conducted over two decades provides a set of remarkably convergent results. Thus, even with my methodological caveats in mind and though much of the research clearly was conducted by "interested" parties (Donnelley makes more money selling large ads than small ads), I take the ensemble of results as highly credible. I will present a more formal analysis of some of the quantitative findings presently, but first, it is appropriate to give an overview of the general direction of the research.

Table 5.1
Yellow Pages Copy Testing Studies

| Title | Date | Sponsor | Interested/ Disinterested | Complete/ Incomplete | Variables | Type of Response | Technique | n | Quality/ Credibility |
|---|------|--------------------------------------|------------------------------|-------------------------|--|--|--|-------|-------------------------|
| Yellow Pages in Kansas | 1963 | Southwest- ern Bell | D | C | Size Position Info. Con- tent | Preference "Role Play" Choice Affect | In home Survey/ Quasi- Experi- mental Verbal re- sponses | 1,970 | H |
| "I' for Impact" | nd | R.H. Don- nelley | I | I | Size Info. Den- sity | "Role Play" Choice | Survey/ Experi- ment | 200 | M |
| "Consumer ... Per- ceptions of the YP" | 1981 | Footes Core Belding/ Wahlstrom | D | C | Size Logo/Pre- sent-Abs- ent | Recall Perception of Adver- tiser's "image" Affect Ease of Use | Survey/ Experi- ment | 200 | H |
| A T-Scope Test of YP Advertis- ing | 1979 | National Car Rent- al | D | C | Graphic Treat- ment | Recall | T-Scope with Var- iable length exposure | ? | L |
| "RASCIL PLUS" | 1980 | R.H. Don- nelley | I | I | Size Info. Con- tent Specific copy points | Attention "Role Play" Choice | Mall In- terviews | 2,000 | M |
| "An Evalua- tion of YP Advertis- ing For- mats" | 1982 | R.H. Don- nelley | I | I | Size of Ad | Attention Involve- ment Time Spent "Role Play" Choice | Eye Move- ment Lab Sur- vey | ? | M |

The size of the ad is a critically important variable. Bold listings generate more attention and "choice" than regular listings, in-column space listings more than bold listings, display ads more than in-column ads, and larger display ads more than smaller display ads (Feldman & Halterman, 1963). Large ads attract more attention, more immediate attention, longer attention, and a second look to a much higher degree than smaller or medium size ads (R.H. Donnelley, 1982). Large display ads are perceived as easier to find, easier to read and more highly informative than smaller display ads which are likewise easier to find, to read and more informative than in-column ads (Foote, Cone & Belding, 1981). Relative rather than absolute ad size is particularly important, that is, "the presence of one or more large advertisements on a page will tend to reduce the drawing power of smaller advertisements and listings under the same classification; in other words, listings and smaller advertisements normally perform somewhat better when they do not compete with larger advertisements" (Feldman & Halterman, 1963). The perceived high quality image of the Yellow Pages advertiser is a function of ad size: the larger the ad the greater the perception that the advertiser is a well-established, high quality, and high reliability dealer (Foote, Cone & Belding/Wahlstrom, 1981).

Ceteris paribus, there is some indication that page position affects response but position seems to be of less importance than size of ad (a larger ad in a worse position, I believe, will "draw" better than a smaller one in a better position on the page). It is also the case that graphic treatment may in some circumstances have some (marginal) effect on the perception and initial impact of the ad (Rhodes, et al., 1979), but, in general, the graphic elements are of much less importance than the verbal information contained in the ad. In a given ad size, the presence or absence of a logo has no measurable impact on perceived image of the advertiser (Foote, Cone & Belding, 1981). Relevant information dominates all "mechanical techniques of advertisement size, placement, typography, and so on" (Feldman & Halterman, 1963).

While bigger ads tend to dominate smaller ones, this is largely because the bigger ones contain more relevant information. Given the same size ad those with "heavy copy (i.e., filled with useful information such as competitive statements, selling copy, brand names, kinds of customers served, special facilities, guarantees, trade association memberships, illustrations, etc.)" outpulled those with light copy overall 2.4 to 1 and among the largest ads

(Double Half Column ads) the ratio was 3 to 1 (Russell Marketing Research, Inc., n.d.). Respondents like and use the information in the directory and suggest additional kinds of data they would like to be able to use across a range of headings (Feldman & Halterman, 1963). In a survey of more than 2,000 Yellow Pages users, Donnelley & Associates for Research in Behavior found a number of copy points that were consistently sought by Yellow Pages users and which, when incorporated into an ad, lead to "attention" and "choice." These include information on, inter alia, location, expertness, products and services offered, reliability, and credit cards accepted. Central to a good ad was the presentation of the maximum amount of information in a clear and easy to understand format, that is, the denser the information, the better, as long as graphic clarity can be maintained.

A "good" T.V. commercial might be entertaining, and a "good" magazine ad might be eye catching, but, from the user's perspective, a "good" Yellow Pages ad is, above all, informative.

5.2.2. The Shapes Of The Yellow Pages Advertising Response Functions

Now that we have some notion of the factors that contribute to effective Yellow Pages advertising, it is

appropriate to look at the available data in a more analytical fashion to uncover the nature of the relationship between several important measurable (independent variable) "inputs" -- size of advertisement, cost of advertisement -- and the (dependent variable) responses generated by the inputs. In effect, following Simon & Arndt (1980), what we want is to get a clearer idea of the shapes of the advertising response functions in the Yellow Pages.^[4]

Some of the most useful data on the size and expenditure functions comes from the 1963 Feldman & Halterman study. The investigators asked each respondent to imagine that she was a newcomer to Beaumont, Texas (a town reasonably unfamiliar to the residents of eastern Kansas, but served by the same telephone utility, Southwestern Bell) in need of a pharmacy and a plumber. Each respondent was given a specially prepared Beaumont Yellow Pages directory and asked, in two separate tests, to choose a plumber and a pharmacy from among those listed and advertised in the Beaumont book. Ad copy and position were systematically varied and respondents were randomly assigned to various treatment groups. In all, the 1,977 respondents made a total of 7,563 selections in four trials each. (That is, two each for plumbers and pharmacies.) Feldman & Halterman data is reported in columns 1, 5, 6, and 7 of Table 5.2.

Table 5.2
Yellow Pages Response Function

| Listing Type | C2* # of Listings | C3** QCE/Listing | C4* # of Responses | C5* Responses/Listing | C6* P(Choice/Listing) | C7* P(Choice/Ad) | C8* Effective-ness Ratio | C9* Re-sponses/QCE | C10* Index | C11*** Cost/Unit \$ | C12* Cost/QCE | C13* \$QCE Index | C14* Cost/Resp \$ | C15* Resp/\$ | C16* Cost/Resp Index |
|--------------|----------------------|---------------------|-----------------------|--------------------------|--------------------------|---------------------|-----------------------------|-----------------------|---------------|------------------------|------------------|---------------------|----------------------|-----------------|-------------------------|
| L | 50 | .04 | 178 | 3.6 | .0235 | .0005 | 1:1 | 90 | 1 | 73.8 | 1845 | 1.8 | 20.50 | .05 | 1 |
| L | 74 | .05 | 740 | 10.0 | .0978 | .0013 | 3:1 | 200 | 2.2 | 130.2 | 2604 | 2.6 | 13.02 | .08 | .6 |
| HS | 13 | .4 | 410 | 31.5 | .0542 | .0042 | 9:1 | 78.8 | .9 | 438 | 1095 | 1.1 | 13.90 | .07 | .7 |
| C | 15 | 1 | 638 | 45.5 | .0903 | .0060 | 13:1 | 45.5 | .5 | 1021 | 1021 | 1 | 22.44 | .04 | 1.1 |
| QC | 6 | 2 | 1387 | 229.7 | .1822 | .0304 | 64:1 | 114.8 | 1.3 | 2042 | 1021 | 1 | 8.89 | .11 | .4 |
| HC | 6 | 4 | 4174 | 695.7 | .5519 | .0920 | 193:1 | 173.9 | 1.9 | 4084 | 1021 | 1 | 5.87 | .17 | .3 |

C1 = Unit type
 C2 = # of listings of each kind on the stimulus pages
 C3 = Quarter Column Equivalents of units
 C4 = # of responses per listing type
 C5 = # of responses per listing = C4 ÷ C2
 C6 = Probability of choice of a particular listing type = C4 ÷ 7527
 C7 = Probability of choice of a particular ad within listing type = C5 ÷ 7527

C8 = Effectiveness Ratio relative to a regular listing = C5 ÷ 3.6
 C9 = Responses per QCE = C5 ÷ C3
 C10 = Index of responses per QCE = C9 ÷ 90
 C11 = Cost per unit
 C12 = Cost per QCE = C11 ÷ C3
 C13 = Cost per QCE Index = C12 ÷ 1021
 C14 = Cost per Response = C11 ÷ C5
 C15 = Response per Dollar = 1 ÷ C14
 C16 = Cost per Response Index = C14 ÷ 20.50

RL = Regular Listing
 BL = Bold Listing
 2HS = 1 inch space
 QC = Quarter Column
 DQC = Double QC
 DHC = Double Half Column

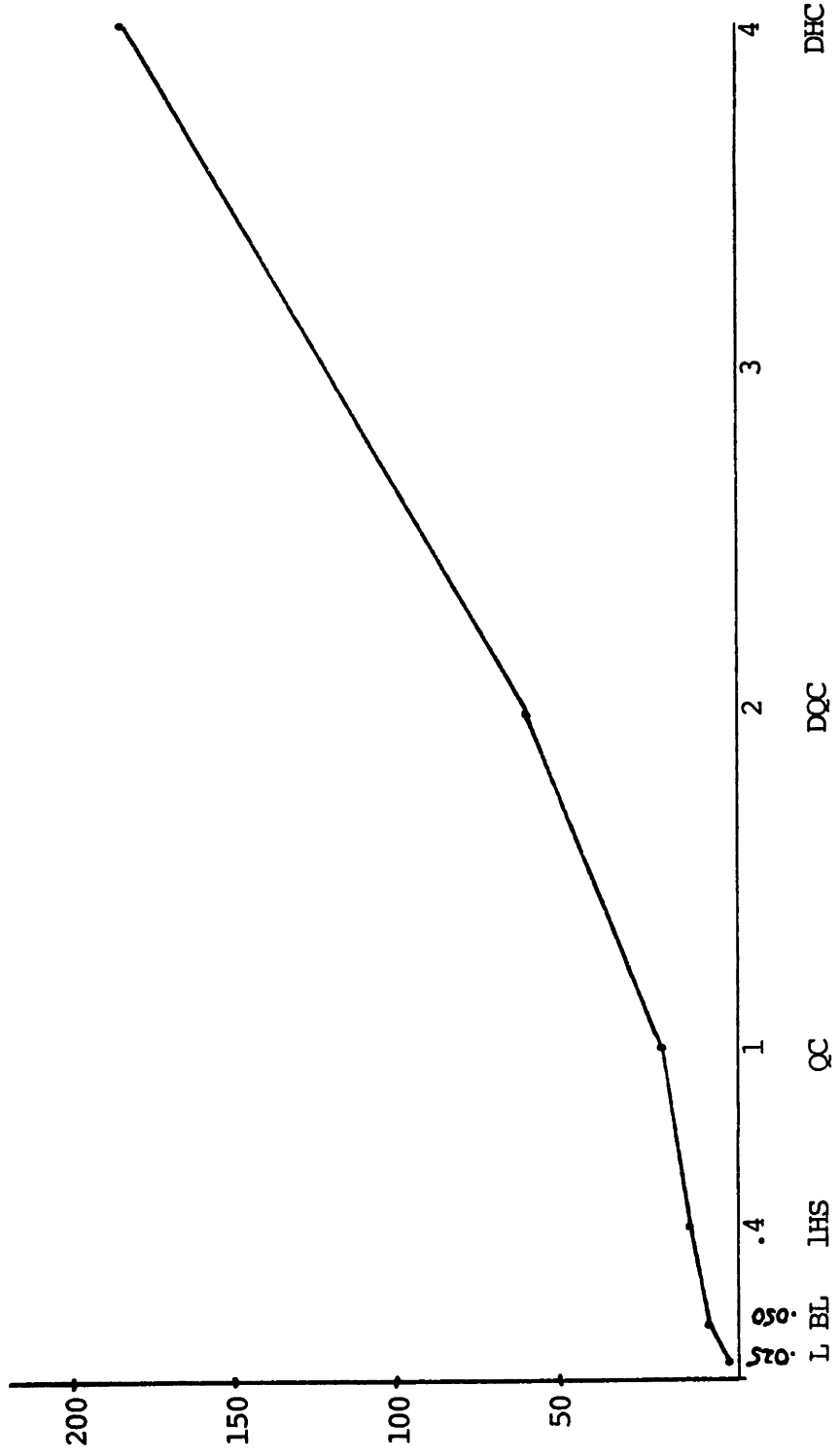
*Source: Feldman & Halterman, 1963
 **Source: Bell System
 † Original Analysis
 ***Source: National YP, Rates & Data, 12/82

Figure 5.1 is a graph of the investigator's "effectiveness ratio" as a function of ad size with ad size given in Quarter Column Equivalents, a standard space measure in the Yellow Pages. Effectiveness is defined as the ratio (rounded to the nearest integer) of the number of responses per advertisement of a given size to the number of responses (3.6) to a simple listing. In all, Feldman & Halterman report that the number of responses per advertisement increased as slightly more than the square of the size increases. [5]

Figure 5.1 is striking, I think, for it conveys the unanticipated and highly anomolous impression of exponentially increasing returns to scale. Since the debate among scholars who concern themselves with such things (Cf., Simon & Arndt, "The Shape of the Advertising Response Function;" also Little, John D.C., "Aggregate Advertising Models: The State of the Art") tends to center on whether the advertising response curve is concave to the origin or S-shaped (Cf., Figure 5.2), this picture of exponentially increasing returns is, indeed, surprising. [6]

Figure 5.3, based on eye movement data from 1982, would seem (again, at first glance) to confirm this finding of increasing returns. The graph labeled "noting" gives the percentage of subjects ("n" not given in the document I

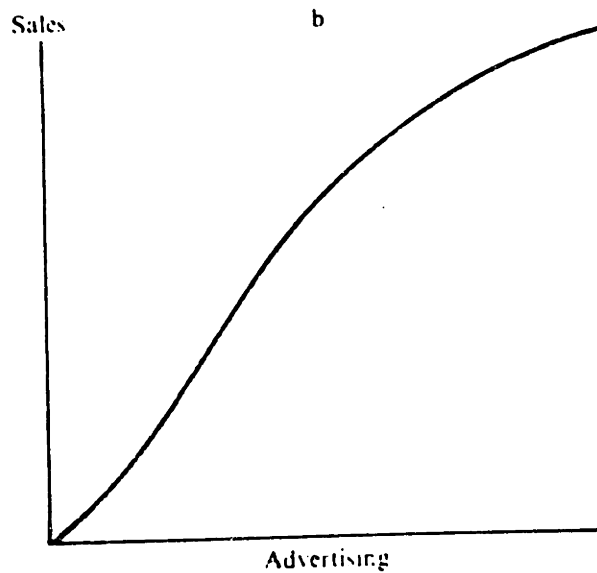
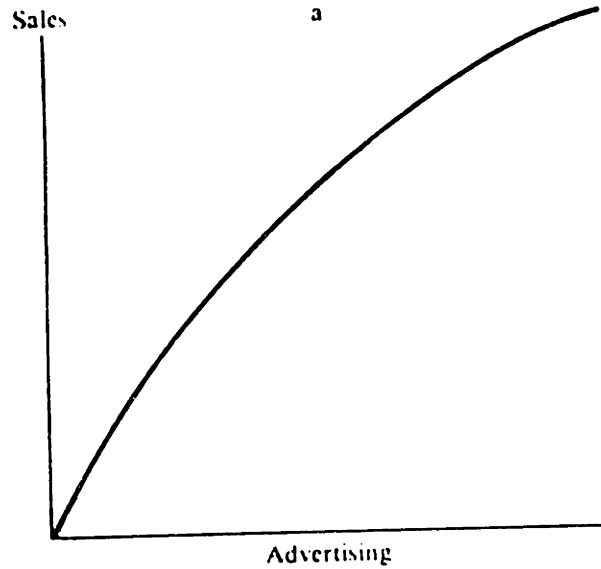
Figure 5.1
Effectiveness Ratio As A Function Of Advertising Size



Source: Feldman & Halterman, 1963

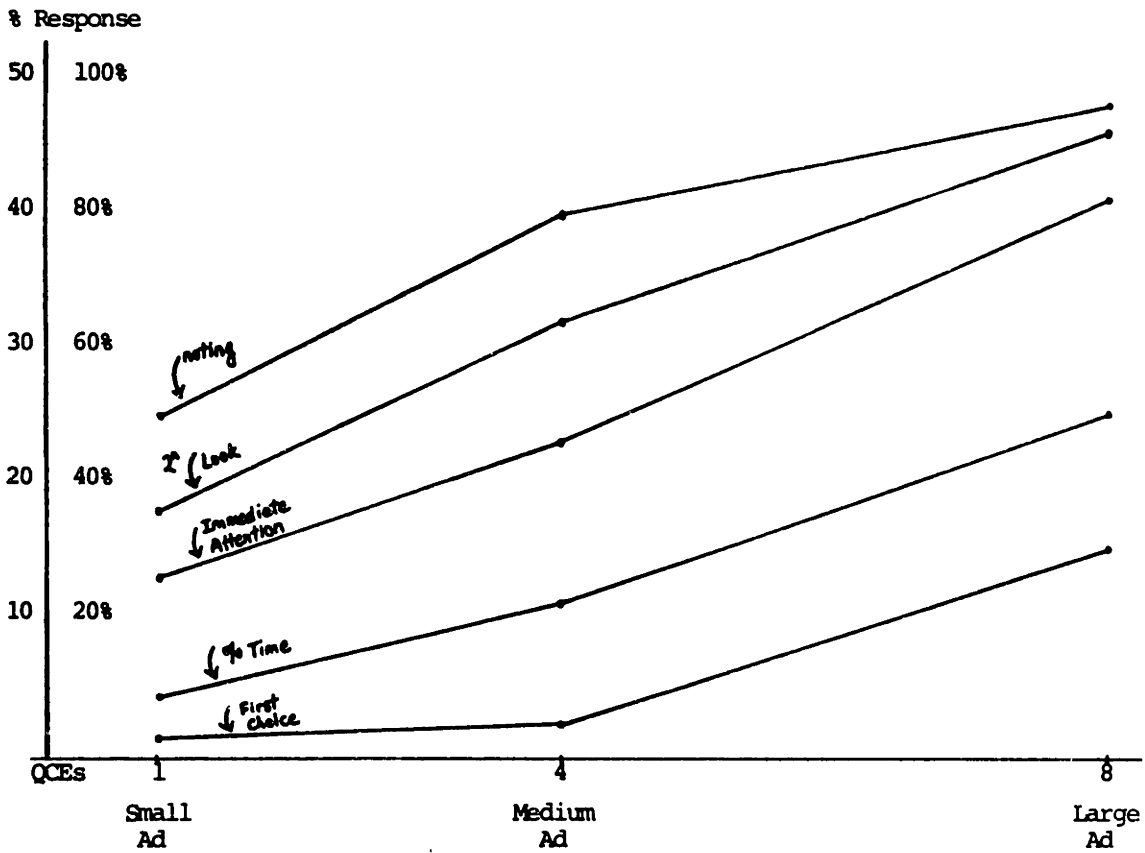
Figure 5.2

Increasing And Decreasing Returns
In Advertising Response Functions



Source: Simon & Arndt, 1980
(Figure 1)

Figure 5.3
Eye Movement As A Function
Of Ad Size



Source: Donnelley, 1982

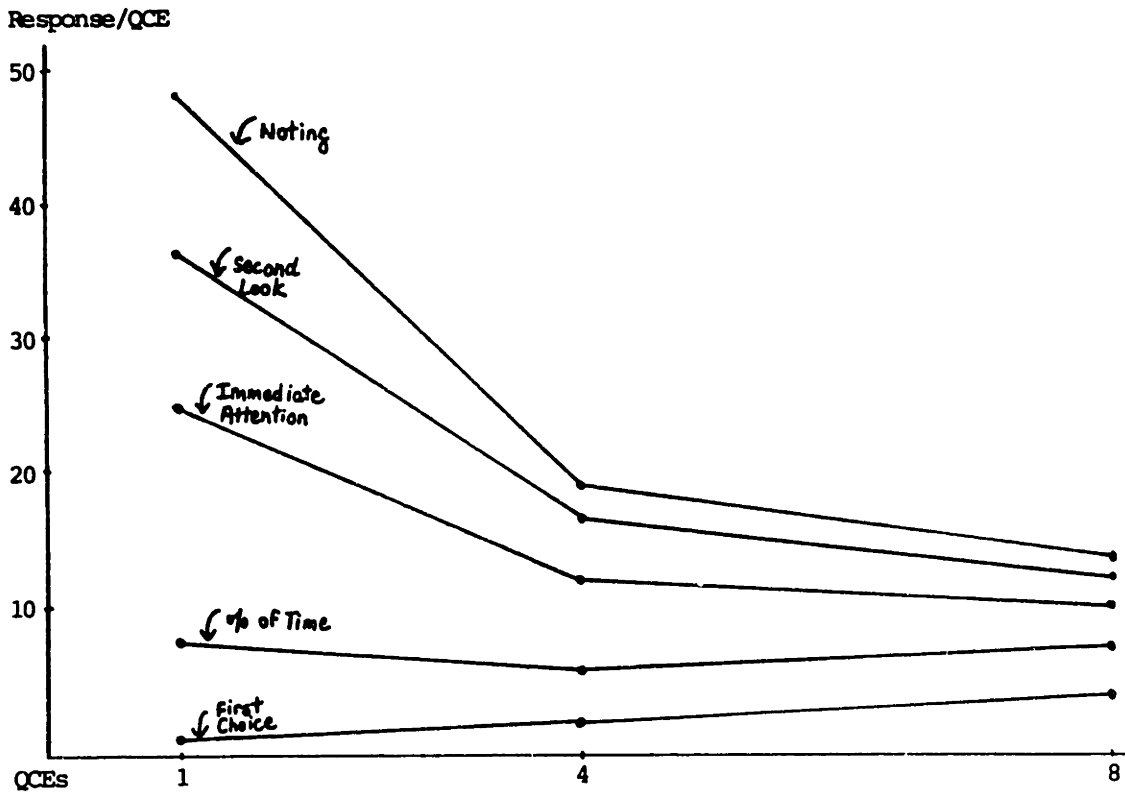
have) whose eyes scanned a given size ad long enough for them to have "noted" it. The graph labeled "immediate attention" gives the percentage of subjects noting a given ad size within two seconds. The "second look" graph indicates the percentage who scanned a given size ad at least twice. The "% time" graph gives the aggregate percentage of time that all respondents' eyes scanned the various size ads (note that the sum of the three categories is 80%, indicating that subjects looked away from display ads, no doubt at smaller space ads and listings, 20% of the time). The graph labeled "first choice" is based on interview data collected from the subjects (now they are "respondents"). After the exposure to the ads, they were asked which dealer they would call first (again, note that display ads account for only 37% of first choices). Like Figure 5.1, Figure 5.3 shows increasing returns on several physiological dimensions as well as on a "role play" choice question.

Figures 5.1 and 5.3 do indeed show some form of increasing returns, but not the sort that we normally consider significant in estimating response functions. Of course, a large ad is more likely to be noted than a small ad, the real question is how much more will it be noted per unit of input. Whether we use some physical quantity --

inches, Quarter Column Equivalents (QCEs) -- or a more abstract unit -- dollars -- what we want to know in estimating a response function is whether an increase in the input can generate a larger than proportional increase in the output. Figures 5.4, 5.5, and 5.6 cast the data in such a way that we can examine the proportionality of the relationships. In the eye movement data on Figure 5.4, we see strong evidence of diminishing returns. That is, noting, looking twice, and looking immediately per QCE go down as QCE increase. Since display advertising tends to be priced in a strictly linear fashion (a Double Quarter Column cost exactly twice what a QC does), decreasing returns per unit of size signal a parallel decrease per dollar. Note, however, that one of the graphs on Figure 5.4, the one based on verbally reported intention, continues to show increasing returns to scale.

Figures 5.5 and 5.6 are a good deal less straightforward. In Figure 5.5, responses per QCE start at a relatively high 144 for a simple listing and then spike at 200 for a Bold Listing. They drop sharply for a space listing and a Quarter Column display ad. For larger ads, the response per QCE rises dramatically so that a quarter page ad is nearly as effective per unit of space as a bold listing. As Table 5.2, Column 13 shows that on a per QCE basis it

Figure 5.4
Eye Movement Per QCE As A
Function Of Ad Size



Source: Donnelley, 1982

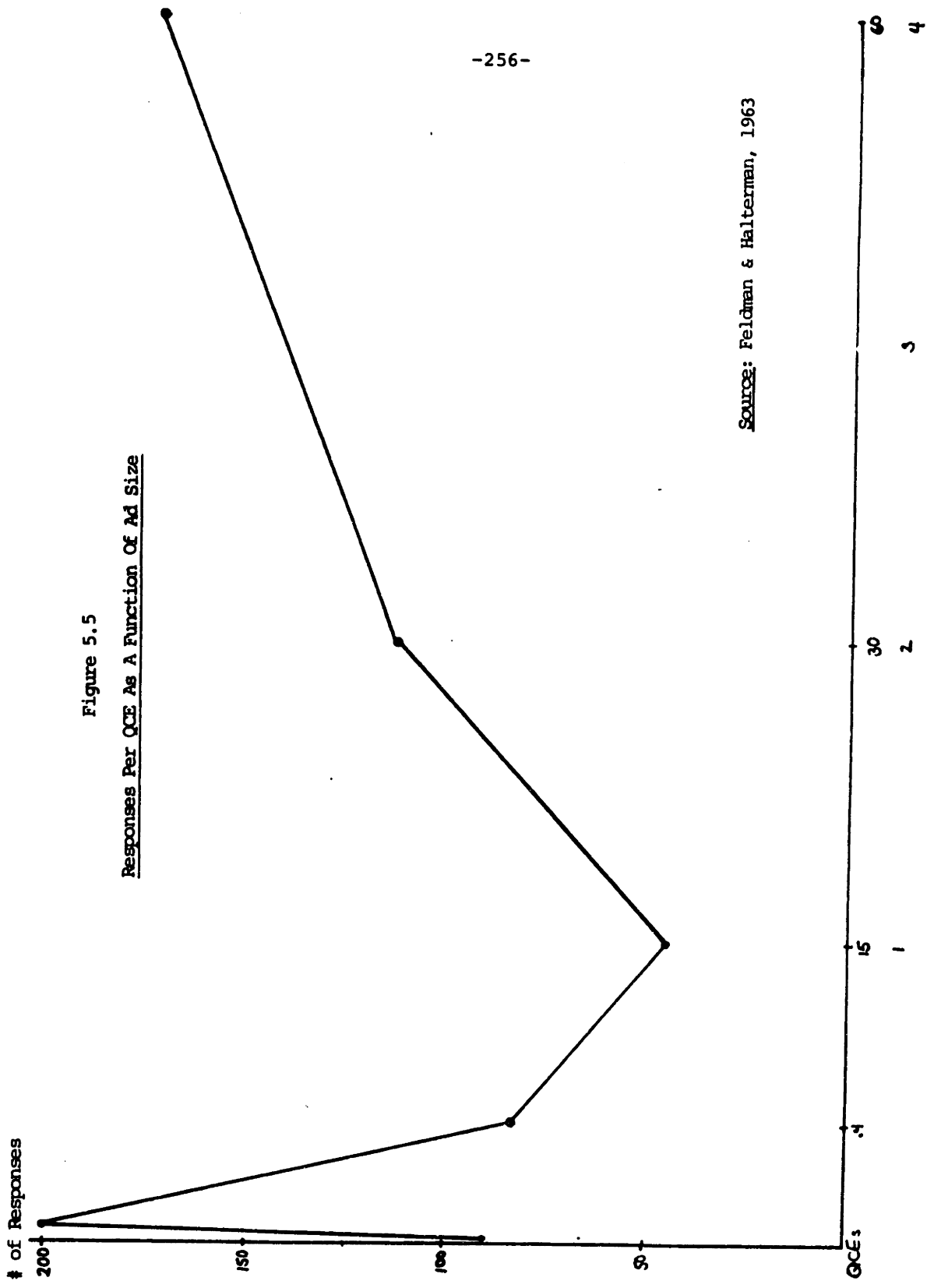
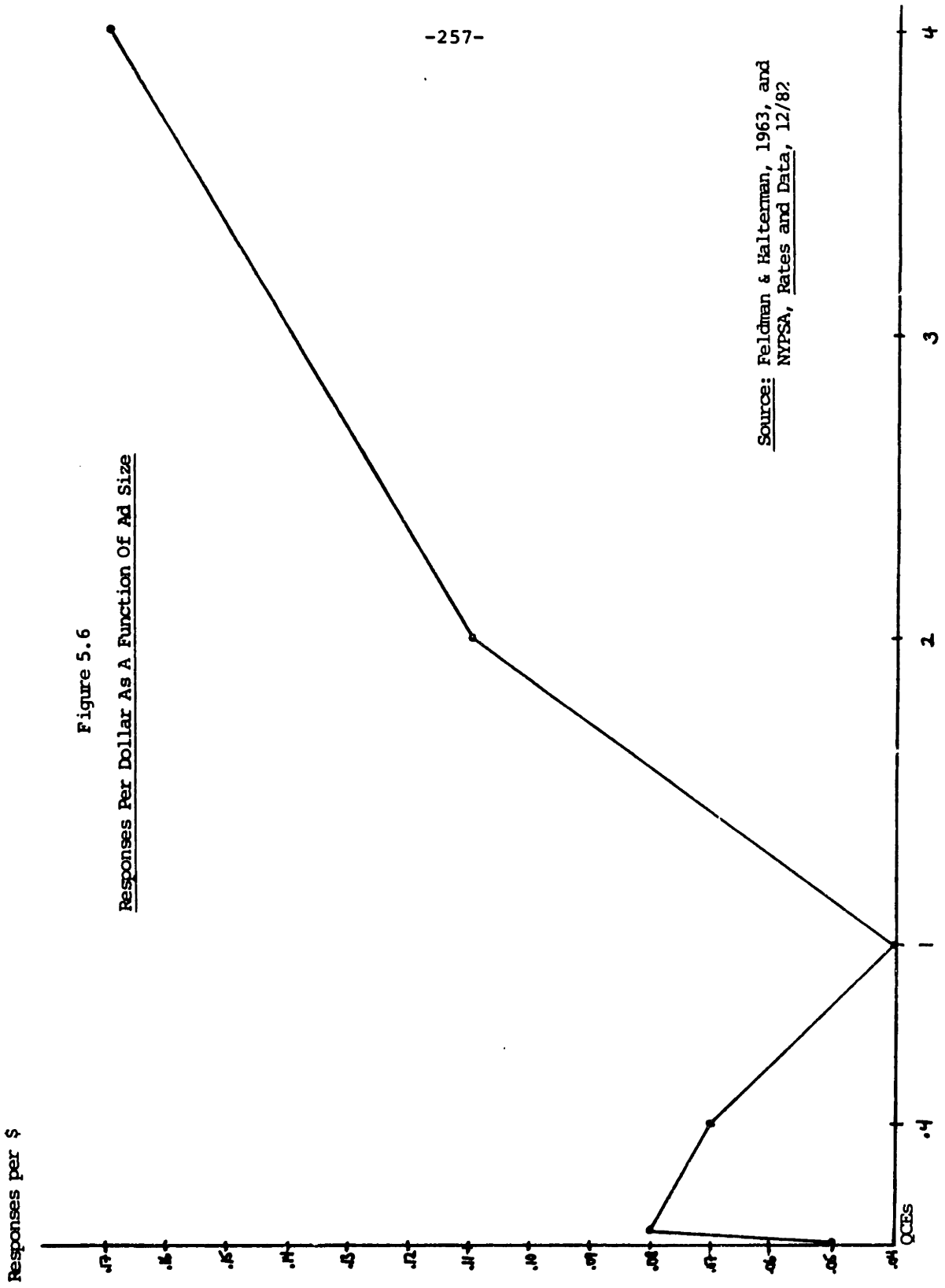


Figure 5.5
Responses Per QCE As A Function Of Ad Size

Source: Feidman & Halterman, 1963

Figure 5.6
Responses Per Dollar As A Function Of Ad Size



Source: Feldman & Halterman, 1963, and
NYPSA, Rates and Data, 12/82

costs nearly three times as much to buy a listing as it does to buy a display ad. When this defacto quantity discount is taken into account, we see, in Figure 5.6, rather significant returns per dollar for the larger units of advertising.

In all, it would appear that different responses have different functional forms. All of the eye movement data points to decreasing returns (as predicted by Simon & Arndt, 1980). The evidence from "role play" choice questions is mixed. Over the limited range of display advertising reported in R.H. Donnelley (1982), there appear to be increasing returns to physical scale, which, because of the pricing that prevails in the industry, are precisely paralleled by increasing returns to dollars spent. The Feldman & Halterman data (which looks very straightforward in Figure 5.1) is equivocal. The "per QCE" function is far from monotonic and it appears that the highest responses are for very small listings and very large ads. On the other hand, since there are defacto discounts for large purchases (or penalties for small ones), there are fairly consistently increasing returns to dollars spent.^[7]

Certain factors, especially ad size and information density (which are not entirely independent of one another -- a larger ad can hold more information per unit of space

than a smaller one), lead to attention, positive affect, and choice. The evidence on the proportionality, or disproportionality, of returns to scale is mixed but there is some evidence that the Yellow Pages is unlike most other media in that (at least in some circumstances on some measures) the more the advertiser spends, the better his customers' response. This may help explain some of the remarkable growth in the medium over the last ten years.

5.2.3. How Effective Are The Yellow Pages?

We now have a fairly clear notion of what factors make a Yellow Pages ad how much more (or less) effective. In this section we broaden our inquiry into advertising effectiveness to consider just how effective the Yellow Pages are as an advertising medium in both absolute and comparative terms.

5.2.3.1. Modeling Yellow Pages Effectiveness

A genre of research findings frequently trumpeted in the Yellow Pages promotional literature relates to the level of follow-through after the information sought has been found in the Yellow Pages. Chilton's indicates that 84% of Yellow Pages references are followed up by a phone call, visit, or letter. Indiana Bell and Herron Associates

claim "86% of the references to the Yellow Pages are followed up with a call, and 46% of the calls result in a purchase of a product or a service." On the business (as opposed to the consumer) side, the Burke Marketing Research, Inc. study indicates that 89% of business users "take action when they use the Yellow Pages" and that "56% end up making a purchase or using a service after consulting the Yellow Pages."^[8] Feldman and Halterman's finding on this issue converge with the Burke and Chilton and Herron Associates reports; on the average, 93% of references are followed by a phone call.

The studies tend to report empirical percentages but we can very simply recast these into estimates of underlying probabilities. Thus, the probability of some follow-up after Yellow Pages exposures is between .84 and .93,^[9] and the probability of purchase after exposure is between .44 and .56. Formally,

$$.84 \leq P(\text{follow-up} | p_{YP}) \leq .93 \quad [5.1]$$

and

$$.44 \leq P(\text{purchase} | p_{YP}) \leq .56 \quad [5.2]$$

where

p_{YP} = presentation of the Yellow Pages

Two things are worth noting here. First, that the "payoff" can be defined either as a follow-up (phone call, letter, visit) or as an actual purchase; in either case, the probability of payoff is extremely high. Second, the probabilities of follow-up are always given as conditional upon exposure to the Yellow Pages. That is, the issue is generally framed not in terms of the unconditional likelihood that Yellow Pages advertising will lead to some behavior, but rather in terms of the likelihood that having looked at the Yellow Pages, one will behave in a certain way. "

While it is reasonable to talk about "being exposed" (in the passive voice) to T.V. or to newspaper display advertising, one "is exposed" to Yellow Pages advertising only if he "looks" (active voice) at it. And one looks at Yellow Pages advertising only if one is looking for something. Thus, exposure to Yellow Pages advertising is purposive and undertaken only by individuals who are in some way interested in the information contained therein. The probability of follow-up is conditional upon Yellow Pages exposure, but the probability of exposure is conditional upon some interest. Let us define the probability of exposure to the Yellow Pages given interest, $P(p_{yp} | I)$, as $P(p'_{yp})$. Then, the probability of Yellow Pages exposure (given interest) and follow-up is simply,

$$P(p'_{YP} \text{ and payoff}) = P(p'_{YP}) \times P(\text{payoff} | p'_{YP}) \quad [5.3]$$

In order to arrive at an unconditioned probability of exposure and payoff, we need to estimate $P(p'_{YP})$. We know that between 80% and 95% of the population looks at the Yellow Pages at one time or another, but this would be a gross overestimate of $P(p'_{YP})$ -- by analogy, just because everyone has looked at T.V. at one time or another does not imply that $P(p_{TV}) = 100\%$ for the advertising of any given product category. Column 2 of Table 5.3, from the National Yellow Pages Service Association pamphlet, "Everything You Ever Wanted to Know About National Yellow Pages Advertising," provides a range of estimates $P(p'_{YP})$ for different product categories.^[10] In product markets for which Yellow Pages advertising is appropriate, it is fair to conclude that $P(p'_{YP})$ is fairly high (the mean of the distribution of "Potential Coverage of Decision Makers" in Table 5.3 is over 50%, standard deviation 25.5). If we assume a $P(p'_{YP})$ of .5 (which is probably a high estimate but not an unreasonable one), then the unconditioned probability of payoff is:

$$.42 \leq P(\text{follow-up}_{YP}) \leq .46 \quad [5.4]$$

and

Table 5.3

Yellow Pages Coverage Of Potential Decision Makers

| Product/Service | Referred to YP When Consider- ing Purchase (%) | Potential Coverage of Decision Makers* (%) |
|------------------------|---|--|
| Airline Tickets | 15 | 55 |
| Auto Batteries | 4 | 17 |
| Ceiling Tile | 1 | 43 |
| Floor Tile | 3 | 62 |
| Food Processors | 1 | 66 |
| Home Furnaces | 3 | 100 |
| Hotels/Motels | 9 | 21 |
| House Paint - Exterior | 2 | 26 |
| House Paint - Interior | 4 | 18 |
| Household Furniture | 8 | 64 |
| Mattresses | 3 | 49 |
| Motor Homes/Campers | 1 | 97 |
| New Cars | 6 | 52 |
| Refrigerators | 3 | 50 |
| Water Heaters | 2 | 35 |

*"Persons who referred to Yellow Pages when considering purchase expressed as a percentage participating in purchase decision. Potential coverage exceeding 100% may indicate use of the Yellow Pages as a catalog where prospects may shop but not reach a purchase decision in the same time period."

Note: These appear to reflect consumer or "lay" user responses.

Source: "Everything You Ever Wanted to Know About National Yellow Pages Advertising," NYPSA, May 1981

Data from Simmons, 1980

$$.22 \leq P(\text{purchase}_{yp}) \leq .28 \quad [5.5]$$

These figures give a rough notion of the likelihood that the Yellow Pages as a medium will lead to some payoff. The likelihood that any given ad, say for Assassins Inc. Pest Control, will lead to a follow-up call is a function of the probability that a prospective buyer will use the Yellow Pages at all in purchasing pest control services and of the probability that he will look at and respond to the particular Assassin's Inc. ad. This last is, as we have seen, a function of the ad's size and information content (and to a lesser extent its position and graphic treatment) as well as the size and content of the other ads on the page. In sum, the probability of a sale of a given product is a function of the probability that the Yellow Pages will be used by a given consumer in considering the prospective purchase, the probability that the consumer will attend to a given ad, and the probability that having selected and attended to the ad, the consumer will actually make the purchase.^[11] Formally:

$$P(\text{purchase}) = f(P(p'_{yp}), P(a_i), P(\text{purchase} | p'_{yp})) \quad [5.6]$$

where

$P(a_i)$ = the probability that the user attends to advertisement "i"

The probability a consumer will respond to advertisement "i", then is:

$$P(\text{purchase and } p'_{YP}) \times P(a_i) = P(p'_{YP}) \times P(\text{purchase} | p'_{YP}) \times P(a_i) \quad [5.7]$$

Based on the data we have already examined, we can come up with some rough parameterization of the model to suggest some estimates of purchase probability. We can estimate $P(p'_{YP})$ from Table 5.3, Column 2, with a high estimate of .97, a moderate estimate at the mean, .5, and a low estimate at the low end of the distribution, .17. We can pull $P(a_i)$ from Table 5.2 (Column 7 - the Kansas choice data). Given the distribution of ads and the responses to the different size ads in the Beaumont Book, the probability of choice of any one of the large ads was around .092, for a small display ad it was .006, and for a bold listing, .0013. Finally, the probability of purchase, given exposure to the Yellow Pages, is between .44 and .56. Putting these numbers together (Cf., Table 5.4), we arrive at a range of estimates of the probability that a given Yellow Pages ad will lead to a purchase: for a large ad in a frequently sought category, .050; for a medium size ad in a moderately sought category, .0015, for a bold listing in an infrequently sought category, 9.7×10^{-5} .

Table 5.4

Probability That A Yellow Pages Ad Will Lead
To A Purchase: A Range Of Estimates

| | High | Medium | Low |
|-------------------------------|------|----------------------|----------------------|
| $P(p'_{YP})$ | .97 | .5 | .17 |
| $P(a_i)$ | .092 | .006 | .0013 |
| $P(\text{purchase} p_{YP})$ | .56 | .5 | .44 |
| | .05 | 1.5×10^{-3} | 9.7×10^{-5} |

5.2.3.2. Estimating The Expected Value Of A Yellow Pages Ad

The effectiveness of an ad depends on the potential buyer's likelihood of using the Yellow Pages and the competitive advertising in the book. That is, if an advertiser were one of very few under a frequently sought heading, his ad might be very effective indeed. But the value of an ad to an advertiser depends not on its "effectiveness," an abstract and disembodied probabilistic notion at best, but on the volume of sales the ad can be expected to engender. That is, the Expected Value^[12] of an ad is equal to the probability of a payoff times the value of a payoff (Cf., Figure 5.7). We see in Table 5.3 that Yellow Pages has 97% coverage of potential motor home buyers. If, hypothetically, a motor home sells for \$15,000 and 100 of them are sold each year in Beaumont, then the Expected Value of a large ad under the motor home heading (again, assuming a distribution of competitive advertising given in the Feldman and Halterman results, a not terribly realistic assumption but one which I ask the reader to accept for the sake of argument) is equal to the high effectiveness probability times sales volume:

$$\$15,000 \times 100 \times .050 = \$75,000$$

Figure 5.7

Expected Value Of A Yellow Pages Ad

$$\$ (a_{ijk}) = P(\text{purchase})_{ijk} \times \text{Price}_{jk} \times \text{Number}_{jk}$$

where $\$ (a_{ijk})$ = Expected value of an ad of size "i" under heading "j" in directory "k"

$P(\text{purchase})_{ijk}$ = Probability that an ad of size "i" under heading "j" in directory "k" will lead to a purchase

Price_{jk} = Mean sales price of an item advertised under heading "j" in directory "k"

Number_{jk} = Number of items of the type advertised under heading "j" sold annually in the market covered by directory "k"

If the ad cost \$4,084.80, then the expected sales return on advertising is more than 18 to 1. Now, let us assume that the advertiser sells batteries in Beaumont and has a single bold listing. Further, assume that the average sale price of a car battery is \$75 and 10,000 in Beaumont are sold every year. Following the logic set out above and taking the low effectiveness estimate from Table 5.4:

$$\$75 \times 10,000 \times 9.7 \times 10^{-5} = \$72.75$$

If a listing cost \$73.80, the sales return on Yellow Pages advertising is about 1 to 1. (If our battery dealer had bought a single line plain listing under "batteries," assuming, e.g., that his "free" listing was under "tires," the expected payoff would be \$27.75 or a return of 1 to 3.)

Now let us imagine, to carry out the argument, that the "effectiveness" of a large ad and the propensity to buy given Yellow Pages exposure were as high for batteries as for motor homes -- i.e., $P(a_i) = .092$ and $P(\text{purchase } p_{YP}) = .56$. The value of the large ad for the battery seller remains much less than for the motor home seller.

$$\begin{aligned} P(p_{YP}) \times P(a_i) \times P(\text{purchase} | p_{YP}) &= .17 \times .092 \times .56 \\ &= .0088 \end{aligned}$$

and

.0088 x 10,000 batteries x \$75/battery = \$6,568.80

for sales to advertising ratio of 1.6 to 1.

The intrinsic value of different headings in the same directory is different, yet the prices under all headings have traditionally been the same. In other media the same quantum of the same medium, e.g., 30 seconds of T.V. time, is priced according to the size (and to a lesser degree the composition) of the audience. Dave Wibbelsman of New York Telephone has pointed out the discrepancy between the uniform pricing in the telephone directory (e.g., for Gunsmiths and Grocers) and the non-uniform pricing on T.V. of the Sunday morning religion slot and the Superbowl. I would predict that some sort of value-based pricing, perhaps three or four tiers of prices, will be instituted in the directory industry.

5.2.3.3. Effectiveness And Cost Effectiveness Of Yellow Pages And T.V. Compared

We need to frame Yellow Pages effectiveness in some sort of an accounting scheme in order to see how it compares with that of other media. William McGuire (1978) suggests just such a scheme in his Information Processing Model of Advertising Effectiveness. In a line of theorizing that stretches back to the early 1960s in the work of

Lavidge and Steiner and Colley in advertising research and further to the 1940s and the work of Hoveland and his collaborators in social psychology, McGuire argues that persuasive communications operate through a series of behavioral steps. (It is this kind of model that implicitly underlies the copy testing research discussed in the previous section.) He models this succession of behavioral steps, in his version of the hierarchy of media effects, as a Markov Process (Cf., Figure 5.8, Figure 1 from McGuire, 1978). The probability of behavior is the product of all the previous steps. Formally,

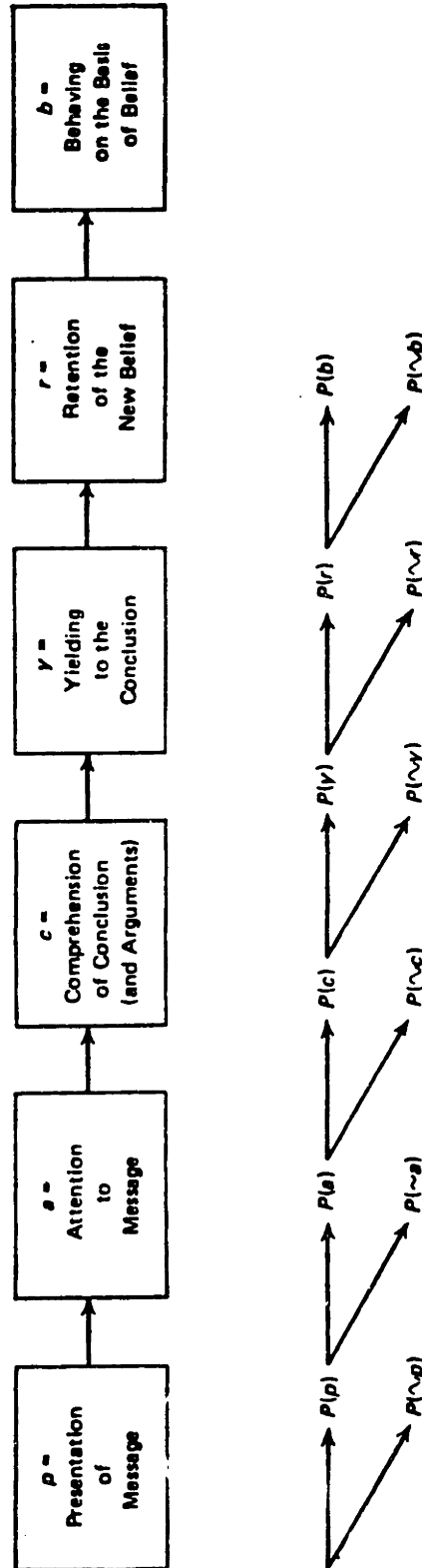
$$P(\text{payoff}) = \prod P(b_i) \quad [5.8]$$

where the b_i s are:

| | |
|------------------------------|------|
| Probability of Presentation | P(p) |
| Probability of Attention | P(a) |
| Probability of Comprehension | P(c) |
| Probability of Yielding | P(y) |
| Probability of Retention | P(r) |
| Probability of Behavior | P(b) |

Figure 5.8

McGuire's Information Processing Model



Probability of payoff behavior (e.g., purchase) = $P(p) \cdot P(a) \cdot P(c) \cdot P(y) \cdot P(r) \cdot P(b)$

FIGURE 1. Behavioral chain involved in being persuaded, posited by an information-processing model.

McGuire, 1978

Following McGuire's own notional estimate, if we set each of the probabilities in the T.V. Markov chain to .5, what McGuire calls "a generous estimate of likelihood," we see that at the very highest, T.V. would score $.5^6 = .0156$. That is, the best case T.V. ad would appear, by this analysis, to be less "effective" than the best case Yellow Pages ad by more than a factor of three. We can arrive at slightly more solid and estimates of the probabilities for T.V. by using published data and informed judgment. In their investigation of the effects of "commercial clutter," Webb & Ray (1979) collected some useful data that we can fit to the McGuire model. First, it is generally agreed that one can, if he is willing to spend the money, gain extremely wide exposure via T.V., so let us set the $P(p_{TV})$ at a high, but reasonable, .8. When Webb & Ray observed T.V. watching behavior in an experimental group, average attention ranged between .46 and .56 (depending on the level of "clutter"), so a .5 for $P(a_{TV})$ seems reasonable. Webb & Ray do not report a measure of comprehension but Morrison,^[13] after reanalyzing a massive 1980 American Association of Advertising Agencies study of T.V. comprehension, suggests that true comprehension of T.V. product and service commercials is about .47.

I am aware of no measure, either direct or indirect, of what McGuire characterizes as "yielding" or being convinced by the commercial's arguments and blandishments. It appears that the average American is bombarded with something between 16,000 and 35,000 persuasive T.V. messages per year. If the average viewer "yielded" to just 10% of them, he would, in effect, be being convinced of something approximately, 2,500 per year or nearly 7 per day! It would seem highly unlikely that any of us are "convinced" or "persuaded" of anything by T.V. every day, let alone of seven things every day. For the sake of the analysis, I set $P(y)$ at .01 (which implies that we are convinced by nearly five things a week). A reasonable (though probably inflated) measure of "retention" is specific brand recall. If one cannot remember the brand, he can hardly retain his intention; on the other hand, one may recall a brand name without having "yielded," thus, brand name recall, .12 under heavy clutter conditions, is the upper limit of $P(r)$. No measure of follow-up behavior was reported in the Webb & Ray study and to be very generous I will stipulate a high .5 for $P(b)$. Putting all these numbers together, we see:

$$P(\text{payoff})_{\text{TV}} = .8 \times .5 \times .47 \times .01 \times .12 \times .5 = 1.1 \times 10^{-4}$$

This, in general high estimate of T.V. effectiveness, is only marginally higher than the lowest estimate of Yellow Pages effectiveness, a reasonable low estimate of T.V. effectiveness might be 1.1×10^{-7} (Cf., Table 5.5). The ratio of Yellow Pages to T.V. "effectiveness," based on the reasonable high estimates for each medium, is greater than 450 to 1.

We can arrive at a rough first approximation of the relative "cost effectiveness" of the two media by expanding our analysis to include aggregate data on the costs of advertising in the Yellow Pages and on T.V. Because the following must be based on assumptions, estimates and extrapolations rather than hard measurements, I will continue to calculate high and low estimates in an attempt to bracket a reasonable range.

In order to know how "cost effective" an advertising medium is, we need to know not only what an ad costs and how "effective" it is, but also how often it is used. Imagine that a medium cost \$1 to buy and was 99% "effective" and another medium cost \$10 to buy and was only 50% "effective." Imagine, further, that only one person ever was exposed to the former and that 10,000 were exposed to the latter. Clearly, "cost effectiveness" is only meaningful when further scaled to some metric like cost per

Table 5.5

A Range Of Estimates Of T.V. Effectiveness
Based On McGuire's Behavioral Chain

| | T.V. McGuire "Generous" | T.V. High Reasonable | Low Reasonable |
|------------|-------------------------------|----------------------------|----------------------|
| P(p) | .5 | .8 | .4 |
| P(a) | .5 | .5 | .3 |
| P(c) | .5 | .47 | .3 |
| P(y) | .5 | .01 | .001 |
| P(r) | .5 | .12 | .06 |
| P(b) | .5 | .5 | .05 |
| P(payload) | .0156 | 1.1×10^{-4} | 1.1×10^{-7} |

exposure. In Table 5.6 I suggest an analytical framework to investigate cost effectiveness. I will explain, first, from whence the numbers on the Table were drawn, and second, the logic of the analysis.

The high and low estimates of minutes of T.V. advertising per day are calculated on the basis of high and low estimates of T.V. viewing and high and low estimates of commercial clutter. The low estimate of 18 minutes per day is based on an average of two hours per day of T.V. viewing with nine minutes of commercials per hour and the high estimate of 31 minutes is based on three hours of viewing with under "high clutter" conditions of 10 minutes 20 seconds of promotional announcements per hour. Under relatively "low clutter" conditions, ads are assumed to average 30 seconds in length while under "high clutter" conditions they are assumed to average 24 seconds each. Adult exposures per year is calculated by multiplying the average number of exposures per day times the number of adults (over age 16) in the U.S. population and the number of days in the year. Total T.V. advertising revenues are given by T.V. Fact Book to be \$12 billion per annum in 1982 which gives rise to the estimates of cost per exposure and cost per minute. On the Yellow Pages side of Table 5.6, number of minutes spent reading phone books is taken from the ETS

Table 5.6
Cost Effectiveness Of Yellow Pages
And T.V. Advertising

| | T.V. Advertising | | Yellow Pages | |
|---------------------|--------------------------|------------------------|--|---------------------------|
| | Low | High | Low | High |
| Minutes/Day | 18 | 31 | .9* | 1.4* |
| Ads/Minute | 2 | 2.5 | Ads/Expense 4 [†] | 6 [†] |
| # of Adults 16+ | 1.75 x 10 ⁸ | | Exposures/Yr. 7.3 x 10 ⁹ ** | 1.7 x 10 ¹⁰ ** |
| Days/Year | 365 | | | |
| Adult Exposures/Yr. | 2.3 x 10 ¹² | 4.9 x 10 ¹² | 2.9 x 10 ¹⁰ | 1.0 x 10 ¹¹ |
| Revenues | \$1.2 x 10 ¹⁰ | | \$3.2 x 10 ⁹ | |
| \$/Minute | .01 | .006 | .06 | .04 |
| \$/Adult Exposure | .005 | .002 | .11 | .032 |
| P (payoff) | 1.1 x 10 ⁻⁷ | 1.1 x 10 ⁻⁴ | 9.7 x 10 ⁻⁵ | .05 |
| Payoff/\$ Minutes | 1.1 x 10 ⁻⁵ | .02 | 1.6 x 10 ⁻³ | 1.2 |
| Payoff/\$ Exposures | 2.2 x 10 ⁻⁵ | .06 | 8.8 x 10 ⁻⁴ | 1.6 |

*Table 2.8

[†]Notional Estimate

**Table 4.5 (Simmons Sensitivity Analysis)

study (Table 3.5) while the number of exposures per year is taken from the Simmons Sensitivity Analysis (Table 4.5). The number of ads read is my own notional estimate and may be quite far off. The probabilities of payoff are drawn directly from Table 5.4.

The logic of the analysis is quite simple (perhaps even simpleminded). Cost effectiveness is understood in terms of "bang for the buck," "bang" being interpreted here as the probability of payoff and "buck" as the cost per exposure (or minute of exposure).

The outputs of the analysis are estimates -- based as they are on more or less credible input data -- and even if we were to believe the results, they would still be somewhat ambiguous. Neither medium overwhelmingly dominates the other, the high estimate of T.V. is better than the low estimate of Yellow Pages, but the high estimate of the Yellow Pages is about two orders of magnitude better than the high T.V. estimate and the low Yellow Pages estimate is about two orders of magnitude better than the low T.V. estimate. Recall that our hypothetical Beaumont motor home dealer realized much higher returns from his advertising investment than did his neighbor the battery dealer. Likewise, recall from our previous foray into the Yellow Pages advertising proclivities of Grocers and Gunsmiths that the

Yellow Pages is a medium most appropriate for relatively big ticket purchasers while T.V. is often used to advertise frequently purchased branded goods. Yellow Pages advertising would appear not only to be more cost effective than T.V., but also to engender relatively higher returns on advertising investment. In all, the Yellow Pages appear to be a relatively good buy. People in the industry believe that even with the rapid escalation in prices over the last decade, the Yellow Pages remains highly underpriced. My analysis tends to confirm their intuition and to augur for continuing price increases in the future.

5.3. WHY ARE THE YELLOW PAGES SO EFFECTIVE?

Within the Yellow Pages there is a good deal of variance depending on the unit of advertising chosen, the competitive environment within a heading and the nature of the goods advertised under the heading, but overall the "worst case" Yellow Pages ad is likely to be only marginally less effective than the "best case" T.V. ad and a "best case" Yellow Pages ad dominates any reasonable expected effectiveness of a T.V. ad by several orders of magnitude.

Advertisers do pay a good deal more for a Yellow Pages exposure than for a T.V. commercial exposure but the cost differential is not commensurate with the effectiveness differential which suggests that, ceteris paribus, Yellow Pages is a better buy than T.V. Of course, all other things are not equal; some types of products lend themselves to Yellow Pages advertising and others do not. If one were aiming to gain broad attention to and recognition of a newproduct, the Yellow Pages, with its yearly publishing cycle and its inherently dull graphics, would be an entirely inappropriate vehicle. Still, a question worth pursuing is: given its radical dullness, just why is it that the Yellow Pages are so effective?

5.3.1. Some Deductive Consequences Of The Markov Model

While the bottom line probabilities of purchase of Tables 5.4 and 5.5 may be compared (as I do in Table 5.6) the reader no doubt noted that different procedures were used to estimate them. The Yellow Pages probability was estimated based on the measured conditional probability that a Yellow Pages reference would lead to some follow-up, $P(\text{follow-up} | p'_{YP})$, while the T.V. probability was estimated based on a full parameterization of McGuire's model. Using the model, we can deduce a limited range of levels for the unmeasured parameters of Yellow Pages response. Recall that $P(\text{purchase} | p'_{YP}) \approx .5$. Therefore:

$$P(a_{YP}) \times P(c_{YP}) \times P(y_{YP}) \times P(r_{YP}) \times P(b_{YP}) \approx .5 \quad [5.9]$$

$P(a_{YP})$, in this instance, must be interpreted as the probability of attention to any ad, that is, $P(a) = \sum P(a_i)$ which must be fairly near to 1 else we must imagine the implausible situation in which someone looks something up without looking anything up. (The estimates of $P(a_i)$ in Table 5.2, Column 7 are predicated on $\sum P(a_i) = 1$.) If

$\prod_4 P(b_i) \approx .5$ and $P(b_1) = P(b_2) = P(b_3) = P(b_4)$, then each of the probabilities in the chain are equal to the fourth root of .5 or .84. In any case, none of the b_i can be

lower than .5 and if the probability of one of the steps is .5, then the probability of each of the other three is 1.

Retention is a key issue in many persuasive communications campaigns (Cf., Ray (1982), Chapter 16 on "Response and Decay Functions"). But, in Yellow Pages advertising, retention is effectively a non-issue. The advertisement is available whenever the user wants to see it (as the promotional literature says, "24 hours a day, 365 days a year"). Exposure is scheduled by the consumer, not by an anonymous media plan. Thus, the ad in the Yellow Pages will normally be consulted at the time that the information is needed. There is no time for a slip between the cup (exposure) and the lip (recall). It seems reasonable to set $P(r) = .9$.

A small minority of the Wahlstrom respondents found the Yellow Pages heading structure to be "confusing" (Cf., Foote, Cone, Belding/Wahlstrom (1981), p. 47). Moreover, users frequently turn to the wrong key word or heading. Nonetheless, since the majority of Yellow Pages users are repeat users, it is fair to conclude that a vast preponderance of references lead, perhaps after a cross-reference or two, to the information sought.^[14] The information presented in the Yellow Pages is simple and straightforward without the rich imagery and iconic content of a T.V. commercial. My own feeling is that T.V. works largely because

it is symbolic and evocative, but, as McGuire points out, many persuasive messages fail not because of receiver resistance to persuasion, but because the receiver does not understand what was said. While a consumer is unlikely to be entranced, transported, or amused by a Yellow Pages ad (as he may well be by a T.V. commercial), he is likely to find a phone number, an address, and perhaps a note on the plumber's specialties (night calls versus new bathroom construction) and to understand all that he reads. Thus, $P(c)$ is high but probably not as high as $\sum P(a_i)$ or $P(r)$. Let us set it notionally at .8.

If we follow this reasonable notional set of estimates, then $P(y) \times P(b) = .5 \div (.8 \times .9) = .69$. If the probability of attention, comprehension, and retention were lower, then the probability of yielding and behavior would have to be even higher (e.g., set $\sum P(a_i) = .9$, $P(i) = .75$, $P(r) = .85$, then $P(y) \times P(b) = .87$).

Look back at Table 5.5. Note that the high reasonable estimate of $P(y)$ for T.V. was .01, implying yielding to about five advertisements per week and that a low, but still reasonable, estimate was .001. The key difference between the effectiveness of the Yellow Pages and T.V. appears to reside in important behavioral stages of yielding and acting upon that yielding.

5.3.2. Yielding The Behavioral Antecedants Of Yellow Pages Use

If the T.V. watcher need bring nothing but a moderate level of consciousness to the T.V. commercial watching experience (only sleeping or comatose or temporarily physically absent viewers are below the minimum level and even they may be counted by the rating services), the Yellow Pages user must bring to the use episode a number of intellectual skills or learned routines: how to find a heading, how to follow a cross-reference, how to use a subject index. Preliterate children and illiterate adults are fair game for the sensuous narrative symbolism of the T.V. commercial, but using the Yellow Pages requires more cerebral reading and retrieval skills. More important, a Yellow Pages user brings to the use situation a clearly understood and well formed need or desire to know something rather specific. Yellow Pages use entails precisely the kind of directed information seeking behaviors that T.V. viewing does not. But, as our notion of "reference" entails, the information seeking of the Yellow Pages user, unlike that of, say, the newspaper news reader, is not for itself, rather, it is for something else. A newspaper reader wants to know what happened in Lebanon last night or how well the Red Socks played, but for the Yellow Pages user to know where the closest pizza parlor is is only a proximate cause

of his inquiry. The final cause is to get a pizza. Put differently, the Yellow Pages user, in most instances, has a strong behavior predisposition to act upon the information he seeks and finds. The predisposition to act may be an intention to buy, an intention to decide whether or not to buy, or an intention to gather more information in order to inform his intention to decide to . . . etc. ad nauseum. The intention to do something about the information precedes the acquisition of the information. Finally, the Yellow Pages user has not only the intention to do something as a result of his query, it is fair to assume, generally speaking, that he also has the wherewithal to implement his intention.

If, as both a common sense analysis and most available evidence indicate, most Yellow Pages users do not peruse the book for the fun of it, then it is reasonable to conclude that both the intention and ability to act precede the exposure to the advertisement. In a word, the central difference between, on the one hand, the Yellow Pages and other reference-based, or directional, advertising media (videotex and, to a lesser extent, classifieds share this distinction), and on the other, various "creative" media is that the user has already "yielded" before encountering (indeed, before even searching for) the advertisement.

Given this fundamental difference in behavioral predispositions, is it even intellectually honest to compare the effectiveness of T.V. and the Yellow Pages? An advertising researcher might respond to my comparison, both quantitative and theoretical, with some skepticism. "Your arguments are all well and good," he might argue, "but they miss the point entirely. In his 1965 presidential address before the American Association for Public Opinion Research, Krugman pointed out the difficulty of using standard attitude change models, e.g., McGuire's, in a 'low involvement' situation like T.V. advertising. Of course, T.V. advertising compares unfavorably with Yellow Pages precisely because T.V. advertising works by way of a delayed action, latent restructuring of perceptions, subtle shifts in the salience of beliefs, and not by way of a standard learning hierarchy which is predicated on high involvement." And I would have to agree with my skeptical critic. Perhaps the comparison of T.V. and Yellow Pages' effectiveness is invidious, but in the end, that it is invidious proves my point and explains why it is that the Yellow Pages are, in fact, so effective.

McGuire, with a characteristic light touch, makes it clear that he does not believe that receivers of persuasive

messages always, or even frequently, behave as information-processors.

"Let me clarify what I am claiming here, before a misconception causes me to lose whatever presumptive reputation I might have for understanding the social influence processes. I am not saying that as a matter of fact people do cast themselves into an avidly interested role, diligently studying what the source is trying to say via his persuasive message. Such a view would seem naive to those of us who have confronted many apathetic audiences in lecture halls or via the mass media, who couldn't care less what we were talking about, except to hope it would stop soon. What I am proposing as the information-processing approach is not one that views the recipient of the communication necessarily taking this avidly interested stance, but rather one that views the advertising campaign or any other communication as likely to be effective insofar as it succeeds in casting him in such a role and keeps him playing the part."

(p. 159) [Emphasis Added]

Krugman's "Learning without Involvement" suggests how it is that T.V. advertising can work when the receiver does not behave like an information-processor. McGuire's model tells us how persuasive communication works when the receiver does behave like an information-processor. In deciding to use the Yellow Pages, the "receiver" casts himself in the role of information-processor and that is why the medium, dull and unglamorous though it be, is so effective.

5.4. IMPLICATIONS AND ISSUES FOR FURTHER RESEARCH

In closing, I would propose some additional avenues of research and draw some implications from this and preceding chapters. I begin with a few words on the implications of a "precision" mass medium and then make an argument about its social welfare consequences.

5.4.1. Precision Targeting

That the user has already decided to make a purchase and so acts as an "information processor" accounts for part of the relative effectiveness of the Yellow Pages. The medium's cost effectiveness -- the neat and parsimonious fit between the medium, its target audience, and the content of its messages -- is a consequence of both the user's behavioral predisposition and the precision targeting available through the medium. Everyone buys groceries and nearly everyone buys shampoo so that a medium that reaches a largely undifferentiated mass audience, e.g., television, is appropriate for these product categories. Reaching the entire population is sometimes appropriate and always assures reaching the subpopulation of interest, but such saturation advertising can be an inefficient and expensive media strategy. The ideal media plan reaches all those in the population of interest and no one else. No medium

meets this ideal but the Yellow Pages, because of the inherent self-selection of its audience, approaches it. Look back now to Table 5.3. Note that only 1% of the total adult population uses the directory to look up motor homes, but that 97% of those participating in motor home buying decisions, do so.

The Yellow Pages user interested in any one product category may ignore all but the very small piece of the data base which is germane to him. The rest of it goes unread. But, it is just because all the thousands or tens of thousands of unread listings are there and available in a single ubiquitous reference source that the Yellow Pages works. The Yellow Pages is a precisely, even minutely, targeted medium that is precisely aimed at everyone. This is neither a paradox nor a contradiction, but rather a characteristic of a comprehensive data base and the behavior of its users. Each individual use -- at a given time, in a given place, for a given person -- is highly focussed. But, in the aggregate, the Yellow Pages is a medium that is used at almost any time, in nearly every place, by just about everybody. In its distribution, the Yellow Pages is a mass medium, disseminated from one to many as is a T.V. show or a newspaper. But, in its use, the Yellow Pages is

precisely the contrary of a mass medium that everyone consumes at about the same time in about the same way. The use of the Yellow Pages bears comparison to the use of the telephone network.

The contrast between the (passive voice) "being exposed" to other mass media and the (active voice) "information-seeking" characteristic of Yellow Pages use suggests the creation of an Index of Selectivity for various advertising media. We can imagine, as an ideal type, a perfectly undifferentiated medium whose advertising messages reach everyone with perfect disregard for the interests or purchase propensities of the audience. National network T.V. advertising approaches, but does not quite attain, this perfect "massness" (it is the job of media departments in advertising agencies to attempt to target, albeit grossly, by age, sex, or other demographic and psychographic attributes). In this ideal-typical mass medium exposure to an advertising message is entirely independent of an audience member's interest in the message. In formal terms,

$$\begin{aligned} P(p \text{ and } I) &= P(I) \times P(p|I) && [5.10] \\ &= P(I) \times P(p) \end{aligned}$$

i.e.

$$P(p|I) = P(p)$$

where

$P(p)$ = probability of exposure to message

$P(I)$ = probability of interest in the message

Furthermore,

If $P(p|I) = P(p)$

Then $P(p|I) \div P(p) = 1$

That is, if exposure to a message and interest in that message are independent, as we have posited in our ideal type mass medium, then the probability of exposure given interest divided by the probability of exposure equals 1.

Now, let us consider the Yellow Pages. Table 5.3 illustrates in quantitative terms an intuition that we have about the directory, i.e., that one only looks something up if one is interested in it. Thus, the probability of exposure given interest is much greater than the unconditional probability of exposure and the ratio,

$$P(p_{YP}|I) \div P(p_{YP}) > 1$$

The ratio $P(p|I) \div P(p)$ for any medium is a formal measure of its targetedness. If we interpret $P(I)$ to mean the

probability that an audience is of interest to the advertiser, the formal structure of the model remains unchanged, but we now interpret targetedness -- from the perspective of the sponsor of the message -- to refer to the degree to which a medium focusses a message on the audience of interest. The Yellow Pages is frequently characterized as a "directional" medium, one that directs a consumer to the distribution outlet for a product or service. A directional medium is necessarily relatively targeted, but a targeted medium is not necessarily directional. (Advertising in small, special interest magazines is likely to be highly targeted but it is not necessarily at all directed.)

While targetedness is a matter of degree, directionality is a matter of kind. Using the Yellow Pages (or any reference advertising medium) entails a rather unusual behavioral sequence. First, the user has an intention to buy (or to collect further information, etc.), then he looks at the medium, attends to one or more ads, selects one to contact, and then makes a call and frequently a purchase. Following Ray (1982), Figure 5.9 presents three familiar theoretical hierarchies of advertising effects -- the "Learning Hierarchy" (McGuire's Information Processing Model), the "Low Involvement Hierarchy," and the "Dissonance-Attribution Hierarchy" -- and the hierarchy which

Figure 5.9

Four Hierarchies Of Advertising Effects

Learning Hierarchy

Exposure → Attention → Comprehension → Conviction
Retention — Action

Low Involvement Hierarchy

Exposure → Comprehension → Action → Conviction

Dissonance-Attribution Hierarchy

Action → Conviction → Exposure → Comprehension

Reference Hierarchy

Conviction → Exposure → Attention → Choice → Action

characterizes Yellow Pages use. The Yellow Pages hierarchy is a kind of information processing or learning process in which conviction precedes exposure (and where comprehension and retention are trivial). A medium is directional to the extent that decision to buy (or to seek out additional information) is prior to exposure.

In sum, the reasons for Yellow Pages' effectiveness and cost effectiveness are:

1. A user has normally already "yielded" or decided to make a purchase before picking up the phone book.
2. Advertisers may aim messages with a high level of precision.
3. Directory messages are information-rich and icon-poor leading to a high degree of comprehension.
4. Directory users are relatively well educated and motivated to understand the content of the advertisement.
5. Directory use is scheduled by the user around the purchase, the medium is always available and retention of the information sought and found is not problematic.

6. The types of products advertised, especially "shopping goods" and services, lend themselves to a reference-based medium.

5.4.2. Size Of Ad

Simon and Arndt (1980) reviewed over 100 empirical studies of advertising response to attempt to settle once and for all the question of the shape of the advertising response function. The two current hypotheses they tested were 1) the response function is S-shaped with increasing and then decreasing returns to scale, and 2) the response function is constantly concave to the origin with decreasing returns across the entire range. (These hypothesized functional forms are illustrated in Figure 5.2, Figure 1 of Simon and Arndt (1980).)

The authors conclude that there is decisive reason to believe that decreasing returns characterize advertising response. Yellow Pages research does not directly measure sales response to size of ad, but reasonable surrogate measures, of choice and intention, suggest an anomalous finding of constantly increasing (perhaps exponentially increasing) response to size. What are we to make of this? First, I would emphasize that the "increasing returns" result is equivocal. Figures 5.5 and 5.6 are decidedly

non-monotonic and the increasing returns of the "role play choice" response of Figure 5.4 is only over the range of display ads. (Over that portion of the range, Figures 5.5 and 5.6 also show monotonic increasing returns.) Second, the finding of returns to scale may be a methodological artifact. Copy testing has been conducted in a laboratory, or quasi-laboratory, setting in which a conscious attempt has been made to set "all else" equal. In the Kansas study, for example, respondents were asked to select from among unfamiliar companies in an unfamiliar town. It may well be that relative location (of the advertiser's store to the buyer's residence) is the single dominant factor in the selection of a Yellow Pages ad, but this factor was intentionally (and reasonably) suppressed in much of the research. If an individual knows the name of a company being sought (a situation which appears to account for about 50% of Yellow Pages references), then the size of the display ad is largely irrelevant, but a bold listing is helpful in directing the eye in the listing columns. It has been suggested that the striking non-monotonicity of Figure 5.5 results from the mixing of two very different use patterns -- looking for a company whose name is known and looking for an unknown company. [15]

Drawing an analogy to the sensitivity to price signals in a perfectly competitive market for an undifferentiated good, Charles Jonscher has suggested that the listings under a Yellow Pages heading represent the total market for a given good or service. A small increment in attention (due to ad size) differentiates and distinguishes among the otherwise identical companies in much the same way that a small increment in price differentiates among otherwise identical competitors. Size is such a critical variable because, I believe, people who refer to the Yellow Pages are engaged in a relatively important information search for what is likely to be an expensive, infrequent purchase. Size of ad is highly correlated with information content and users want and appreciate as much information as possible.

5.4.3. Issues For Further Research

I have developed plausible models of the probability that a purchase will follow from a Yellow Pages ad and of the Expected Value of an ad under different circumstances. This kind of a model, more carefully measured and calibrated and including a profit margin parameter, would provide a useful basis for the establishment of value-based pricing. But, both the probability of purchase model and

the expected value model are predicated on a good estimate of the probability of presentation of the Yellow Pages to an interested potential buyer. This notion of the probability of being interested needs a good deal of additional work.

A more precise definition of being "in the market" and, with that, a better way to estimate the quantity $P(p_{YP_i} | I_i)$ (where the subscript refers to a product category or heading) are both necessary. It might be possible to estimate $P(p_{YP_i} | I_i)$ from cross-tabulating data already collected in Simmons, but original data collection might also prove necessary.

One way to begin to zero in on an estimation technique for $P(p_{YP_i} | I_i)$ is by way of Bayes Theorum:

$$P(p_{YP_i} | I_i) = \frac{P(p_{YP_i}) \times P(I_i | p_{YP_i})}{P(p_{YP_i}) \times P(I_i | p_{YP_i}) + P(\bar{p}_{YP_i}) \times P(I_i | \bar{p}_{YP_i})} \quad [5.11]$$

Some of the parameters in this model are easily estimated, e.g., the unconditional probability $P(p_{YP_i})$ for different categories is collected in Simmons. Others can be set on the basis of logic -- e.g., $P(I_i | p_{YP_i})$ must be fairly close to 1 because people do not look up things in which

they have no interest. $P(\tilde{p}_{YP_i})$ follows from $P(p_{YP_i})$ since the issue is dichotomous, but how would we estimate $P(I_i | \tilde{p}_{YP_i})$, that is, the probability that one is interested given that he did not use the Yellow Pages?

Other questions remain unresolved:

- . What is the probability of a "failed" search? Is the 84% to 93% follow-up reported in the literature calculated from a base of all searches or just all successful searches? Do people remember failed searches?
- . How important are different copy points under different headings. Can we come up with useful theoretical meta-headings, e.g., Home Service Contractors (which might include plumbers, electricians, roofers, etc.) for which similar types of information are germane?
- . How important is ad size when considered not as a single variable but rather as one of number of copy variables in a nexus that includes both the copy of a given ad, the copy of competing ads, and the nature of the goods or services sought? That is, how, in the real world, do people go about selecting a number to call in the Yellow Pages?

To answer these and related questions more rigorous laboratory copy testing and real world tests, using, e.g., split editions or large samples with multivariate analysis techniques; are both in order.

5.4.4. Social Welfare Implications: "Good" And "Bad" Advertising

There is a venerable and largely unresolved debate among economists and academic marketers on the "social welfare" implications of advertising (Cf., Farris and Albion, "The Impact of Advertising on the Price of Consumer Goods," (1980); and Butters, "A Survey of Advertising and Market Structure," (1976)). One school holds that advertising creates artificial illusion of product differentiation and affects consumer preferences; in a word, advertising is persuasive. The other holds that advertising lowers entry costs, makes demand curves more elastic and helps to create conditions of more nearly perfect information (on which neo-classical economic theorems regarding social welfare are predicated). In a word, for this school, advertising is informative. Empirical results have been adduced by both sides of the debate and Butters (1976) argues that:

"To all appearances, the choice of both the axioms used and the data to be interpreted has been made in order to justify preexisting conclusions rather than to make an unbiased test between alternative theories."

(p. 392)

5.4.4.1. Adducing Criteria Of "Goodness" And "Badness"

The question, "is advertising good or bad?" (like the question posed to communications researchers, "is T.V. viewing good or bad for children?") may be unanswerable without further refinement and specification. One approach (adopted by Butters) is to posit a set of assumptions (wholly, even wildly, unrealistic assumptions) that permit the specification of a mathematical model whose behavior can be manipulated under different conditions. The kind of conditions under which advertising conduces to greater (or lesser) social welfare can then be analyzed. This approach, while elegant and deductively powerful, is less than satisfactory for me since its simplifying assumptions which guarantee tractability also assure a high degree of infidelity to anything observable in the real world. The radically abstract and simple world of Butters' model, free of the distractions of empirical analysis of complex decision-making situations -- let alone of complex semiotic systems (i.e., the advertisements themselves) -- leaves me entirely unconvinced.

Another approach is to consider the nature of the good advertised. For some goods -- particularly shopping goods, about which the consumer actively seeks information through formal information sources (e.g., advertising) or informal

ones (e.g., friends, "opinion leaders," etc.) -- advertising is clearly informative (it may also be persuasive) and is sought by the consumer in his decision-making process. Advertisements for other types of goods -- e.g., branded goods which are little, if at all, different from the competition and which are bought on impulse -- are less likely to be truly informative. If the products are "really" different from each other, then advertising can provide useful information, if they are not, then it may provide a persuasive but "false" image of differentiation. This approach (while appealing on its face) runs into the problem of identifying "false consciousness" and separating "real" from "chimerical" product differentiation.

Rather than consider the product advertised, one might be able to discriminate between "good" (informative) and "bad" (persuasive) advertising by looking at the content of the advertising itself. Does the ad provide factual information that will aid the cognitive processes of the rational decision-maker (or satisfier), or does it contain arational (or irrational or even anti-rational) images and symbols appealing to the emotions as opposed to the intellect? Of course, much advertising contains both kinds of content in varying degrees and only a few scholars (Roland Barthes comes to mind) have carefully unpacked the meaning

of advertisements. The notion that one could separate "good rational" ads from "bad anti-rational" ones has some appeal but it is extremely difficult to operationalize and implement.

Porter, in "Interbrand Choice Media Mix and Market Performance" (1976), makes a different argument.

"Advertising's effect on market power is due not to its effect on the buyer per se but to imperfections in its supply which give some firms systematic advantages in advertising over their existing and potential competitors.... Advertising leads to entry barriers because its provision is subject to economies of scale, creates absolute advantages for going firms and enhances the capital required for entry into an industry."

(p. 401)

Because different media are differently divisible by market size, the argument goes, they have inherently different level entry thresholds. That is, national T.V. is very expensive in absolute terms and while its cost per thousand (CPM) is low, it must be bought nationally; it is not "divisible" and therefore has a high threshold (which serves as an entry barrier). Local newspapers, on the other hand, are divisible by market (sometimes even within the market via zoned editions) so the structural barriers -- economies of scale and high thresholds -- are not significant. Therefore, it should be the case that market power (as evidenced by higher than normal profits) not relate to local

newspaper advertising while it should relate to national T.V. advertising. Porter (1976) presents empirical results to support this argument. Caves (1977) provides a cogent one-line summary: "If any advertising can be condemned as socially wasteful, it is what comes through the tube" (p. 74).^[16]

5.4.4.2. Scoring The Yellow Pages

In the light of all these criteria, the Yellow Pages as a medium comes off rather well. First, the products advertised in it tend to be "shopping goods." Use of the Yellow Pages involves directed information seeking, what I have called "reference." So, by its very nature, the medium is "informative" (it is only "persuasive" to the extent that a larger ad may catch the eye). Second, Yellow pages content is almost entirely matter-of-fact and without emotional appeal. It is stripped to iconic austerity (a logo is about the highest level of semiotic content) and is almost entirely informative rather than emotional. Furthermore, it is a demand medium, it is entirely unobtrusive and provides wanted information only when such information is actively sought. Moreover, we have seen that Yellow Pages advertising is highly, even extremely, divisible.

Not only do differently scoped directories provide for market segmentation, but the structure of the book -- multiple headings -- provides for strategic targeting along very narrow product market lines.

Table 5.7 is a summary comparison of Yellow Pages with several other advertising media on a number of the dimensions that seem salient in judging the social welfare implications of advertising. I have grouped the 13 dimensions under four broader rubrics, one based on the characteristic content of the advertising in the medium; a second based on the category of goods generally advertised in the medium; a third based on the structure of the supply side of the medium; and a fourth based on the medium's audience. I have suggested two related scoring methodologies. On the Structure and Content dimensions, I determine whether the advertising medium rates high, moderate, or low. On the Good and Audience dimensions I use a nominal "yes," "no," and "yes and no" scale rather than the ordinal high, medium, low scale. Next, I assign a valence to each of these ratings in accordance with the earlier expository development of this section on advertising and social welfare. That is, since I suggested that high informational content would generally be agreed to be good (by both the camp that

Table 5.7
Social Welfare Ratings of Selected Advertising Media On Salient Dimensions

| Evaluative Dimensions: | Media: Spot/Local T.V. | Network T.V. | Newspaper Display | Newspaper Classified | Magazine | Yellow Pages |
|--|------------------------|--------------|-------------------|----------------------|----------|--------------|
| I. Content Informativeness Persuasiveness Emotional Rational | L | -1 | M | H | M | H |
| | H | -1 | M | L | M | L |
| | H | -1 | L | L | M | L |
| | M | 0 | M | H | H | H |
| II. Good Advertised Shopping Convenience | Y/N | 0 | Y | Y | Y/N | Y |
| | Y | -1 | N | N | Y/N | N |
| III. Structure of Supply Divisible Economies of Scale Advantages to Entrenched Competitors High Capital Requirements | M | 0 | H | H | M | H |
| | H | -1 | L | L | M | M |
| | H | -1 | L | L | M | L |
| | H | -1 | L | L | M | L |
| IV. Audience Adults Children Information Sought | Y | 1 | Y | Y | Y | Y |
| | Y | -1 | N | N | N | N |
| | N | -1 | Y/N | Y | Y/N | Y |
| | | -8 | 9 | 13 | 3 | 12 |
| | | -10 | | | | |

*The nature of the goods advertised in a magazine is a function of the magazine's content, some (e.g., women's) magazines have more ads for convenience goods than do others that advertise more expensive, high brow, shopping goods.

**Economies of Scale in Yellow Pages have to do with the response curve with respect to advertising size. Large ads cost relatively less per reader than smaller ones.

sees advertising as basically informative and by the opposing camp that sees it as basically persuasive), I assign a +1 to high informativeness, a -1 to low informativeness, and a 0 to medium or mixed informativeness. Likewise, advertising for shopping goods is seen as good +1, and advertising aimed at children as bad -1.

The ratings recorded on Table 5.7 are based entirely on my own judgment. By formalizing these judgments in Table 5.7, I do not mean to pretend that my values are somehow objective or true. In Table 5.7, I merely make my normative claims explicit. The reader is encouraged to develop his own additional dimensions, his own ratings, and valence assignments. A further elaboration might be to assign different importance weights to each of the dimensions. For Porter, it seems the dimensions under the Good and Structure rubrics would carry more weight than those under the Content and Audience rubrics. However the analysis is done, I would predict that reference media (like the Yellow Pages and Classifieds) will come out relatively "good," and large scale broadcast media (especially national network T.V.) will come out relatively "bad" with the other mass media -- magazines, radio, newspaper display advertising -- in an intermediate position.

Borrowing a distinction from Ivan Illich (and using it in a way of which he would no doubt disapprove) we can array advertising media on a "manipulative/convivial" continuum. Manipulative media are those that set out to mystify and persuade -- T.V. advertising of pre-sweetened breakfast cereals on Saturday morning children's T.V. is a prime example of manipulative advertising. The Whole Earth Catalog was an attempt to offer a truly convivial medium, an access to information and to tools. While the supply side of the Yellow Pages, with its quasi-monopoly structure, its high pressure selling techniques, and its willingness to crush competition might be fairly characterized as manipulative, from the standpoint of the user, the medium is highly convivial. Such conviviality is in the nature of "demand" or "directional" or "reference-based" communications media.

FOOTNOTES
(CHAPTER 5)

[1] I have heard rumors about the placement of bogus ads but am aware of no data from such experiments in the scholarly or promotional literature. Publishers who tout the credibility of their medium are unlikely to threaten it by exposing it as a manipulative tool as it would appear in a bogus ad study.

[2] Since copy testing research is methodologically suspect, I should say a word about the reasonableness of the indicators of "effectiveness" employed in the studies I will review. Measurements are normally taken after exposure to a Yellow Pages ad (or to series of ads, a two-page mock-up, etc.) and before actual purchase. The procedure tacitly assumes that there is some behavioral sequence initiated by exposure which might culminate in sales. The implication, explicitly stated in some of the studies, is that various measures are highly intercorrelated and at least probabilistically predictive of sales impact. Several studies report high correlation among measured responses and the "Rascil Plus" study adduces evidence to show that:

"Generation of attention and choice are strongly related. The first ads looked at tended to be from the firm that the consumer selected to patronize."

The only problem with this result (and nearly all of the others) is that the "choice" to patronize alluded to was what I have characterized as "role play" choice. There can be little doubt, based on the data, that people say they would choose the firm to whose ad they first attended, but none of the studies shows that people actually do choose that firm. "Intention to buy" data is a far from perfect, but nonetheless useful, predictor of actual purchases (Cf., Morrison, Donald G., "Purchase Intention and Purchase Behavior"). I am flagging the fact that the "role play" choice measure is not a measure of intention to buy, but rather a measure of intention to intend to buy. The

results from Yellow Pages copy testing research should be interpreted with some caution.

[3] The assessment of Interested or Disinterestedness on Table 5.1 is entirely my own subjective judgment based on my reading of the reports. The Foote Cone Belding/Wahlstrom and National Car Rental studies were carried out by parties whose sole "interest" is to gain a better understanding of copy effects so as to inform their own (or their client's) advertising decisions. The studies sponsored by Donnelley are reported in clearly "interested" sales promotion literature, negative findings are likely not to have been reported. The Feldman and Halterman study, while sponsored by a Yellow Pages publisher, is a fine example of careful social science research.

[4] I put "shapes" and "functions" in the plural because it is not obvious a priori that the size response has the same functional form as the dollar response. "More," "better" and "cheaper" do not lend themselves to being graphed on "x" and "y" coordinates and since, in this section, we are trying to use available evidence to estimate underlying functional relationships -- e.g., how large an increment of attention results from a given increment in ad size -- we will be able to use only that portion of the available data that can be cast as interval or ratio.

[5] Pool has criticized the design of this experiment, arguing that it systematically "omits key search variables" such as location and thus tends to exaggerate the effect of ad size. The criticism is both reasonable and somewhat beside the point. In using an unfamiliar directory in a make-believe purchasing situation, Feldman and Halterman intentionally overlooked the effects of location, familiarity, reputation, word-of-mouth influence, other advertising, etc. ad infinitum. The attempt was to create ceteris paribus conditions in order to measure the first order effects of various copy treatments. Of course, in the real world all things are not equal and the size of a Yellow Pages ad may be relatively unimportant compared to the location of the company advertised. Even "location" is very complicated: for a plumber who comes to the house

anyway, location might be less important than for a pharmacy unless the pharmacy made frequent deliveries, etc. The point of the Feldman and Halterman study was not to try to account for all of the purchase-effecting variables, but rather to obtain an approximate measure of the relative effect of different copy elements -- ad size, page position, etc. -- under controlled conditions.

[6] It might be argued that [5.1] represents that portion of an S-shaped function before the inflection point. While some directories sell half-page ads, a Double Half Column, or quarter-page ad, is about as big as they come, so there is not much room to the right for a leveling or down-sloping portion of the curve.

[7] The Donnelley Eye Movement data is reported only for display ads, i.e., starting at 1QCE on Figures 5.1, 5.5, and 5.6. The non-monitonicity of Figures 5.5 and 5.6 may or may not hold for the physiological responses. In fact, there are all sorts of potentially confounding effects in the data. There were only six each of Double Half Column and Double Quarter Column ads, but 15 Quarter Column ads in the test. This prevalence of QCs, while faithful to real directories, may have been one reason for the anomalously low response to Quarter Column ads. Feldman & Halterman present some fairly powerful data (their Table 4-8) in support of the contention (which is intuitively appealing) that the effectiveness of any given ad is a function of the (size of the) other ads under the heading. In practice, we would logically expect some confounding interaction effects, e.g., if a given two-page spread had six large ads and two small ones, the small ones, being unusual, might gain more attention than the large ones. Likewise, while red in an ad is a proven attention getter, if all the ads on a page but one were red, the plain black one would probably stand out.

[8] Whether this 56% is of the 89% who use the Yellow Pages or it is 56% of the 89% of users who follow up with a call is not clear.

$$.56 \times .89 = .50 \neq .56 \times .89 \times .89 = .44$$

- [9] It is not clear whether this 84% to 93% represents the proportion of follow-up to all Yellow Pages searches or to all successful Yellow Pages searches. Some small number of references end in failure to find a heading at all.
- [10] Potential Coverage of Decision Makers is, in fact, a rather poor estimate of $P(p'_{yp})$. If we define $P(D_i)$ as the probability that an individual will participate in a "purchase decision" with respect to product i , then Potential Coverage = $P(p_{yp_i}) \div P(D_i)$ which may or may not equal $P(p'_{yp}) = P(p_{yp_i} / I_i)$. I will return to this issue later. For now, I use Potential Coverage to estimate $P(p'_{yp})$ because it is the only readily available data.
- [11] Implicit in the model embodied in [5.7] is the assumption that the probability of purchase is independent of the attention getting power of one or another ad. Just because one is more likely to attend to a_1 than to a_2 , one is not more likely to purchase if one attends to a_1 than to a_2 . Formally,

$$P(\text{purchase} | a_1) = P(\text{purchase} | a_2) = P(\text{purchase} | a_n)$$

Put slightly differently,

$$P(\text{purchase } p'_{yp}) = \sum (P(\text{purchase} | a_i) \times P(a_i))$$

and to make the model work, I make the not improbable assumption that:

$$\sum (P(\text{purchase} | a_i) \times P(a_i)) = P(\text{purchase} | a_i) \times \sum p(a_i)$$

Thanks to Marvin Sirbu for pointing this out.

- [12] Expected Value here is interpreted in terms of sales volume, not net profit. In order to transform this into an expectation of profits we would have to include some parameter of margin or contribution.
- [13] Donald Morrison, M.I.T. Operations Research Seminar, October 6, 1983.
- [14] I have found no data that speaks to the proportion of "failed" searches, i.e., Yellow Pages references that end without finding an appropriate heading.
- [15] Thanks to Sal Provenzano of R.H. Donnelley for this suggestion. It could not specifically apply to the data plotted in Figure 5.5 because none of the respondents was familiar enough with any of the companies to be seeking one or another out by name.
- [16] More precisely, what comes through the tube via the networks.

^{Vol. 2}
THE YELLOW PAGES: A MEDIUM, AN INDUSTRY

by

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6. NATIONAL ADVERTISING

6.1. INTRODUCTION

Directory advertising is generally seen as a strictly local service (e.g., Cf., CPUC, 1982, p. 54). This is simply not the case. While each individual directory is local -- and some suburban or specialized neighborhood directories are exceptionally local -- there is a good deal of national advertising in the Yellow Pages. An article entitled "Yellow Pages: A Dim Medium Grows Brighter" (Marketing and Media Decisions, December 1980) provides a glimpse of the national Yellow Pages business. National Yellow Pages advertising accounted for about \$282 million in 1979, up 17% from 1978. Fred Smykla, Executive Director of the National Yellow Pages Service Association (NYPSA), a trade group, estimated that 1980 national expenditures would reach \$350 million (up 24% from 1979) or about 15% of total Yellow Pages advertising. New York Telephone reported its 1980 National Yellow Pages Service (NYPS) income at just under 10% of total revenues (Cf., Tables 2.1 and 2.2), but this appears to be a net (after commission) figure. New York Telephone's gross national advertising revenue appears to be over 12% (Cf., Table 2.3). Based on Smykla's statement and our analysis, it is reasonable to estimate that

national advertising accounts for between 10% and 15% of all Yellow Pages revenues. Marketing and Media Decisions estimates that the twelve largest national Yellow Pages advertisers -- companies like U-Haul, Ryder Truck, Bekins, and United Airlines -- spent nearly \$20 million on national Yellow Pages advertising in 1979.

An apocryphal story of the genesis of national Yellow Pages advertising provides some insight into its nature. Once upon a time, the chairman of the board of a large industrial company was flipping through a telephone book in his hotel room and was aghast to see that the logo for his company was wrong. Moreover, he noted that all sorts of variants of the logo appeared in different directories across the country. Why could not the Bell System, who published just about all the books anyway, get together and work out some kind of standardization? The Bell System thought about it, and national advertising was born. This is a mythic tale and not literally true, but the need that it highlights, for standardization and coordination across a multiplicity of directories, is important.

National Yellow Pages advertising allows companies to tie their national broadcast and print advertising to distribution outlets. Having created an interest with the broadcast ad, the national advertiser can direct a prospect

to a local retailer listed in a local directory. An insurance company can list its agents, an appliance manufacturer its dealers, a truck rental firm its outlets. Echoing the concern of our mythical corporate chairman, Lois Augustine, an Assistant Vice President at Budget Rent-A-Car, says:

"Now we have much greater control of what we are saying to our customers.... At last, we are using the same strong corporate identity graphics and logotypes, and present a unified image to our customers."

(Quoted in the National Yellow Pages Service Association's "Success Story" brochure)

In fact, an advertiser uses national Yellow Pages advertising for the same reasons that a local advertiser might use them, because potential buyers of the product category use the Yellow Pages in their purchasing.

6.2. A TYPOLOGY OF NATIONAL YELLOW PAGES PROGRAMS

Following Barton (1980) we can construct a simple 3 x 3 typology of national Yellow Pages programs (Figure 6.1). On the horizontal axis I array the kind of organization represented:

1. Company offices only (sales offices, branches, etc.).
2. Independent outside firm only (agents, dealers, franchises, etc.).
3. A mix of the two (that is, both independent and company owned outlets).

On the vertical axis I list the types of access and payment arrangements:

1. "Open" Program
With this type of program the national advertiser authorizes the placement of Trade Mark ads (one or two-inch ads with logo) in all or selected directories. At the same time he permits the local sale of listings for dealers, distributors, etc., to appear beneath his Trade Mark. The Trade Mark publishes if one or more listings are sold. The cost of the Trade Mark is billed on the advertiser's national program. The listings are billed on the monthly telephone bills of the firms listed beneath the Trade Mark.
2. "Combination" Program
This type of program operates in essentially the same manner as the 'open' program. The basic difference is that at least one of the listings to appear beneath the Trade Mark is purchased by the national advertiser (for example, a local sales office or

Figure 6.1

A Typology Of National Advertising Programs

| | Only Company Offices | Only Independent Agents or Dealers | Company and Dealer |
|-------------|-------------------------|---------------------------------------|-----------------------|
| Open | 1 | 2 | 3 |
| Closed | 4 | 5 | 6 |
| Combination | 7 | 8 | 9 |

Source: Barton, 1980

emergency claims number). Trade Name listings (no logo) can also be utilized in 'combination' programs.

3. "'Closed' Program

With this plan, the Trade Mark and all the listings beneath it are placed via the national program. The local sale of listings is not permitted. The advertiser can pay for the listings or a co-op arrangement can be employed.

"In addition, a 'closed' program affords the advertiser a wider choice of ad units. Display ads, Trade Name listings, Bold or Regular Type listings and other units are available with this type of program."

(Barton, 1980, p. 6)

This 3 x 3 table produces nine combinations, six of which are actually implemented. Barton indicates that all in-company programs are handled on a closed basis (eliminating cells 1 and 7) and if a national advertiser lists a local branch or sales office then the program is not entirely "open" (eliminating cell 3). Cell Number 4, where a company lists its local offices, is fairly straightforward, that is, it makes sense for Electrolux, which owns all of its sales outlets, to determine its advertising strategy nationally. This is not to say that a regional sales manager has nothing to say about placements and copy, only that his input goes to the head office where decisions are made and budgets allocated and that all advertising is placed through a national Authorized Selling Representative

(ASR), rather than through the local publisher. Cell 2, an "open" program for independent agents and dealers also is fairly straightforward, in fact, it can be seen as a particular form of cooperative advertising with the national brand manufacturer, say Kelvinator, in effect offering to pay for a large portion of the advertisement (perhaps including a logo) if one or more local dealers is willing to pay for a listing under that trademark or logo. A Trademark unit in the Boston Yellow Pages costs \$1092 while a listing under a Trademark costs only \$54.

Cells 5, 6, 8 and 9 -- that is, closed program involving independents and combination programs are the most interesting and complex. In a combination program for independents only, Cell 8, the national advertiser buys a Trademark and lists a key dealer or perhaps a distributor, allowing other authorized parties (dealers, agents, repair services, etc.) also to list under the Trademark at their own expense (as in Cell 2). In Cell 9 a company might pay to list only its own branch offices but allow its dealers to list at their own expense as well. In Cells 8 and 9, as well as Cell 2, the national advertiser supplies a list of authorized parties, called a General Publishing Information, to the local publisher and it is the responsibility

of the publisher to contact these parties and sell the local ads listings, etc.

In a closed program (Cells 4, 5, and 6) it is the national advertiser or his agent that contacts his local dealers and "sells" them the listing under the Trademark. In such a program, the national advertiser does not necessarily pay for all the local listings for its dealers (although it might) but the national advertiser does buy all the ads maintaining total control over its program. The advertiser may work on a cooperative advertising basis, paying some portion of the local dealer's costs, or it may simply collect the full cost from the dealer and place the ad itself.

6.3. THE COMPLEXITY OF NATIONAL ADVERTISING
AND THE NEED FOR INTERMEDIARIES

Placing an ad in a single directory is relatively simple, but placing one in 60, 600, or 6,000 directories with different graphic and copy standards, different page sizes, formats, prices, closing dates, and rates may be horribly complex.

It is instructive to compare "buying" national Yellow Pages with other national media. In a sense, the easiest, though one of the most expensive and least targeted, medium to buy is national television. Here an electronic network is in place, only one original of the "copy" -- the tape or film -- is required and there is only one bill to pay. The T.V. network, through its own in-house channels, divides up the proceeds to its own and affiliated stations. The same one-to-many, broadcast mode obtains in buying time on a satellite carried "super station" but now the advertising is delivered via satellite to cable T.V. systems. Spot T.V. or radio buying is a good deal more complex. It is possible to target the message more finely -- e.g., to advertise snow blowers and Florida vacations in the Boston market in the winter on the one hand, and air conditioners and pool chemicals in Houston in the summer on the other -- but the buying task requires dealing with a number of stations or station representatives: the transaction costs are

higher than national advertising and raw Cost Per Thousand (CPM) is also higher. Still, national spot T.V. is highly standardized. The tape format may be quadraplex (or increasingly one inch type-C) tape or possibly a video cassette, and the commercial length is generally ten, thirty or sixty seconds. With several hundred national magazines to choose from, buying in magazines is an order of magnitude more complex than T.V. buying but there remain a few national "broadcast" magazines, e.g., the news weeklies, and the virtue of specialized audience publications is that targeting is possible and it is neither necessary or desirable to purchase in all of them.^[1]

In the light of the complexity of the purchasing process and the ability to target in these other media, let us consider national Yellow Pages. First, where in television there are a few format standards and about three "units", that is, time slots (with different price in different day parts) purchaseable, in the Yellow Pages there are almost no standards and there are at least 16 typical units and some 250 more used by one or another publisher. Books are of different size, number of columns, etc. and require different input media for printing. Headings vary from book to book, even between books of the same publisher. The publishers impose strict (and arbitrary according to some

observers) copy standards which generally are not published and so rather difficult to adhere to.

We have seen that a major strength of the Yellow Pages as a medium is precision targeting. Using detailed demographic data bases, organized by zip code or census tract, the advertiser can place his ad in front of precisely the population he wants to reach. Since the national advertiser is by definition covering all or a large part of the country, he can use sophisticated models and decision algorithms to optimize his Yellow Pages advertising purchases subject to budgetary constraints. Building and maintaining such data bases and models is a complex technical task.

To add to the difficulty of the entire enterprise, the size of the unit of advertising purchased may be extremely small, as little as \$6.00 for an Extra Line in the Greenleaf, Kansas directory or may be rather substantial as much as \$6720 for a Double Half Column in the Chicago Business to Business Book. The placement of the latter is only marginally more complex (with similar transaction costs) than the former and much national Yellow Pages advertising, e.g., for local insurance agents, consist of relatively inexpensive Listings and Trademarks rather than large display ads.

Here, briefly, are the steps involved in implementing a sophisticated national Yellow Pages program. First, a program must be designed on the basis of the advertiser's goals and budgetary constraints. Next, data on retailers (or dealers) of the national advertiser is collected and entered into a data base that also includes demographic data by directory, zip code clusters, etc. A computer analysis is run to optimize placements in terms of the program goals, retailer sales, audience attractiveness, unit cost, and degree of cost sharing between the (national) manufacturer and the (local) dealer. Recall that in a closed program the national advertiser "sells" the listings to its dealers. These sales, especially when large numbers of dealers or retailers are involved, are often handled by computer-generated direct mail solicitations.

The administration of such a program is normally beyond the competence -- and certainly outside of the interest -- of a typical national advertiser; after all, Kelvinator is in the appliance business, not the information brokerage, direct mail marketing and collection business. Arrangements for the centralized collection of data and money for the several thousand Aetna Insurance agents in the United States can become a burdensome task. Thus, it

is a rare company that administers its own large national Yellow Pages advertising program in-house.^[2]

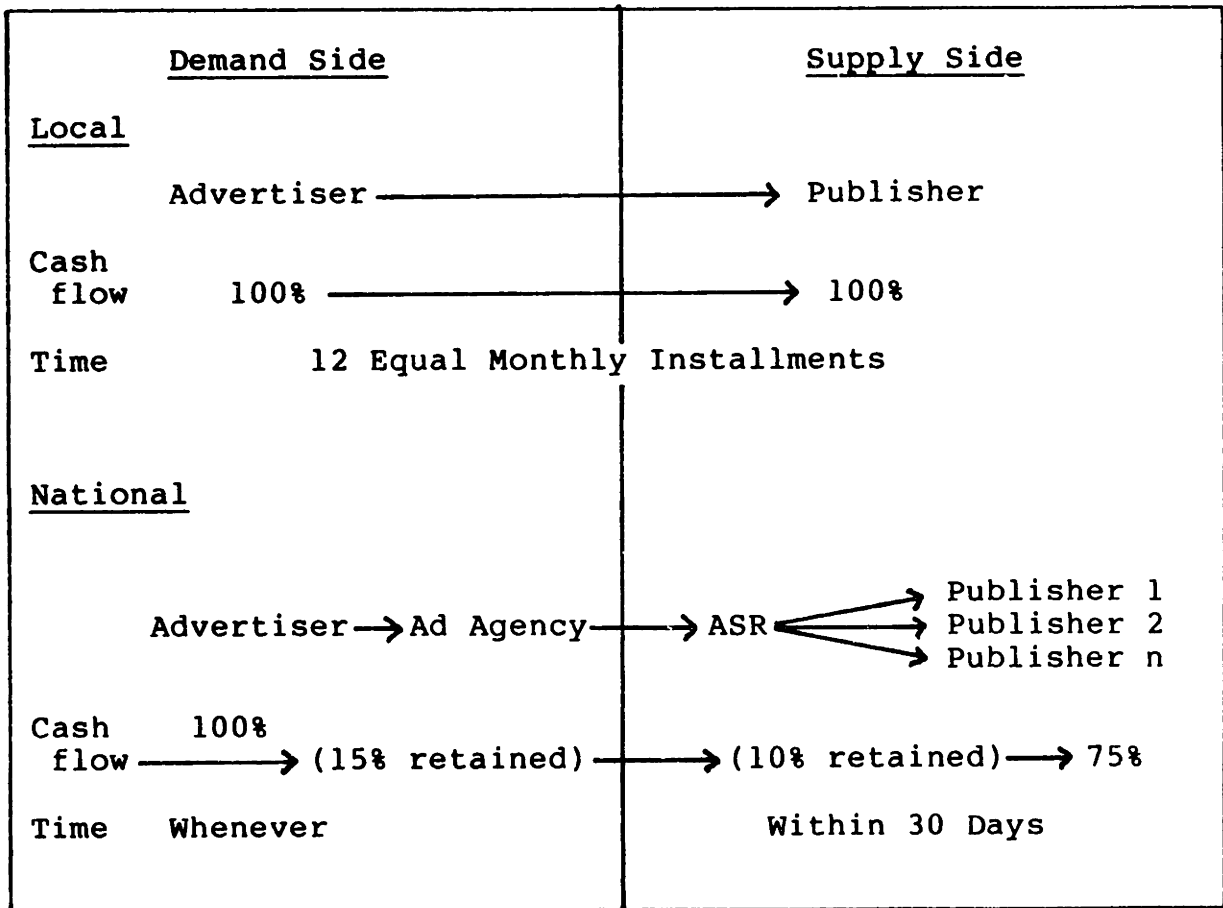
Since national Yellow Pages purchasing can be so complex and technical, many advertisers choose to have advertising agencies representing them to plan and implement a program. Likewise, the local publisher needs an agent, an Authorized Selling Representative (ASR), who will deliver the advertising information in the correct format to each publisher in whose directories the advertising is to be placed. Monthly billing of distant advertisers is unfeasible: the St. Louis-based telephone company has little connection and no particular leverage on a Denver-based national advertiser. Therefore, the publisher also needs an agent to handle the collection task.

Figure 6.2 suggests, in a very schematic and idealized way, the difference between national and local Yellow Pages advertising. The important things to note are:

- 1) In local advertising there is no intermediary between the buyer and seller. (Actually, the publisher may have a selling agent, but it appears just like the publisher from the buyer's standpoint.)
- 2) In national advertising there are two intermediaries, one on the demand side (the

Figure 6.2

Local Versus National Advertising



ad agency working for the buyer) and one on the supply side (the ASR working for the publisher.)

- 3) The timing and split of the cash flow is very different in local and national advertising.

6.4. THE INSTITUTIONAL EVOLUTION OF THE NATIONAL YELLOW PAGES BUSINESS

The complexity of the national Yellow Pages advertising enterprise necessitates specialized intermediation between the national advertiser and the local publisher. In examining how these intermediaries have developed and changed over the last 15 or so years, we gain valuable perspective on the role of information brokerage in what is increasingly an "information economy." We also get a feeling for the dynamism of what appears at first blush to be a stodgy, mature industry. The causal dynamics that have driven major changes in the national side of the Yellow Pages business -- antitrust policy and industry competition -- are the very same ones at work now in the much larger Yellow Pages industry, so that an historical examination of the national Yellow Pages business may provide some insights into the future of the industry as a whole.

The origins of national Yellow Pages advertising date to the late 1930s when the Bell System began to offer a national Trademark program to overcome the Babel of logos about which our mythical CEO despaired. By the mid-1940s, a small national Yellow Pages sales staff of 25-30 worked out of AT&T headquarters and regional sales offices. Only one unit of advertising, the national Trademark, was available then, as now, on an open, combination, or closed

basis. Sales were to large national advertisers, e.g., Chevrolet or General Electric, and were often made through the client's advertising agency which, while commissioned by AT&T, normally provided the national placements as a service to the client. The purchase of any unit other than the national Trademark had to be directly from the local publisher and was not commissionable. The volume of national advertising was very small at this time.

In the late 1940s, national sales was seen as most appropriately carried out through the local Bell Operating Companies (BOCs). The same (very limited) product line was available and, generally speaking, the same sales staff, transferred from AT&T to the BOCs, carried out the selling task. Each BOC ("Selling Company") sold exclusively to national accounts in its territory. The local BOC publishing the ad in its directory (the "Publishing Company") would then bill the Selling Company which, as the local telephone company of the advertiser's headquarters, would collect from the national advertiser. The Selling Company retained a commission for its trouble and if an ad agency were involved, the agency received a standard 15% commission from the Publishing Company. If no agency were involved, the Selling Company received only the 20% or so seller's commission.

Before 1960, then, national Yellow Pages advertising was a very small business operated strictly by Bell System publishers offering a single product to a few large national advertisers. The idea to expand the enterprise was borrowed directly from AT&T standard operating procedures. In the mid-1950s, Hal Weissenberger, one of the fathers of national Yellow Pages advertising, worked in the sales of telecommunications equipment and services to large national clients. Through this national sales program, a large user was able to standardize its equipment and services for all of its offices through centralized national purchasing. American Airlines could buy the same switchboard for its offices in Poughkeepsie and Paducka with a single order to a national sales force. Reasoned Weissenberger, why not offer the same kind of service for national Yellow Pages purchases?

To achieve such "one stop shopping" for a wide variety of units in 2,000 Bell System directories required a monumental effort to standardize units and placement procedures. Such was the complexity of the problem that a task force was enpanelled in 1957 and only in 1960 was the National Yellow Pages Service (NYPS) launched. In the early days of NYPS, orders were manually processed relying on typewriters and the U.S. mails. In 1965, a primitive punch

card and teletype system (in large measure, used to this day) was inaugurated to transmit orders among Bell Operating Companies, but orders continued to be backed up with voluminous flows of paper. The National Yellow Pages Service was originally designed as a Bell System operation, but fairly early on, independent telephone companies were allowed, under contract to AT&T, to participate as local publishers, i.e., to have advertising sold by a Selling Company placed in their directories; they were not allowed to sell national advertising. These telephone companies, or their agents, complained that they should be allowed to sell to companies with headquarters in their territories just as each BOC was allowed to sell to companies with headquarters in its territory. The problem was resolved in the so-called Headquarters Control Plan, which mandated that the national seller be the telephone company/publisher (BOC or independent) serving the territory where the corporate headquarters of the advertiser was located. In the early 1970s, the two-tiered commission structure, whereby the seller received approximately 21% of billing and the agency (if one were involved) an additional 15%, was changed to a simple across-the-board 36.5% commission out of which the seller would reimburse the ad agency if one were involved.

From the outset of the National Yellow Pages Service, AT&T acted as the compiler of the Rates and Data information and the clearinghouse for ad placements. But, what had been initiated as an in-house service to Bell customers had, by the early 1970s, grown to include other telephone companies (or their agents) as both publishers and sellers of advertising. When non-utility publishers began to clamor to have their directories included in the Standard Rates and Data book, the participants in NYPS had to decide on what terms the non-utility publishers could enter the business. As Fred Smykla, Executive Director of the National Yellow Pages Service Association, tells the story, AT&T had no problem with allowing these publishers into the national enterprise, but AT&T thought it inappropriate as a regulated utility to act as the coordinator, clearinghouse, and data compiler for independent entrepreneurs unaffiliated with the telephone industry. Thus, at a meeting of NYPS participants -- which included representatives of BOCs, AT&T, GTE, and other utility publishers -- at Amelia Island, Florida in February 1975, it was decided to terminate the National Yellow Pages Service as a service of AT&T and reorganize it as an independent trade association open to all Yellow Pages publishers. Thus was born the National Yellow Pages Service Association (NYPSA) whose

"principal business and objectives" are, according to its October 1980 bylaws:

"(a) an undertaking of publishers of telephone directories to provide a convenient service to national advertisers who market and advertise their products or services on a national basis.

"(b) to afford the national yellow pages advertiser the opportunity to purchase advertising in telephone directories by making one contact, negotiating one contract and receiving one bill, thereby eliminating the necessity for that advertiser to make a variety of contacts with different directory publishers, contracting with each individually to place its national advertisements; and

"(c) to afford the advertiser a means to help control the lawful use of its Trademark or Trade Name in connection with dealer listings.

"(d) To authorize NYPSA Authorized Selling Representatives and to give them access to Association facilities to provide the above services to National Advertisers."

(Article 3, p. 3)

Membership in the Association was to be open to:

"Any individual, partnership or corporation who publishes a telephone directory and agrees to fulfill and is capable of fulfilling the obligations and responsibilities as a member as specified in these Bylaws and the NYPSA Publishers Guidelines...."

(Article 4, p. 3)

Some observers have argued that the motivation for creating a trade association to handle national Yellow Pages advertising was a growing concern about the antitrust implications of the National Yellow Pages Service. While

it had been initiated as an in-house service to Bell System customers, by the early 1970s NYPS had taken on some disturbing cartel-like qualities. Markets were allocated by agreement (the Headquarter's Control Plan), commissions were fixed by fiat and only utility publishers (and their chosen agents) were allowed to sell or place national advertising. In 1974, the Justice Department had initiated a major antitrust action against AT&T and some of a cynical bent have suggested that the opening of national Yellow Pages advertising to all comers in 1975 was a sop to Justice, a demonstration that AT&T was willing not to monopolize potentially competitive businesses. These cynics go on to point out that in 1975 Yellow Pages was only slightly more than 4% of AT&T's business, that national was less than 10% of Yellow Pages, that a long time AT&T staffer was appointed as Executive Director, and that since voting and dues were proportional to national sales revenues, AT&T essentially paid for and was able to maintain a comfortable 80+% of the votes in the "arm's length" trade association.

The creation of the National Yellow Pages Service Association (NYPSA) entailed a major administrative reorganization. An office was acquired, a staff hired, the Rates and Data data base was moved from Bell Labs computers onto the new association's own machines, new contracts for

printing and delivery of Rates and Data established, etc. All this was accomplished by Smykla and his staff with remarkable rapidity so that within a year the entire operation had been transferred from AT&T to the National Yellow Pages Service Association; this in contrast to the over three years it took to create the National Yellow Pages Service in the late 1950s. The swift operationalization of NYPSA was possible only because so much work standardizing units and order processing procedures had already been done in the creation of NYPS. A major change between the early conceptualization of NYPS and the extraAT&T organization of NYPSA was in the definition of "national" advertising. To Weissenberger, "national" was to have meant the placement of advertisements in directories of more than one local publisher. But, here is how the NYPSA guidelines define the advertising to be handled through the Association:

"The minimum standard which each member agrees will constitute a NYPS ad is as follows:

"a. Whenever an advertising program involves two (2) or more publishers is ordered in twenty (20) directories or more and involves at least three (3) states, and 30% of the advertising revenue is in states outside of the primary state, that ad program is considered a NYPS advertisement."

(NYPSA Publisher Guidelines, October 1980, p. 14)

Advertisers whose programs do not meet these stringent, and in my estimation quite arbitrary, guidelines were constrained to place advertising through individual local publishers without the single order placement facilities of NYPSA. Moreover, since local advertising is not commissioned, these advertisers would have to pay their agencies for services rendered. The definition adopted by NYPSA (in other words, the definition dictated by the Bell System) had the effect of forcing all but the largest national advertisers to deal with local publishers.^[3] The private antitrust suits discussed in Chapter 8 were brought by small advertising agencies who argued that the very definition of national advertising adopted by NYPSA was anticompetitive and in restraint of trade.

6.5. THE EVOLUTION OF INTERMEDIARIES UNDER NYPSA

With the creation of the National Yellow Pages Service Association as a trade group open to any and all Yellow Pages publishers -- Bell System publishers, Independent Telephone Company publishers, and Non-Utility publishers -- the era of the Headquarter's Control Plan and the assigned Seller came to an end. If, in the past, the client or advertising agency had to deal with one assigned intermediary for the placement of national advertising, no matter how poorly that intermediary performed, from 1975 on, the advertiser could buy advertising from the NYPSA member of his choice, i.e., from the publisher who provided the most reliable and responsive service.

With the opening of the selling function to all publishers an interesting new group of "publishers" emerged. Companies that had heretofore acted solely as specialized Yellow Pages advertising agencies set up their own small Yellow Pages publishing firms, or bought small non-utility publishers, or signed contracts with existing small publishers to provide Authorized Selling Representative (ASR) services under the aegis of the publisher. NYPSA's original plan -- to keep the seller function within the now expanded family of Yellow Pages publishers -- was not to be realized as new players were able to become sellers by

announcing that they were publishers. When this was recognized the rules were quickly changed. By 1976, any company publisher or no, could become an Authorized Selling Representative as long as it had the technical/clerical capability to process the prodigious flow of NYPSA paperwork and the financial capability to pay the publisher the full 12 months worth of advertising billing, net of the ASR's commission, within 30 days of placement.

The 36.5% fixed national commission, was higher than what the local publisher would pay to its local selling agent (from Table 2.1, the local selling commission appears to be around 23%). Unlike local commission, the national commission includes a share for the advertiser's agency. For at least in the pre-1975 epoch, it was the agency's task to plan and implement a program; the Seller simply acted as an information clearinghouse. With the ASR business no longer the exclusive domain of large publishers and their hand picked agents (companies like L.M. Berry and R.H. Donnelley), these publishers moved rapidly to cut the national commission.

The advent of NYPSA ended fixed commissions and national commissions rapidly fell from 35.6% down to a 1983 average of 25.4%.^[4] This reduction began to affect severely the profitability of the Authorized Selling

Representatives. In 1979 Reuben H. Donnelley, a large ASR, established a variable commission system for advertising agencies depending on the profitability of the account for Donnelley. In 1979 Wahlstrom & Company, a division of Foote, Cone & Belding and one of the largest of the specialized Yellow Pages ad agencies, moved to set up its own ASR unit in order to control both the marketing and administrative functions and to capture a larger share of the reduced commission.

At the same time, a number of ASRs began to perform agency-like functions for their advertiser clients. That is, in addition to being one stop shopping locations handling the transmission and payment of advertising for the publishers, some ASRs provided marketing and creative services that in every respect parallel the services offered by an advertising agency.

Donnelley, the largest of the ASRs with 1982 national selling revenues of over \$100,000,000, announced in late 1982 that it would dissolve its ASR unit. The problem was that with decreasing commissions from local publishers and demands from agencies to pay a full 15%, Donnelley found itself in a high volume/low margin business. But worse, given the Authorized Selling Representative's obligation

to pay the publisher within thirty days of order placement, Donnelley found itself in a highly unfavorable position of, in effect, lending money at no interest for months to advertisers, some of whom never paid their bills. Donnelley simply decided to give up a high risk/low return/high volume business.

Another explanation for the low profitability of Donnelley's ASR business was that Donnelley was providing many of the planning and implementation services that might be expected to be performed by an advertising agency. That is, Donnelley had in place precisely the kind of demographic data bases and placement models that a specialized Yellow Pages advertising agency would maintain. But, instead of retaining the agency portion of the commission, Donnelley paid that commission to small agencies without these capabilities. Several Bell System publishers have or are about to drop their low profitability ASR business for the same reasons.

The advertising agencies that will remain and prosper in the Yellow Pages business are likely to be either relatively large, stand alone, specialized Yellow Pages agencies, large, specialized agencies that are subsidiaries of larger multipurpose agencies, or relatively large Yellow Pages departments in multipurpose agencies. The results

of a 1979 American Association of Advertising Agencies survey on Yellow Pages advertising are quite clear in this respect. The large agencies with the data processing capabilities and specially trained staff will increasingly dominate the agency side of the business as the smaller non-specialist agencies are snowed under by the paperwork. One respondent from a small ad agency summed up this position by saying about Yellow Pages placements, "[W]e will avoid [it] whenever possible. It is a complete nightmare. The paperwork kills you." To run a Yellow Pages advertising agency requires little "creative" talent (when I visited Wahlstrom & Company in late 1982, they had one graphic artist on staff and 25 clerical, data entry, or data processing people), but a high degree of sophistication in information processing expertise.

What seems to be happening in the national Yellow Pages business is a major shake out which will in most cases reduce the number of intermediaries between buyer and seller from 2 to 1 with a single agency-like ASR or ASR/agency combination handling all information brokering and transaction services linking the advertiser to the publisher. Some ad agencies, with a limited number of national accounts, will continue to place their orders through outside ASRs. Others have or will be setting up

their own ASR units. Some ASRs may continue to be strictly administrative bureaus, but most will perform agency-like functions and retain the full commission.

The adoption of agency-like functions by Authorized Selling Representatives and the creation of ASR units within specialized Yellow Pages advertising agencies can be seen, in strategic terms, as an instance of vertical integration, with agencies integrating "upstream" and ASRs "downstream" (Cf., Porter, 1980, Chapter 14). Both attempt to capture a larger share of the intermediation dollar by internalizing functions previously provided by arm's length vendors. As long as the total commission available was relatively large, each could survive on one piece of it, but with the shrinkage in commissions occasioned by the opening of the ASR function, a convergence of activity through vertical integration was imperative.

This convergence though is not without its own problems. When there were two separate institutions, an agency and an ASR, it was clear that one represented the demand side and the other the supply side (Cf., Figure 6.2). According to the ethical standards of the advertising industry, it is the agency's responsibility to represent its client's interests. On the other hand, the 1980 "Publisher's Guidelines" of NYPSA specify that "[I]n any case

where a difference arises between an advertiser and a publisher, [the ASR] represents the publisher's interests" (p. 15). It would seem that the emerging ASR/agency is an institution with at least potential built-in conflicts of interests. It can use its good offices as representative of both buyer and seller to act as a mediator and negotiator as well as an intermediary, but it will come to pass, indeed it has already come to pass, that this institution finds itself in the middle of an irreconcilable dispute between its two client organizations. It may be that the current arrangement of combined ASR/agency is an interim step in a continuing institutional evolution in the national Yellow Pages business. After all, just since 1974 we have seen the following changes:

| | <u>Demand</u> | | <u>Supply</u> | |
|------|---------------|------------|------------------|-----------|
| 1974 | Buyer | Agency | Seller/Publisher | |
| 1975 | Buyer | Agency | ASR | Publisher |
| 1982 | Buyer | Agency/ASR | | Publisher |

I see, in the emergence of the integrated agency/ASR (or ASR/agency), a new kind of information broker uniquely positioned to participate in the provision of electronic

information services. The new Bell Regional Operating Companies are geographically circumscribed units with an investment in paper directories and, at least for the foreseeable future, a court order keeping them out of the electronic information business. The agencies, on the other hand, are national in scope, often involved in state-of-the-art data processing activities. Though they work for the national advertisers (the ASR, of course, works for the publisher), they are intimately connected with the small local dealer or agent since in closed programs it is frequently the agency that solicits the information, "sells" the ad, and collects the money from the local agent or dealer.

The national part of the Yellow Pages business has been in a state of rapid growth and change since at least the mid-1970s. The eventual roles of the agencies, ASRs, and publishers is by no means clear at this time even within the conventional paper Yellow Pages business. What does seem certain is that various kinds of information intermediaries with strong administrative, data handling, and information processing capabilities will play an important part in a growing national business. The specialized Yellow Pages advertising agencies appear well positioned to enter the videotex industry, perhaps as consultants to

direct marketers, perhaps as vendors of electronic advertising, and certainly as clearinghouses for various advertiser-information providers.

6.6. NATIONAL YELLOW PAGES ADVERTISING: A SUMMARY

Advertisers initiate national Yellow Pages programs in order to direct prospects interested by their national "creative" advertising to their local outlets. In addition, they use national Yellow Pages advertising to maintain control and standarization in thousands of directories published by hundreds of different publishers.

Unlike buying local Yellow Pages advertising, national buying is a highly complex undertaking for which specialized intermediaries or brokers are required. Antitrust concerns and internal competition have caused a remarkable and rapid set of changes in these intermediaries. A new kind of vertically integrated information broker who represents both the buyer and the seller has emerged. Some of the companies playing this role see themselves as Authorized Selling Representatives that perform agency-like functions while others see themselves as advertising agencies with ASR units. In either case, these new brokers have skills in the collection and distribution of information and monies that may allow them to play a significant role in future electronic information systems. They may act as clearinghouses for videotex advertising or even as direct marketing agents who not only place ads, but also fulfill orders. The inherent contradictions in the role of the

agency/ASR will resolve themselves by way of a continuing process of institutional evolution.

There are three things we can learn from this story of national Yellow Pages advertising that have wider implication for corporate strategy in the Yellow Pages industry and perhaps the information industries in general. First, national Yellow Pages advertising has been a very dynamic business. As the rules about who could play in what capacity have changed, new players have entered, entrenched old players have opted out, and the roles of various parties have tended to converge. All the while, the business has continued to grow at a remarkable rate.

Second, the motors driving this dynamism have been competition and public policy, especially antitrust policy. A great deal has been made of the impact of governmental action on the directory business in the context of the AT&T divestiture. But, antitrust has been a key concern in the strategic industry environment since the late 1960s, if not earlier. In fact, R.L. Polk, the city directory publisher, has been under an antitrust consent decree prescribing its (predatory) entry into new markets since 1954. NYPSA was created (at least in part) to avoid antitrust problems but since its creation, it has been under strong pressure from private antitrust suits filed by advertising agencies

claiming that its rules are, by their nature, anticompetitive.

Third, intermediation is a key concept in the directory industry and, I would argue, an increasingly important concept in the information industries in general. A good deal of the ferment in the national business has resulted from contests over who could play what intermediary or brokering role. Much of the competition in the national sector is between intermediaries. Vertical integration has been an important strategic move in this competitive arena. The very largest and the very smallest players have, for different reasons, found the task of intermediation unsuitable or unprofitable. But, those firms who have remained in the business have developed skills in using demographic data bases to target advertising data bases. They have also mastered the skills of interconnecting with a variety of publishers' systems for the placement of a growing quantity of national advertising. This is a task that the newspaper industry has only begun to undertake and which will be quite significant in a videotex environment, assuming that there is not one single national monolithic videotex provider, but rather a series of regional providers on which advertisers will choose to place their messages. The

major competitive battles in the emerging information industries will be played out in the sphere of intermediation.

FOOTNOTES
(CHAPTER 6)

- [1] Why would anyone want to place an ad for anything in both Soldier of Fortune and The New Republic or both Hustler and American Opinion?
- [2] As of late 1980, at least, Budget Rent-A-Car was such an exception, with a staff of five implementing a \$1.7 million budget.
- [3] National advertisers who were already using the NYPS program but whose placements did not meet the new requirements were "grandfathered in;" those in the same circumstances who had not employed the NYPS program were "grandfathered out."
- [4] Note, this is a straight, not weighted, average of all publishing company commissions reported as of September 1982. Inspection suggests that the Bell System companies and GTE Directories may have, on the average, slightly lower commission rates which would mean that the real weighted average is lower than 25%.

7. PRODUCT AND PRICE POLICY

7.1. INTRODUCTION

In this chapter I treat some aspects of business unit strategy in the pre-divestiture Yellow Pages industry. The first question I take up (in 7.2) is: In what respects is the Yellow Pages a new-products business? To answer the question, I look at new Yellow Pages products in terms of two formal new-products classification schemas (due to Chaterji, et al. and Day) and one less formal definition of the product market domain (due to Abell and Hammond). I conclude that the Yellow Pages is more of a new products business than it appears at first blush to be, but less of one than some in the industry have claimed. New-product introductions made feasible by electronic compilation technology were made attractive by a strategic reorientation that might be summarized in terms of a shift from "selling" to "marketing." This reorientation is real, but the selling mentality remains strong and many so-called new-products are in reality sales gimmicks designed to merchandise what are in effect price hikes.

Understanding new-products policy is crucial to an appreciation of the dynamics of the industry, but price policy is what explains most of the industry's remarkable

sustained growth. Moreover, I believe that different price policies of different Bell Operating Companies underlie the very different Yellow Pages revenues these companies realize. In the second section of this chapter, I discuss price policy. The section (7.3.1) begins with an analysis of Yellow Pages pricing data through which I demonstrate that notwithstanding journalistic and even some insider reports to the contrary, Yellow Pages pricing is far from chaotic or arbitrary. I adduce five empirical regularities or rules that characterize the relationship of prices within and among directories.

Different Bell Operating Companies generate highly various revenues from their Yellow Pages operations. I tell a story about the factors that might account for such differential revenues, then I formalize the story in an equation and develop a series of formal models that could be parameterized in a large scale analysis of Yellow Pages pricing data. I propose a number of Publisher Price Indicators and set forth a methodology for calculating them. In addition, I suggest a simple regression model to measure the impact of a publisher's price policy on his directory revenues. My hypothesis is that price is the fundamental determinant of revenues (and profits) in the Yellow Pages industry.

How much control does a publisher have of the prices he charges? Is it the case that each publisher optimizes his prices with respect to local conditions of demand, or is it the case that price is a strategic variable controlled by management and largely independent of market forces? I propose a final series of models and procedures to answer this question.

The second half of this chapter (from 7.3.2 on) is a report of work in progress. Questions are raised and methodological approaches explored, but no attempt is made to test the plausible alternative explanations of divergent price policies and revenue results. In laying out the problem in explicitly formal terms, I have merely taken a first step in the direction of understanding the nature of price policy in a quasi-monopoly information industry.

7.2. PRODUCT POLICY: IS THE YELLOW PAGES A
NEW-PRODUCT BUSINESS?

The Yellow Pages is a familiar one-hundred-year-old medium. The very idea of it as a new-products enterprise therefore appears rather strange. Nevertheless, in his 1982 Report to Employees, R.H. Donnelley President, Richard Swank, says:

"Twenty-five percent of our sales this past year were from units, features and products that did not exist five years ago!"

What are these "units, features and products" and what is new about the Yellow Pages?

The 1960s saw a consolidation of small town directories into larger books more representative of actual customer shopping patterns as shoppers increasingly used cars to go farther afield to find the goods they wanted.^[1] After the oil shocks of the early 1970s, new books were developed for the more specialized information needs of specific, often local, audience segments. Ed Dancharik, Director of AT&T Directory Operations, in a 1979 interview underlines this point.

"The whole area of special directories is sky-rocketing. In the last five years a hundred or so neighborhood books were introduced. And this year alone, we've introduced almost another 80!"

(Telephony, Feb. 11, 1980, p. 68)

To the extent that directory scoping has been understood as an issue of product policy and to the extent that new directories have been introduced, the Yellow Pages business is a new-product business.

But, 25% of Donnelley's \$682.1 million in 1982 directory advertising sales was not generated only by new directories. New "units and features" account for a good deal of new-product revenues. In 1977, Donnelley's "product line" consisted of 38 "units" of advertising, by 1982 the company was marketing over 200 units. These new "units" include a variety of size and shapes of advertisements, various type faces, coupons, four color glossy inserts and the use of red ink in display advertising. Some of them are significant innovations that organize the information in the directory differently. Feldman's studies in the early 1960s indicate that consumers want more complete information about doctors, their specialties, office hours, etc. Out of this kind of research grew a whole raft of "Guides:" in professional services (e.g., lawyers and doctors), Guides by specialty, in restaurant Guides by style of cuisine or by location.^[2] Another kind of interesting and truly innovative new unit is the map locator program offered in some Bell System books. A series of relatively detailed local street maps are bound into the

back section of the Yellow Pages directory. Advertisers may then pay to have their map coordinates listed along with their ad. Not all of the new units have been as appropriate as the Guide sections and map locators. Four color glossy inserts have been a stunning failure because, I believe, they tried to use a reference medium for "creative" advertising.

Most of the new units, though, have been neither significant product innovations nor stunning flops. In fact, most "new" units are nothing very new at all; they are merely different, sometimes more striking and almost always more expensive ways of displaying the same old information. Table 7.1 is a classificatory scheme for new-products from Chaterji, et al. (1981). The vast preponderance of new units introduced since 1977 would appear to be either "Style changes" or "Product-line extensions." Newly scoped directories would fall somewhere between "Product improvement" and full-fledged "New product" introductions. When Donnelley and the Thompson Organisation lost the British Telecom's Yellow Pages selling and compilation contract to GTE Directories and an ITT/L.M. Berry joint venture, the losers started a "non-utility" local directory business in the United Kingdom and the winners moved in to establish their own service operations for the

Table 7.1
The Spectrum Of Product Innovation

| Market for product established? | Business already serving market? | Customers know functions and features? | Design effort | | Then innovation is a |
|---------------------------------|----------------------------------|--|---------------|----------|------------------------|
| | | | Product? | Process? | |
| Yes | Yes | Yes | Minor | Nil | Style change |
| Yes | Yes | Yes | Minor | Minor | Product-line extension |
| Yes | Yes | Yes | Significant | Minor | Product improvement |
| Yes | Yes | Yes | Major | Major | New product |
| Yes | No | Yes | Major | Major | Start-up Business |
| No | No | No | Major | Major | Major innovation |

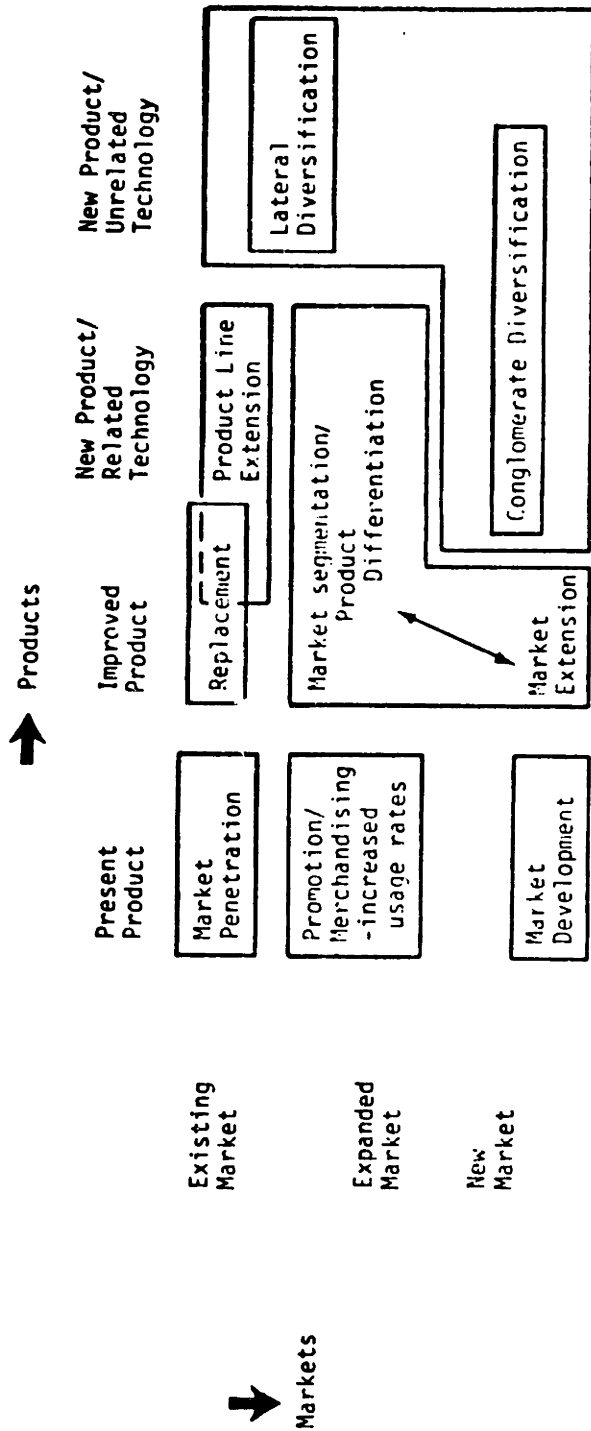
Source: Heany (1979)

Source: Chaterji, et al., 1981, Table 1.

telephone company. In both cases, new products were involved and both could be classified, still following Table 7.1, as "Start-up Businesses."

Day (1975) uses a slightly different set of dimensions and a different formal structure to characterize "Growth Vector Alternatives" in product market strategy (Figure 7.1). Following this model, I would argue that most of the growth of the directory business has been on the Markets vector with "Market Penetration" through aggressive selling and "Promotion and Merchandising" through new units being the dominant growth strategies followed. "Market Development," capturing new markets with existing products, has taken place, as when Donnelley effectively quadrupled its service to independent telephone companies in the U.S. or when GTE and L.M. Berry wrested the British Yellow Pages contract away from Donnelley and the Thompson Organisation. In these instances, "Market Development" was a zero sum game accounting for the growth of a given (winner) company but only at the expense of some other (loser) company. "Market Extension" into heretofore untapped markets with improved products -- exemplified by the Donnelley New Connections Directory, a hybrid magazine/Yellow Pages directory aimed at households new to a

Figure 7.1
Growth Vector Alternatives



Source: Day, 1975 (Exhibit 7)

neighborhood -- can generate substantial new business and overall industry growth.

Although we might characterize new directories as "New Products" (according to Table 7.1), I think that a more perspicuous classification is suggested by Day's "Market Segmentation/Product Differentiation" cell involving an improved product aimed at an expanded market. Neighborhood and umbrella directories take opposite positions on the geographical dimension of market segmentation. Spanish language directories segment according to linguistic group. Visitors Guide directories are aimed largely at the tourist market while college and university books reach a campus community. Business to Business and industry-specific books (e.g., health care) are focussed at specific occupational groups rather than at geographically or demographically defined markets.

Abell and Hammond (1979) assert that a product market description encompasses three dimensions: WHO is being served; WHAT NEED is being satisfied, and HOW that need or "customer function" is being met. Guide sections respond to the need for more specific information, not just restaurants, but Japanese restaurants, not just doctors, but Proctologists. Newly scoped directories address different populations or segments of users: the WHO dimension. The

HOW dimension is the most interesting because, to the directory user, the technology, how the information is presented, is the least innovative aspect of the directory. But, it is only through new high technology compilation and production that the new directories and units can be offered.

New directory products are not always warmly welcomed by those who must pay for them. Here are the headline and two lead paragraphs of a December 5, 1983 Wall Street Journal story.

"Split Yellow Pages Highlights
Problems in Phone-Book Ads

"YOUR FINGERS HAVE two Yellow Pages directories to walk through in Cincinnati, and that riles some business owners. 'It's just a way of getting more money out of me,' says Howard Mees, a ceramic-tile and marble dealer who pays more than \$10,000 a year for Yellow Pages listings.

"When Cincinnati had just one Yellow Pages book, Mr. Mees knew his listing could be seen by anyone who looked under the heading, 'Tile-Ceramic.' But now Cincinnati Bell Inc. -- along with phone companies in many other areas -- has separate Consumer Yellow Pages and Business to Business Yellow Pages. Residential telephone customers get the consumer book, and commercial establishments get the business directory. Mr. Mees must buy listings in both to reach the same people he reached before in one book."

The article goes on to quote Yellow Pages advertising agency executive, Robert Caldarone. Dismissing as "razzmatazz"

such features as red ink, bold White Pages listings, and coupons, Caldarone says, "[U]nfortunately publishers have staffs who think up ways to come up with more revenues." The article ends with the following paragraph.

"Splitting Yellow Pages into two separate books is the biggest money-maker publishers of the books have come up with so far, and one Mr. Caldarone especially dislikes. 'It's just a very inefficient way to do it. People are resisting using them,' he says. 'To me it was just blatant that it was a way to get twice the money.'"

What is obvious to Mr. Caldarone is not so clear to me. I showed, in Chapter 2, that there are powerful arguments to be made in favor of creating Business to Business directories, in effect, dividing a large data base into two more focussed, less unwieldy ones. But, each time a new Business to Business directory has been introduced a wave of protest is evoked from advertisers. I have found documentation of advertiser protests as far back as 1979 and adverse advertiser reaction appears to be a concomitant of every Business to Business introduction.

There is a straightforward rationale for creating Business to Business directories in cities like Chicago and New York. Splitting the directories by type of heading rather than by letter of the alphabet is eminently defensible from the standpoint of the directory user, who is, after all, supposed to be the primary or most important

constituency for the book. The rationale for dividing the much smaller Cincinnati directory is more ambiguous and I would not reject out of hand the interpretation proposed by Messrs. Mees and Caldarone that in this instance dual directories are nothing more than a disguised rate increase. It is an open secret in the directory industry that many new products, especially new units (but also sometimes new directories), are a form of merchandising designed to make what are in reality price increases slightly more palatable to the advertiser. The difference between a thinly disguised rate hike and a truly new-product is not always easy to see and whether one sees the difference depends in large measure on his point of view. The Yellow Pages is certainly much more of a new-product business than is apparent to the casual user (or the advertiser) but much less of one than some of its spokesmen would claim.

The Yellow Pages has always been a profitable business, but until the early to mid 1970s it was a rather sleepy one. Both Hancharik of AT&T and Swank of R.H. Donnelley identify a major transition in strategy as the shift from a sales-oriented to a market-oriented business. Here is how Hancharik describes the change.

"Ten years ago [1969], we were in hot lead. We weren't mechanized. It was a weak excuse. We should have moved and become more flexible to fulfill user's needs. But we were sales

driven then, not market-driven. We looked at things in terms of three constituencies: [telephone company] owners, first; advertisers, second; users, third. We positioned them in that order. Unfortunately we didn't care enough about the user.... Now the users are first in our eyes and consideration. Advertisers are second in importance. Then the owners will benefit. For we know that if we take care of the user first and the advertiser second, the telephone company will benefit."

(Telephony, Feb. 11, 1980, p. 65)

Here is how Richard Swank put it in a 1982 interview. "Today we are truly market driven.... The Donnelley Creed says it best: First comes serving the needs of the user, then the advertiser, then our clients [i.e., telephone companies], and by doing so our own needs are served as well" (Donnelley Directory Record, #1, 1982, p. 2).

This reorientation to the market occurred pari passu with the coming of electronic directory compilation and electronic photocomposition. If this introduction of new technology followed late 1960s Bell System standard operating procedures, then it is likely that its original rationale was to increase production efficiency and decrease costs rather than to serve as a new-products factory. But a fortunate confluence of technological capability and strategic will made it both possible and desirable to upgrade the directory product with new features (e.g., Guide sections -- the NEEDS dimension) and to introduce a variety

of newly scoped and, generally speaking, more precisely targeted directories (the WHO dimension).

Among the Bell System companies and those independents served by Donnelley (and I have to believe that the same basic policy was followed by L.M. Berry, GTE Directories, and the other major players), an aggressive new-products strategy evolved in the mid-1970s. This policy was basically in the furtherance of two agendas, one public and one hidden. The public agenda claimed, honestly I think, that user utility was the key to directory profitability and growth. New-products were to be designed and introduced to maximize user utility. The (not so) hidden agenda was also quite clear. Directory advertising was underpriced and the introduction of new advertising units makes rate increases more palatable to the advertiser. New-products served to enhance user utility, to optimize market segmentation, and above all, to merchandise rate increases. To assert that product policy is merely a veil behind which to hide the more central issue of price policy would be wrong, but not entirely wrong. In the Yellow Pages industry, more than in many other industries, product policy and price policy are intimately related.

7.3. PRICE POLICY

The issues surrounding Yellow Pages pricing are complex and interesting enough to be the subject of several doctoral dissertations. One might, for example, undertake a time series analysis to relate directory price changes to revenue and profitability growth. One might also attempt to disentangle and elaborate the relationship between price and product that I touched on in the last section. Or, in a cross-sectional slice-of-time analysis, one might examine the relationship between a publisher's price policy and his revenues. In this section I take two preliminary steps toward a more complete understanding of directory pricing. First (in 7.3.1), I argue that notwithstanding its apparent arbitrariness, directory pricing is regular and rule-governed. I adduce some industry-wide regularities, which can be framed as empirical "rules." Using these rules, it is possible to begin to partition the variance in directory pricing between that which can be explained by industry-wide "rules" and that which must be understood in terms of publisher-specific behavior. One of the rules that I have discovered is that to reach the same size audience, different publishers charge systematically different prices. I characterize the decision rule (or function) that maps from the size of population served to the price charged for a

standard unit of advertising as the Publisher's Price Policy.

Having ascertained that pricing is, indeed, rule-governed and that different publishers appear to follow systematically different price policies, I propose (in Section 7.3.2) a line of inquiry into the strategic implications of directory price policy. I propose a set of indicators and formal models which might be parameterized with publicly available data and which could begin to answer such questions as:

- . What is the relationship between a Yellow Pages publisher's price policy and the per capita income that he generates?

and

- . To what extent is price set by the local conditions of demand, or, put slightly differently,
- . How much control does a publisher have over the prices he charges?

I should emphasize here that in Section 7.3.2 I present not the results of an analysis, but rather the logic and procedures that might be followed to arrive at those results. The discussion is at once a report of work in progress and a proposed methodology to guide further research.

7.3.1. An Introduction To Yellow Pages Pricing

Understanding the intricacies and complexities of Yellow Pages pricing seems to require esoteric knowledge and magical insights possessed only by a select circle of the initiated. Here is how New York Times reporter Sonny Klienfield characterizes it in his 1981 book, The Biggest Company on Earth:

"Outside of California, the parishioners of the individual telephone companies can fix advertising rates however their wallets desire. Rates giddy all over. They seem to reflect how much the market can bear. Many advertisers confess that they find themselves hopelessly bewildered when they pore over rate charts. 'I feel like I'm reading my mother-in-law's checking account records,' one advertiser said to me. Another ad executive told me, 'They are like no other advertising medium, that's for sure. They don't follow any of the normal rules. Rates have nothing to do with circulation. They have nothing to do with anything that I can figure out. Yet, you've got to be in them. Everybody reads them. In short, they're kooky.'

"For instance, a quarter-page display ad in the Manhattan Yellow Pages goes for \$4,579 a year. In St. Louis, that sized ad fetches \$4,680. In Houston, the rate is \$6,300, steepest in the country. ('What do you expect in oil country?' a man at an advertising agency said.) Even rates in cities of identical populations fluctuate sharply. In Barnesville, Georgia (pop. 10,000), a quarter page ad is \$472. In Southport, North Carolina (pop. 10,000), it is \$468. In Liberty, Texas (pop. 10,000), it is \$1,116. Moving up, in Tulsa, Oklahoma (pop. 331,000) the rate is \$3,504. In Columbia, South Carolina (pop. 330,000), it's \$2,325. 'You

want to know what determines rates?' an advertiser asked me. 'I'll tell you. Good old American greed, that's what.'"

Part of the mystery of Yellow Pages prices is inherent in the very size of the problem. There are over 6,000 Yellow Pages directories published in the United States by over 150 publishers. The 16 most commonly sold "standard" units (generally speaking, a "unit" is a quantum of space) are sold under 36 different "standard" names. Moreover, an additional 250 or so non-standard units are sold under 450 or so different names by one or another publisher. If this were not confusing enough, publishers apply a labyrinthian tangle of special conditions and discount (e.g., "market plans and heading development") programs. New units and pricing schemes are introduced all the time while basic prices display an inexorable, if not always regular, secular increase.

Yellow Pages pricing is complicated, but an analysis of publicly available price data^[3] suggests that pricing is by no means chaotic or arbitrary. Yellow Pages prices follow a few consistent and rational, though not always obvious, patterns. I would go so far as to claim that prices in the Yellow Pages are rule-governed, by which I do not mean to imply that some secret committee lays down rules

that everyone must follow, but rather that empirical analysis yields up regularities in pricing which can be framed as rules. My task in the balance of this exposition is to outline some of those rules.

1. Each directory has a price.

Table 7.2 is a correlation matrix of the prices of various units in the aggregate "Quick Reference Cost Studies" of the December 1982 Rates and Data book.^[4] Since we are correlating what are, in effect, averages, we would expect the r's to be fairly strong, but these correlations are extremely strong and consistent. Among the commonly sold units,^[5] the correlations are on the order of .98 or higher. Since every unit is highly correlated with every other unit, the price of any unit can serve as an index of "the price" of a directory.

2. Coefficients of cost per unit of space are remarkably stable with higher variances in smaller directories.

In Table 7.3 I transform the data for frequently sold units in the "Quick Reference Cost Study" from raw sums of prices to cost per Quarter Column Equivalent (QCE).^[6] Indexing the cost of a Quarter Column (QC) unit to 1 and comparing cost per QCE of different units in directories large and small, we see remarkable stability:

Table 7.2

Correlation Matrix

| | | Commonly Sold Units | | | | | | | | | |
|-----|-------|---------------------|------|------|------|-------|-------|------|------|------|--|
| CTM | TM | BL | AL | TC | DHC | DQC | QC | 4HS | 3HS | 2HS | |
| TM | .999 | | | | | | | | | | |
| BL | .992 | .995 | | | | | | | | | |
| AL | .988 | .991 | .999 | | | | | | | | |
| TC | .992 | .994 | .998 | .996 | | | | | | | |
| DHC | 1.000 | 1.000 | .993 | .984 | .994 | | | | | | |
| DQC | 1.000 | 1.000 | .993 | .989 | .993 | 1.000 | | | | | |
| QC | 1.000 | .999 | .991 | .986 | .990 | 1.000 | 1.000 | | | | |
| 4HS | .999 | .998 | .989 | .986 | .989 | .999 | .999 | .999 | | | |
| 3HS | .999 | 1.000 | .996 | .992 | .995 | 1.000 | 1.000 | .999 | .998 | | |
| 2HS | .998 | .999 | .998 | .995 | .997 | .998 | .998 | .997 | .995 | .999 | |
| 1HS | .992 | .994 | .999 | .995 | .999 | .993 | .993 | .991 | .987 | .995 | |
| | | | | | | | | | | .998 | |

Source: NYP&A Rates and Data, December 1982, p. 6

Table 7.3
Per QCE Prices Of Commonly Sold Yellow Pages Units

| UDAC QCEs | QC* | CTM | TM | BL | AL | TC | DHC | DQC | 4HS | 3HS | 2HS | 1HS |
|---------------------|-------------|------|------|------|------|------|------|-----|------|------|------|------|
| Population (000) | | | | | | | | | | | | |
| 1-9 | 1 \$ 149.40 | 1.58 | 1.79 | 4.34 | 2.96 | 2.74 | .98 | .99 | .98 | 1.21 | 1.37 | 1.67 |
| 10-49 | 1 \$ 226.31 | 1.60 | 1.71 | 3.83 | 2.67 | 2.44 | .97 | .98 | 1.06 | 1.17 | 1.25 | 1.39 |
| 50-99 | 1 \$ 308.13 | 1.54 | 1.70 | 3.45 | 2.34 | 2.00 | .94 | .96 | 1.03 | 1.13 | 1.20 | 1.25 |
| 100-249 | 1 \$ 410.78 | 1.54 | 1.64 | 3.06 | 1.81 | 2.01 | .94 | .95 | .99 | 1.08 | 1.15 | 1.28 |
| 250-499 | 1 \$ 581.48 | 1.54 | 1.58 | 2.71 | 1.49 | 1.96 | .96 | .97 | .97 | 1.08 | 1.11 | 1.28 |
| 500-999 | 1 \$1020.78 | 1.54 | 1.54 | 2.30 | 1.29 | 1.88 | 1.00 | .99 | 1.01 | 1.08 | 1.09 | 1.28 |
| 1000+ | 1 \$1313.50 | 1.60 | 1.65 | 2.28 | 1.26 | 1.89 | .99 | .00 | 1.10 | 1.11 | 1.12 | 1.20 |

*Note: All rates are standardized to the Quarter column. These are the average prices for a QC unit in directories in this population band.

Source: NYP&A, Rates and Data, December 1982, p. 6

- . A Custom Trademark (CTM) always costs between 1.54 and 1.60/QCE
- . A Double Quarter Column (DQC) always costs between .94 and 1.00/QCE
- . On a per QCE basis, Bold Listings range from 4.34/QCE in small directories to 2.28/QCE in large ones.

As directories get larger, the variance in price per QCE across units drops; per QCE prices for all units cluster more closely around the price of a Quarter Column in larger directories than in smaller ones. These findings from the aggregate analysis are strongly confirmed by two small samples, one based on a common publisher, the other on a common state. In Tables 7.4 and 7.5, again indexing the price of a QC to 1, Bold Listings cost, on the average, 3.5/QCE. In the Illinois sample, the mean price of a CTM was 1.8/QCE, and in the Leland Mast sample, the mean price of a CTM was 1.6/QCE, precisely the same as the grand mean across all directories.

3. Smaller ads cost more per unit of space than larger ones. Display ads are "linear".

In both the Illinois and Leland Mast samples, as in the aggregate data, the Bold Listing is the most expensive unit on a per QCE basis. The lowest price units per QCE are large display ads, but they cost only marginally less than small display ads. That is, if a Quarter Column costs

Table 7.4
 Random Sample Of Directories Published By Leland Mast Co.

| Directory | Population | QC | CTM | TM | BL | AL | TC | DHC | TQC | DQC | 4HS | 3HS | 2HS | 1HS | |
|-------------------|------------|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Paulina, IA | 3 | \$122.40 | 1 | 1.8 | 2.3 | 4.6 | 3.7 | 3.2 | 1 | - | 1 | 1.4 | 1.5 | 1.7 | 2.3 |
| New Haven, WV | 4 | \$144.00 | 1 | 1.6 | 2.1 | 4.8 | 3.5 | 3.2 | 1 | - | 1 | 1.3 | 1.4 | 1.6 | 2.4 |
| Colfax, CA | 4 | \$ 82.80 | 1 | 1.6 | 1.8 | 3.5 | 2.2 | 2.6 | 1 | - | 1 | 1.4 | 1.5 | 1.8 | 2.2 |
| Alleghany Co., NC | 6 | \$112.20 | 1 | 1.8 | 2.4 | 4.7 | 4.4 | 3.8 | 1 | - | 1 | 1.5 | 1.6 | 1.8 | 2.6 |
| Fayette, IA | 6 | \$148.20 | 1 | 1.8 | 2.2 | 4.9 | 3.3 | 3.3 | 1 | - | 1 | 1.3 | 1.5 | 1.7 | 2.3 |
| Andrews, TX | 14 | \$181.80 | 1 | 1.7 | 2.1 | 4.4 | 3.2 | 2.7 | 1 | - | 1 | 1.3 | 1.4 | 1.4 | 2.2 |
| Middletown, NY | 57 | \$53.60 | 1 | 1.3 | 1.4 | 2.9 | 2.4 | 1.9 | .9 | 1 | .9 | .9 | 1 | 1.1 | 1.7 |
| Johnson Co., KS | 220 | \$409.20 | 1 | 1.3 | 1.7 | 3.1 | 2.2 | 1.9 | 1 | 1 | 1 | 1.1 | 1.1 | 1.3 | 1.9 |

Source: NYP&A, Rates and Data, December 1982,
 passim.

Table 7.5
Random* Sample Of Directories Published In Illinois

| Directory | Publisher | Population (000) | QC | CTM | TM | BL | TC | DHL | TQC | DQC | 4HS | 3HS | 2HS | LHS |
|----------------|-----------|---------------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Alhambra | RHD | 2 | \$108 | 1.9 | 1.9 | 4.9 | 2.4 | 1 | - | 1 | 1.3 | 1.5 | 1.5 | - |
| Waterloo | RHD | 27 | \$219 | 2.4 | 2.4 | 5.4 | 2.7 | 1.1 | .8 | .8 | 1.6 | 1.6 | 1.6 | 2.1 |
| Monmouth | GTD | 22 | \$288 | 1.9 | 1.5 | 3.1 | 1.5 | 1 | - | 1 | 1 | 1.1 | 1 | 1.2 |
| Hightwood | NSD | 46 | \$228 | 1.2 | 1.6 | 2.9 | 1.6 | .8 | .9 | .9 | 1 | 1 | 1 | 1.3 |
| Geneva | IBT/RHD | 54 | \$252 | 1.7 | 1.7 | 3.7 | 1.9 | 1.1 | .8 | .8 | 1.1 | 1.1 | 1.1 | 1.5 |
| Macoupin Co. | OHA | 54 | \$340 | 1.4 | 1.4 | 3.4 | 1.9 | 1 | 1 | 1 | 1.2 | 1.2 | 1.2 | 1.2 |
| Chain O'Lakes | IBT/RHD | 86 | \$280 | 1.8 | 1.8 | 3.3 | 1.7 | 1.2 | .8 | .8 | 1.2 | 1.2 | .6 | 1.5 |
| Elgin | IBT/RHD | 87 | \$363 | 1.9 | 1.9 | 3.5 | 1.7 | 1.1 | .8 | .8 | 1 | 1 | 1 | 1.4 |
| Bloomington | GTD | 88 | \$570 | 1.8 | 1.4 | 2.7 | 1.3 | 1 | 1 | 1 | .9 | 1 | 1 | 1.3 |
| *Downers Grove | IBT/RHD | 118 | \$423 | 2.0 | 2.1 | 4.3 | 2.1 | 1.1 | .7 | .8 | 1.1 | 1.1 | 1.1 | 1.6 |
| Roselle | IBT/RHD | 138 | \$336 | 2.0 | 1.9 | 3.5 | 1.8 | 1.1 | .8 | .8 | 1.2 | 1.2 | 1.2 | 1.6 |
| Darien | NSD | 145 | \$360 | 1.2 | 1.5 | 2.2 | 1.2 | .8 | .9 | .9 | .9 | 1 | 1.1 | 1.3 |
| Park Ridge | GTD | 150 | \$768 | 1.9 | 1.4 | 2.7 | 1.4 | 1 | 1 | 1 | .9 | 1 | 1 | 1.3 |
| Springfield | IBT/RHD | 165 | \$405 | 1.9 | 1.9 | 4.0 | 2 | 1.1 | .8 | .8 | 1.2 | 1.2 | 1.2 | 1.4 |
| Lake Co. | RHD | 470 | \$684 | 1.6 | 1.6 | 3.2 | 1.6 | 1.1 | .7 | .8 | 1.1 | 1.2 | 1.3 | 1.8 |

Correlation Population, \$/QC = .64
Correlation log Population, log CPM = -.96

*Downers Grove Directory purposefully included in sample.
Not selected on the basis of the random process used in the remainder of the sample.

Source: NYP&A, Rates and Data, December 1982

1, then a Double Quarter Column (2 QCEs of space) costs between 1.9 and 2. As small ad units increase in size, approaching the size of a display unit, their price per space goes down, a phenomenon particularly evident in the "HS" family of space ads (1 HS = 1/2 column inch = .2 QCE; 2 HS = 1 column inch = .4 QCE; etc.).

4. Directory price is highly correlated with the size of the population served.

In the Illinois and Leland Mast samples, the correlations between Quarter Column price and population of directory area were .64 and .66, respectively. For a larger Philadelphia sample,^[7] the correlation is .92 and for the aggregate data it was .97.

Since price and population are correlated (as we would intuitively expect) it was surprising for me to observe the low level of correlation between cost per thousand (CPM) and population served. In the Philadelphia sample the correlation was, as expected, negative (as population goes up, CPM would be expected to go down) but quite weak ($r = -.37$). In the aggregate data set, where we expect strong correlations, it was also weak ($r = -.46$). This weak relationship of CPM to population is one of the "bewildering" aspects of directory pricing that probably lead Klienfield's informant to say that rates had nothing to do

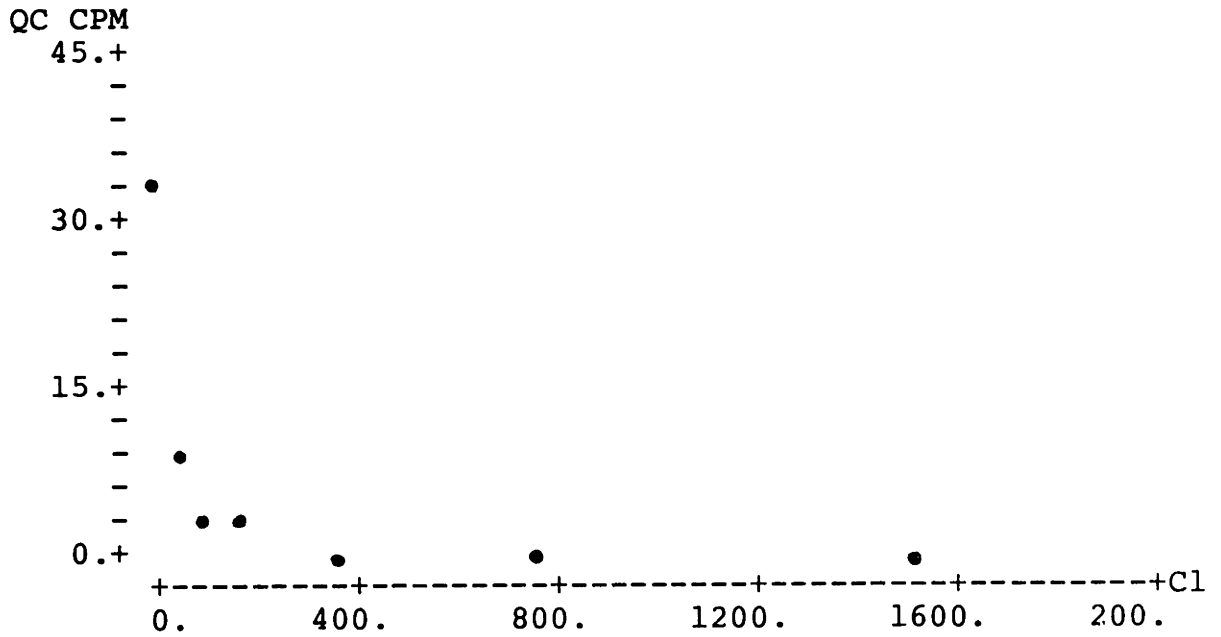
with circulation or anything else. If, within a single major metropolitan market, size of population served accounts for something under 14% of the variance in CPM, and if CPM is the index of interest, then bewilderment is an appropriate reaction.

On Figure 7.2 I have plotted CPM as a function of population for the aggregate data. Inspection indicates that a low correlation in this case is not the result of noisy irregular data. The relationship is quite regular, but it is non-linear. In Figure 7.3 I transform the data and replot the log of CPM as a function of the log of population. The data is extremely linear now and the correlation = $-.99$. Running the same transformation, I found that in the Philadelphia sample the correlation of the log of CPM with the log of population = $-.95$, in the Illinois sample $r = -.96$.

The relationship of CPM and population is not obvious but, when framed in terms of a relatively simple mathematical model (i.e., a log, log transformation), it is very regular. Likewise, the relationships of unit costs in the same directory are not obvious but recasting the raw numbers in terms of a common metric, cost per QCE, reveals them to be rule-governed as well. If directory pricing is not chaotic, what are we to make of Klienfield's claim that

Figure 7.2

CPM As A Function Of Population



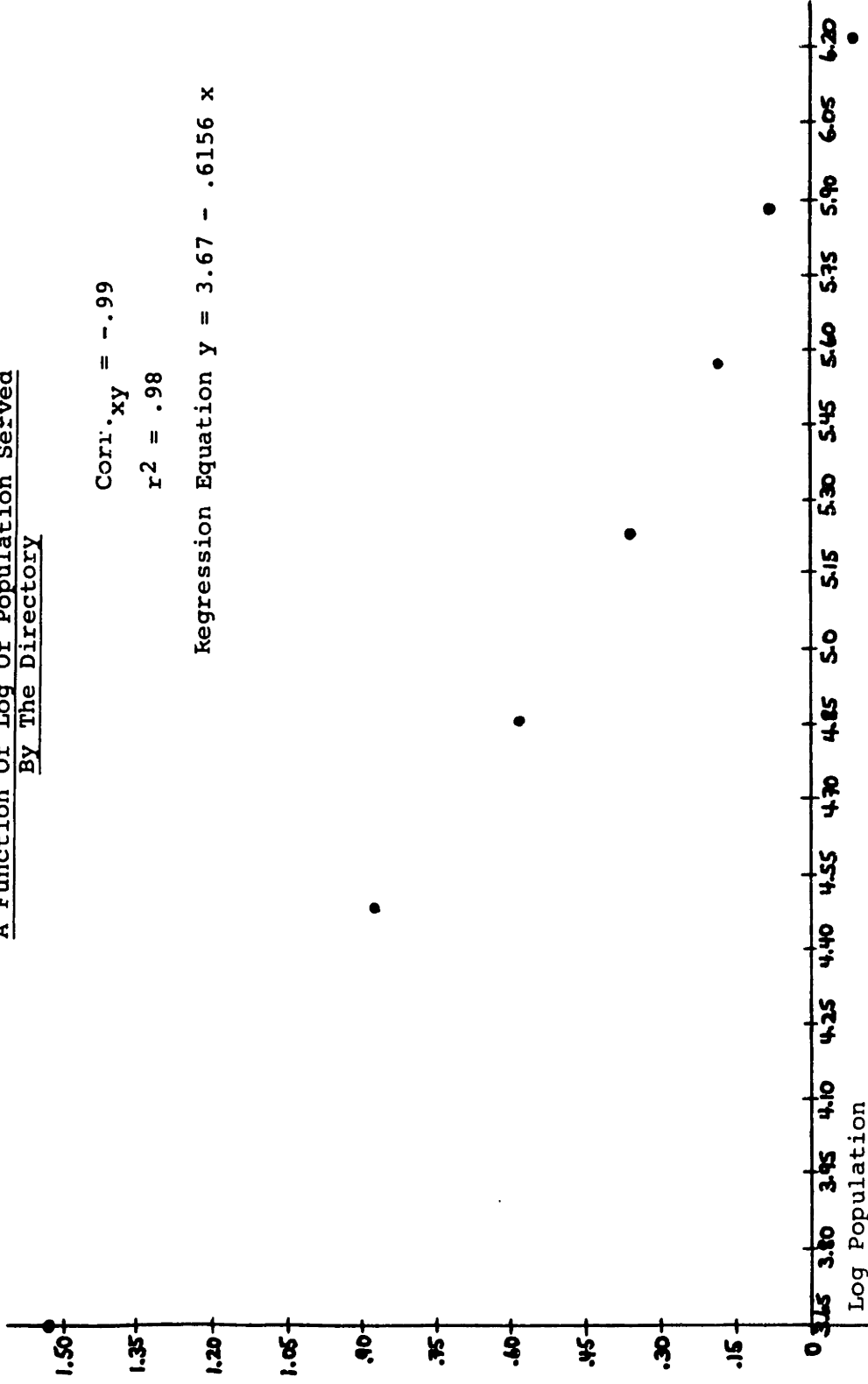
Note: CPM falls geometrically as population grows.

Source: NYPSA, Rates and Data,
December 1982, p. 6

Figure 7.3

Log Of Cost Per Thousand Per Quarter Column As
A Function Of Log Of Population Served
By The Directory

Log \$/1000/QC



Corr. r_{xy} = -.99

r^2 = .98

Regression Equation $y = 3.67 - .6156 x$

Source: NYPSA, Standard Rates and Data,
"Quick Reference Cost Study,"
December 1982, p. 6

prices "giddy all over" and the data he adduces to substantiate that claim? On Figure 7.4 I have plotted the average cost per Quarter Column as a function of population served. I have also plotted the data on the directories referenced by Klienfield.^[8] The Barnesville, Georgia and Southport, North Carolina directories fall very close to the average. The Manhattan, New York and Columbia, South Carolina prices are slightly above the average. The Liberty, Texas, Tulsa, Oklahoma, Houston, Texas, and St. Louis, Missouri directories are all published by Southwestern Bell. The higher than average prices of these directories appears to be not the result of random variation, but of a consistently applied pricing policy. This leads to the final empirical rule.

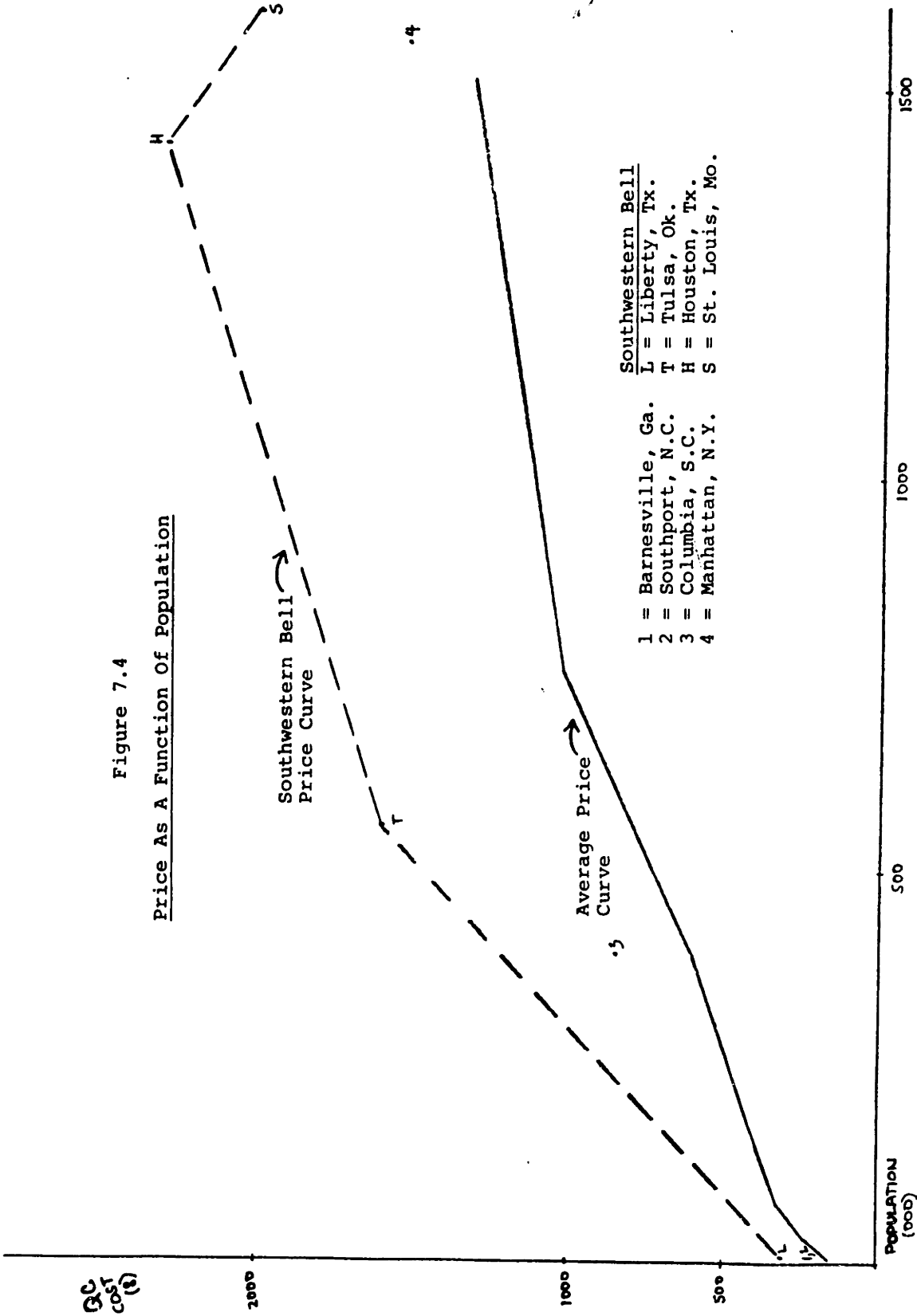
5. Different publishers have different characteristic "price functions".

A price function can be interpreted in this context to refer to the decision rule employed to map a directory price on to a given size population.

In sum, there is a great deal of variation in Yellow Pages prices. Most of the variation is comprehensible in terms of a few industry-wide rules or regularities which, if not always intuitively obvious, are still rational.

Figure 7.4

Price As A Function Of Population



Much of the residual variance not explained by industry-wide regularities is explained by consistent publisher-specific pricing policies. The data I have analyzed here does not speak to the origins of or reasons for these policies, but it seems fairly safe to assume that they are based on local market conditions and hard-nosed strategic decisions.

7.3.2. Some Strategic Implications Of Yellow Pages Pricing

With a clearer understanding of the nature of the regularities in Yellow Pages pricing, we are now ready to explore some strategic implications of pricing policy. I begin this part of the investigation (7.3.2.1) by demonstrating that there is a great deal of variance in Yellow Pages revenues across the BOC publishers. I then present some results that suggest that gross economic and demographic conditions do not explain much of the differences in BOC revenues; more precisely, I show that the gross economic, demographic, and regulatory variables that I first considered significant do not, of themselves, have much explanatory power. But, environmental conditions could never directly explain differential revenues because those conditions must be mediated by some market mechanisms: sales revenues in any business are the direct result

of the number of things sold and the price for which they are sold. In a wealthy environment one might sell more widgets or one might be able to charge more for widgets. Customer affluence and predisposition to buy is mediated by buying more and/or paying more.

In the second part of this section (7.3.2.2) I tell a "story" about the factors that could give rise to differential per capita Yellow Pages revenues. I then formalize that story in a simple analytical model and in a brief formal development I elaborate the model. Not surprisingly, price emerges as a critical factor. The prices of units of advertising in individual directories must have a significant impact on revenues (and profitability), but while it is quite easy to pinpoint "the price" of a directory (as I showed in the last section), it is not so easy to establish the characteristic price of a given publisher who may put out several hundred variously sized, scoped, and priced directories.

In the following section (7.3.2.3) I discuss several possible publisher price indicators and suggest how they might be calculated. It turns out that building price indicators involves a massive data reduction from 16 prices for each of 2,500 Bell System directories to a single characteristic "Price" for each of 23 Bell System publishers.

Since I cannot envision an unambiguously theoretically "best" price indicator, several indicators (some based on various kinds of price averages -- arithmetic mean, weighted average, geometric mean; others based on parameters of the price function -- slope, intercept, slope times intercept, etc.) are proposed. With these indicators in place, a regression model is specified to determine how much of the variance in per capita directory income is explained by price. I am willing to predict that a good deal of the variance in revenue can be attributed to price.

But, even if "price," however we choose to measure it, explains much or most of the variance in revenues, a major question remains. Is it the case that price is a function of local demand, or given the quasi-monopoly situation under which major directory publishers operate, is it the case that price is a strategic variable under the direct control of the publisher? Further regression models are proposed (in 7.3.2.4) to resolve this question.

7.3.2.1. How much do BOC Yellow Pages revenues vary?

According to data supplied by AT&T to the National Telecommunications and Information Administration (NTIA), Chesapeake and Potomac (C&P) Telephone of West Virginia had 1981 Yellow Pages revenues of a mere \$7 million. In the

same year, Southwestern Bell took in approximately \$392 million. Since Southwestern Bell serves so many more subscribers than C&P of West Virginia, a more perspicuous measure for our purposes is Yellow Pages revenue per subscriber (or per residence telephone served). Even standardized for scale, BOC Yellow Pages revenues display a good deal of variability as is evident from Figure 7.5, a histogram of Yellow Pages revenues per residence phone. The mean of the distribution is \$20.80 and the standard deviation is \$5.9. While some BOCs were generating over \$30 per residence phone, others were taking in less than \$10. Far from being uniform, the distribution appears more or less normal.

Moreover, the degree of variation in the distribution is relatively large compared to the degree of variation in overall BOC revenues per capita. That is, the standard deviation divided by mean of overall revenues/phone equals .13 while standard deviation divided by mean of Yellow Pages revenues/phone equals .28. And, while the highest overall revenue per phone is only about 1.5 times as great as the lowest, the highest Yellow Pages revenue per phone is more than three times as great as the lowest.

When I first became aware of the non-uniformity of Yellow Pages revenues (and per capita revenues) across the

Figure 7.5

Histogram Of Yellow Pages Revenues
Per Residence Phone

| <u>\$/Res.Phone</u> | <u>Middle of Interval</u> | <u>Number of Observations</u> | |
|---------------------|---------------------------|-------------------------------|------|
| | 10. | 1 | * |
| | 12. | 2 | ** |
| | 14. | 0 | |
| | 16. | 2 | ** |
| | 18. | 4 | **** |
| | 20. | 4 | **** |
| | 22. | 2 | ** |
| | 24. | 2 | ** |
| | 26. | 3 | *** |
| | 28. | 1 | * |
| | 30. | 1 | * |
| | 32. | 1 | * |

Source: NTIA data for 1981

Bell Operating Companies, I assumed that the basic underlying causes of the variance were to be found in the economic and demographic environments in which the different publishers operated. Yellow Pages revenues, I supposed, would be low in poor rural states and high in relatively richer and more urban ones. In a word, I expected that differential wealth, urbanism, and business activity would explain a good deal of the difference in Yellow Pages revenues. Thus, I collected data on per capita income and phones per capita, indices of wealth; population density, an index of urbanism; and the ratio of business to residence phones, an index of business activity. I then regressed these indices on BOC Yellow Pages revenue per phone and explained essentially none of the variance. I also ran the same kind of regression on a state-by-state basis using data on Yellow Pages revenues provided by the National Association of Regulatory Utility Commissioners (NARUC). As in the BOC data set, essentially none of the variance in Yellow Pages revenues across states -- that is, including both BOC and independent telephone company revenues -- could be explained by standard demographic/economic variables in the environment.

If such macro-economic factors did not account for the variance in Yellow Pages revenues, perhaps politico/

regulatory factors would. In some states Yellow Pages revenues are "imputed" for rate-making purposes and in others they are not. Direct rate regulation might also explain the different revenues. Alas, neither of these factors explain much at all. Only a handful of states -- Ohio, Massachusetts, New Mexico -- do not impute Yellow Pages revenues and in only one, California, have Yellow Pages rates been directly regulated by a state authority. While "imputation" and direct rate regulation would appear to have little effect on BOC Yellow Pages revenues, other more subtle, less obvious politico/regulatory dynamics may underlie the variation in BOC Yellow Pages revenues.

Some BOCs might be under tremendous pressure from their local Public Utility Commissions to hold down local rates. These BOCs might then be forced to work harder at generating non-regulated revenues -- e.g., from the Yellow Pages -- than those operating in states where rate of return regulation on standard services -- e.g., local service -- is not as stringent. Unfortunately, the data I have in hand does not speak to differential regulatory pressures. Further research on the relationship between overall state telecommunications regulatory policy and Yellow Pages revenues would be worthwhile but extremely difficult. The NARUC-supplied data on such simple items as "gross revenue

necessary to replace Yellow Pages revenues" is not only incomplete, it also appears to be relatively noisy, perhaps because different states use different accounting rules.

If environmental conditions do not explain the variance in Yellow Pages revenues, what does? That is, how could it come to pass that different Yellow Pages publishers generate such different per capita revenues, selling what is essentially an identical product? This gives rise to our second question.

7.3.2.2. How, or by what mechanisms, could it happen that some Yellow Pages publishers take in more revenues than others?

To answer this question I would propose a simple analogy or story. How could it come to be that new car sales revenues per capita were higher in some states than in others? One of four sets of circumstances would have to obtain.

1. In states with higher per capita sales revenues more new cars (per capita) were sold, or
2. The same number of cars (per capita) were sold but in the high sales states, more Cadillacs were sold per Chevrolet than in

the low sales states. That is, the distribution of models sold might vary, or

3. The same number (per capita) of the same kinds of cars were sold in all states, but in high sales states the prices charged were higher than in low sales states, or
4. Some combination of more cars, different models, and higher prices per model.

At a slightly higher level of abstraction, all I am arguing is that sales revenue is a function of number of cars sold, distribution of type of cars sold, and the prices charged. In the case of Yellow Pages, the same sort of functional relationship between revenues, number of units, type of unit, and price of unit must obtain.

It is possible to formalize the intuition of the new car analogy with a simple analytical model. In any directory_i, sales revenues R_i can be modeled as follows:

$$R_i = n_i \sum (Pr(a_{ij}) \times p_{ij}) \quad [7.1]$$

where R_i = sales revenues from directory_i

n_i = number of ads sold in i

Pr(a_{ij}) = the probability that a unit will be a j in directory_i

p_{ij} = the price of a unit j in directory_i

Note that $\sum P(a_{ij}) = 1$ and that the expression $\sum (P(a_{ij}) \times p_{ij})$ is equal to the expected value of the distribution $P(a_i)$, i.e., $\sum P(a_{ij}) \times p_{ij} = \bar{p}(a_i)$.

In this context, $\bar{p}(a_{ij})$ is the mean of the ad price distribution. Thus, one reasonable interpretation of [7.1] is that revenues for a directory equal the number of units sold times the average price of a unit. We know from our analysis of Yellow Pages pricing that each directory has a price. Therefore, we can set "the price" of directory_i to the price of a QC unit in i. The average price of a unit in any directory, $\bar{p}(a_i) = \bar{a}_i$, must be directly proportional to the price of a Quarter Column unit, QC_i . If, for example, a Quarter Column unit cost \$150 in directory_i and the average price of a unit in i was \$75, then the average price would simply be one-half the price of a QC. With this additional information, we could rewrite expression [7.1] as follows:

$$R_i = n_i \times 1/2 \times QC_i$$

More generally, we can rewrite expression [7.1] as follows:

$$R_i = n_i \times s_i \times QC_i \quad [7.2]$$

where s_i is the scaling factor such that

$$s_i = \bar{a}_i \div QC_i$$

We can now set $n'_i = n_i \times s_i$ and

$$R_i = n'_i \times QC_i \quad [7.3]$$

Under this interpretation, the probability distribution, $Pr(a_i)$, has fallen out and a directory with a large number of Bold Listings (Cadillacs) per Quarter Column unit (Chevrolets) could simply be seen as having sold more QCEs than another directory.

As we move from expression [7.1] to expression [7.3] we lose a good deal of the analytical richness of the model, but we gain a good deal of tractability. The price of a Quarter Column unit, QC_i , in nearly every directory in the U.S. is publicly available data, but the average price of an ad unit sold, \bar{a}_i , let alone the distribution of units $Pr(a_i)$, is nowhere available. Publishers with unit by directory sales data could make effective use of [7.1] to explore the revenue implications of altering the Cadillac/Chevrolet ratio, but for our purposes, expression [7.3],

which says that revenues are a function of the price of a directory (indexed to the QC) and the number of units sold, is more useful.

We can further interpret n'_i in [7.3] as follows:

$$n'_i = \alpha_i \times \text{pop}_i \quad [7.4]$$

where α_i = the number of QCEs sold per person in directory_i

pop_i = population of the directory area i

thus,

$$R_i = \alpha_i \times \text{pop}_i \times \text{QC}_i \quad [7.5]$$

The per capita revenue from a directory is simply:

$$\frac{R_i}{\text{pop}_i} = \alpha_i \times \text{QC}_i \quad [7.6]$$

Total Yellow Pages revenue for any publisher, p, is equal to the sum of all revenues from the k individual directories, i, published by p:

$$R_p = \sum_{i=1}^k R_i = \sum_{i=1}^k (n'_i \times \text{QC}_i) \quad [7.7]$$

and the total per capita revenues for publisher p is simply equal to total revenues divided by total population served:

$$R_p \text{ per capita} = \frac{\sum R_i}{\sum \text{pop}_i} = \frac{\sum (\text{pop}_i \cdot \alpha_i \cdot \text{QC}_i)}{\sum \text{pop}_i} \quad [7.8]$$

Plugging the numbers into expression [7.8] would allow us to answer one of the central questions of Yellow Pages pricing: how does it happen that some publishers generate higher per capita Yellow Pages revenues than others? Is it that they sell more units or do they charge more or both, and how much of the variance in per capita revenues is explained by each of these two factors? Most of the data to "plug in" Yellow Pages revenues by BOC are available. The NTIA has collected Yellow Pages revenue data, and the National Yellow Pages Service Association's Rates and Data book provides population served and QC rates for each directory published. It might be possible to estimate α_i by way of a content analysis of Yellow Pages directories published by different publishers, but there is no readily available data source that provides us with α_i 's or n_i 's. Expression [7.8] might be valuable to directory publishers who might wish to simulate the revenue impact of

various marketing strategies or who might have in hand α_i for each directory published.

Even though we cannot directly parameterize [7.8], the intuition that underlies the model, i.e., that we can begin to account for the variance in publisher revenues by examining the variance in Quarter Column unit prices, remains useful. It follows from expression [7.7] that whatever variance in publisher revenues that is not explained by price must be due to the number of Quarter Column Equivalents sold.

Since what we are after is a clearer understanding of the effect of price on revenue, a simple regression approach might be appropriate.

$$\text{Per Capita Revenue}_p = a + \beta(\text{Price}_p) + \epsilon \quad [7.9]$$

where

Per Capita Revenue_p = the annual Yellow Pages revenues of publisher_p
divided by the population served as measured by the number of residence telephones

This one variable regression model is simple enough to run on a hand calculator. The problem is to estimate "Price_p."

7.3.2.3. How Can We Summarize A Publisher's "Characteristic Price" In A Single Parameter?

The task is formally one of data reduction. The 23 Bell Operating Companies (or their agents) publish approximately 2,500 different directories, each one of which has 16 standard unit prices (and as many as 250 non-standard unit prices). Creating a price indicator for each publisher involves reducing a 2,500 x 16 matrix to a 23-element vector. Empirical rule #1, "Each directory has a price," solves part of the problem. That is, the 16-tuple of price (the price charged for each of 16 standard units sold in a directory) can be reduced to a single indicator variable. Since all the prices in a directory are highly correlated, the price of any unit is a good indicator of the price of all units (in other words, each directory has a characteristic price); I have chosen the Quarter Column as my price indicator because that is standard industry practice. I have also shown that each publisher has a characteristic price function, a table function (Standard Rates and Data is the table), which maps from a population served to a price of a Quarter Column unit. The mapping is many-to-many, i.e., a given publisher might charge the same price for two different size populations served or might charge different prices for two directories serving the same population. Figure 7.4 suggests that the table can be

summarized in a smooth curve with a relatively simple functional form, i.e.:

$$QC_{ip} = f_p(\text{pop}_i, \epsilon) \quad [7.10]$$

where

QC_{ip} = the price of a Quarter Column unit in directory i published by p and f_p is a publisher-specific function.

The epsilon in [7.10] reflects the many-to-many mapping of the price function.^[9]

I see two basically different approaches to building a publisher price indicator; one is based on some form of averaging of prices across directories for each publisher, the other on some parameter or parameters of the publishers' price functions. Three kinds of "average prices" might be calculated:

1) The Arithmetic Mean = $\left(\sum_{i=1}^k QC_{ip} \right) \div k \quad [7.11]$

where

QC_{ip} = the price of a QC in directory i published by p and

k = number of directories published by p

$$2) \quad \text{The Weighted Average} = \left(\sum_{i=1}^k QC_{ip} \cdot \text{pop}_i \right) \div K \quad [7.12]$$

where

pop_i = either the population of the directory area or, perhaps more perspicuously, the number of copies of the directory printed. (Both of these are reported in Rates and Data.)

$$3) \quad \text{The Geometric Mean} = \left(\prod_{i=1}^k QC_{ip} \right)^{\frac{1}{k}} \quad [7.13]$$

This is simply the k^{th} root of the product of all directory prices.

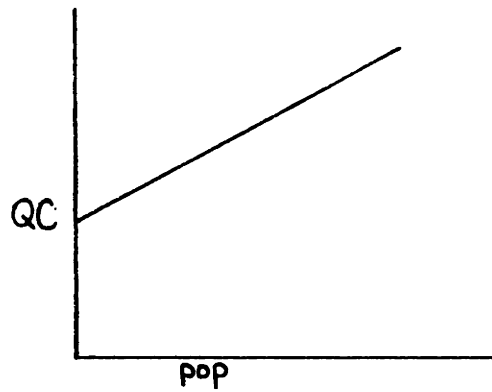
The same kind of averaging approach could be employed using cost per thousand, rather than raw cost in expressions [7.11] and [7.13].^[10]

A second approach is based on the preliminary empirical findings (which is theoretically appealing) that publishers do, indeed, have characteristic price functions (as in expression [7.10]).

I can envision three possible shapes of the publisher's price functions:

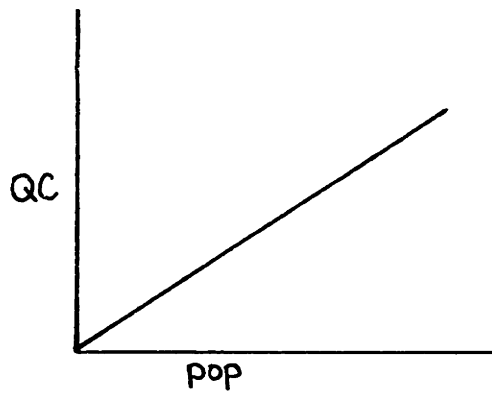
1. A linear function with an intercept.

$$QC = a + \beta (pop) \quad [7.14]$$



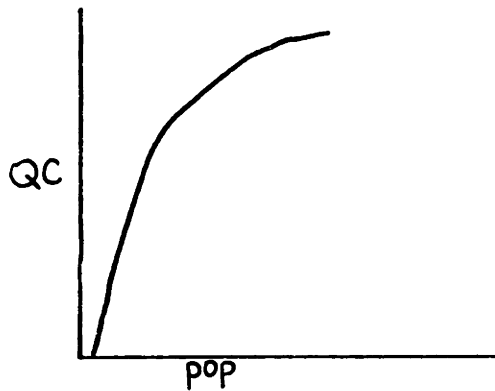
2. A linear function through the origin.

$$QC = \beta (pop) \quad [7.15]$$



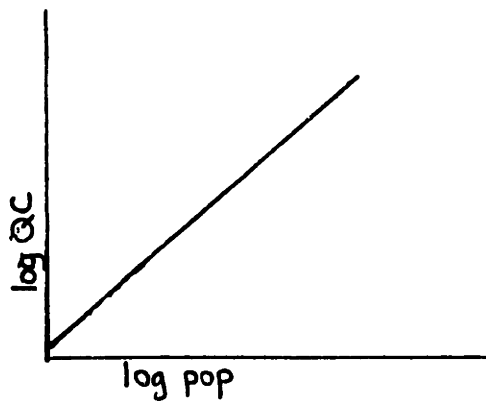
3. A non-linear function through the origin.

$$QC = a(pop)^\beta \quad [7.16]$$



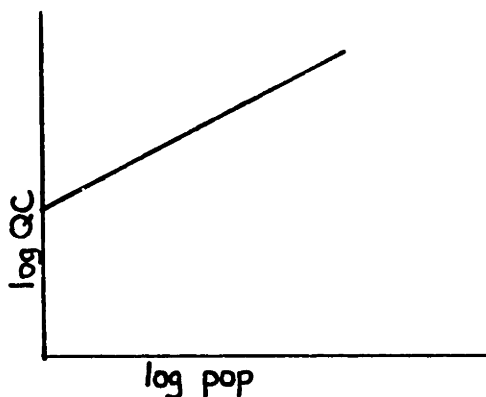
A variant of #3 which is likely to obtain, given my findings of a log, log relationship between CPM and pop is:

$$4. \log QC = \beta (\log pop) \quad [7.17]$$

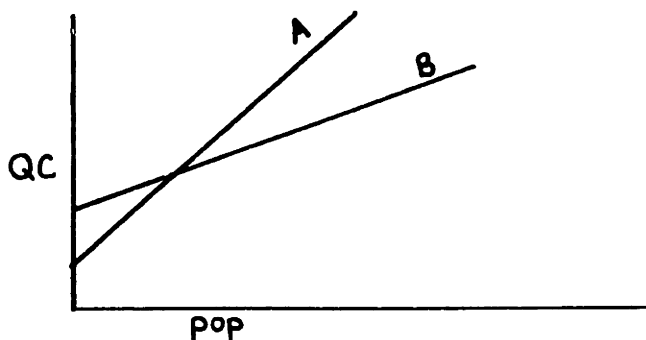


or

$$5. \log QC = a + \beta (\log \text{pop}) \quad [7.18]$$



The ideal situation is to find that all of the BOC (and perhaps GTE) price functions share the same form and vary in only one parameter, e.g., different intercepts (but common slopes) in 1 and 5, or different slopes in 2 and 4, or different a 's or β 's (but not both) in 3. If one of these models fit fairly well, then the price indicator would be the one variable parameter. A not unlikely situation might be the following:



In this case, neither the slope nor the intercept is adequate to characterize and differentiate the two publishers. Tony Wong has suggested using an interaction term like intercept x slope as the publisher's "price" indicator.

None of the price indicators I have suggested are unambiguously best on theoretical grounds. I would propose to calculate several of them and then perform a correlation analysis. If they are all highly correlated, as I expect, then I would have reason to believe that there is an underlying characteristic publisher price that they each reflect (an instance of the interchangeability of indices). If they are not correlated, I would select the one that produces the highest R^2 in expression [7.9]. I would also see if a higher adjusted R^2 in [7.9] could be achieved by using two or more relatively uncorrelated price indicators.

Once we have settled on an indicator of characteristic publisher price, we can solve for an indicator of characteristic number of ads sold per capita. Recall that expression [7.1] indicates simply that a publisher's revenue equals the number of ads sold times the price of each ad. Therefore, revenue divided by price (in this case our indicator of characteristic publisher price for a QC) yields an indicator of characteristic number of QCEs' sold (N'), and revenue per capita divided by price yields an indicator of

the characteristic number of QCEs sold per capita (A). If demand conditions were uniform across all BOCs, then a plot of A_p as a function of QC_p would suggest a first approximation of the degree of price elasticity of demand. But, demand conditions are not uniform; this leads us to our fourth question.

7.3.2.4. What determines a publisher's price?

Once we have settled on an indicator of publisher price, we can perform the simple regression analysis embodied in expression [7.9]. My prediction is that price, when appropriately modeled and measured, explains a great deal of the variance in Yellow Pages per capita revenues. But what explains the variance in publisher prices?

I see essentially two hypotheses that I will label, in quotation marks, "The Economists' Explanation" and the "Corporate Strategists' Explanation." The "Economists' Explanation" assumes that every firm optimizes its price based on local demand conditions, whereas the "Corporate Strategists' Explanation" assumes that everybody optimizes, but that some firms optimize better than others. Formally, when confronted with the following relationship,

$$\text{Per Capita Revenue}_p = f(\text{Price}_p) \quad [7.19]$$

the "Economists' Explanation" would hold that:

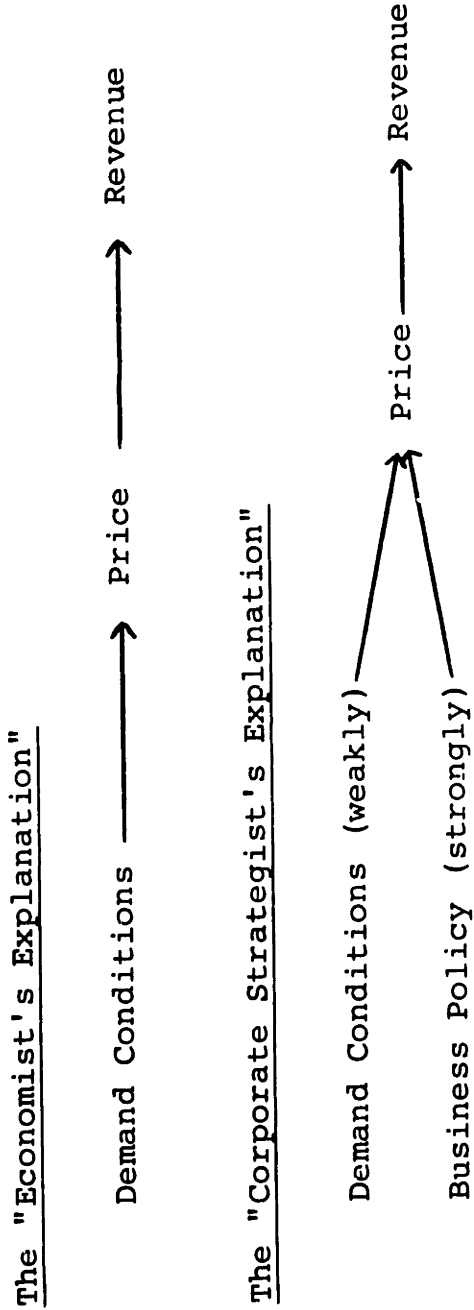
$$\text{Price}_p = f(\text{Demand Conditions}_p) \quad [7.20]$$

while the "Corporate Strategists' Explanation" would hold that:

$$\text{Price}_p = f(\text{Demand Conditions}_p, \text{Strategy}_p) \quad [7.21]$$

Figure 7.6 graphically presents the two hypotheses. If demand conditions are correlated with price and price is correlated with revenue, then demand conditions should, logically, also be correlated with revenue. I found no such correlation in my preliminary analysis and therefore I have some grounds to reject the "Economists' Explanation." But, the economist might reasonably object, "Your original regression was misspecified. You used the wrong variables to characterize demand conditions and you neglected to consider the crucial intervening factors of price and quantity. Run the regression again, properly, and you will see that 'price policy' is a much less significant factor than local demand." While I tend toward the "Corporate Strategists' Explanation," I must acknowledge that my imaginary economist has a point.

Figure 7.6
Two Causal Models To Explain Variance In
Yellow Pages Prices And Revenues



In a simplified form, my original analysis took the following form:

$$\text{Per Capita Revenue}_p = f(\text{Demand}_p) \quad [7.22]$$

and I operationalized "demand" with the following indicators:

| <u>Indicator</u> | <u>Factor</u> |
|--|-------------------|
| Population Density | Urbanism |
| Per Capita Income } Phones Per Capita } | Wealth |
| Residence Phones Per Business Phone | Business Activity |

In my exposition of Yellow Pages user behavior, I showed that urbanism and wealth are positively associated with Yellow Pages use but population density is not a terribly perspicuous indicator of urbanism. A much better indicator, which I have subsequently found and collected, is percentage of the population living in major metropolitan areas. Mobile populations need and use the Yellow Pages much more than stationary ones, so that some measure of mobility would seem essential to characterize Yellow Pages demand conditions. Percent change in population from 1970

to 1980 and percent change in population living in major metropolitan areas are two mobility indicators for which data is available on a state-by-state basis. Another important feature of demand conditions might be the availability in a given publisher's directory area of alternatives, especially in the form of other Yellow Pages directories, in which to advertise. We might capture this with a measure of overall market concentration. One such measure is the Herfindahl index which is equal to the sum of the squares of the market shares of all publishers in the relevant area (BOC territory) which might be a single state or a multi-state area.

A reasonable test of the "Economists'" versus the "Corporate Strategists'" explanations would involve the following steps:

1. Build a regression model of price as a function of demand. A plausible model is the following:

$$\text{Price}_p = a + \beta_1 \text{ Per Capita Income} + \beta_2 \% \text{ Population in Metropolitan Area} + \beta_3 \% \text{ Change in Population 1970-1980} + \beta_4 \text{ Herfindahl}_p + \epsilon \quad [7.23]$$

I have suggested several indicators of a publisher's price and it would be sound practice to either settle on one of them on theoretical grounds or test several of them

for the best fit. Likewise, it would be appropriate to run the model with different independent, predictor variables (e.g., % change in metropolitan population 1970-1980 instead of % change in total population 1970-1980). If expression [7.23], or some reasonable variant of it, explains much or all of the price variance and if price in expression [7.9] explains most of the revenue variance, then the "Economists' Explanation" receives solid confirmation. If, on the other hand, the variance explained is relatively small, as I expect it will be, then another step is in order.

2. Examine the impact of "strategic" variables on directory price. Some relevant strategic variables might include market share, number of copies of directories distributed per capita, total scale of the publisher and whether the publisher uses its own in-house sales force or relies upon an outside selling agent. Some of these variables are (more or less) under the control of the publisher, e.g., number of copies per capita. Others, like the total scale of the publisher, may be the result of an historical accident rather than a conscious choice -- Southwestern Bell covers many states while Illinois Bell covers only one. Whatever the origin of these differences, their implications may be significant. I consider these "strategic"

variables because they are endogenous to and characteristic of the publisher itself, rather than of the environment in which the publisher operates.

To explore the relationship of strategy to price, two approaches might prove fruitful. First, if the demand conditions explain little of the variance in price, price might be directly modeled as a function of strategic factors with a model such as the following:

$$\text{Price}_p = a + \beta_1 \frac{\sum \text{copies}_p}{\sum \text{pop}_p} + \beta_2 \sum \text{population} \quad [7.24]$$
$$+ \beta_3 \frac{\sum \text{copies}_p}{\sum \text{copies}_{\text{total}}} + \beta_4 \text{ Agency Sold} + \epsilon$$

In [7.24], $\frac{\sum \text{copies}_p}{\sum \text{pop}_p}$ = total number of directories

distributed by p divided by the total population served by

p and $\frac{\sum \text{copies}_p}{\sum \text{copies}_{\text{total}}}$ = market share of publisher p.

A second, related, approach might be employed if some (but not most or all) of the variance in price is explained by the demand factors embodied in [7.23]. That is, if demand explains some of the variance, how much of the rest

can be explained by strategic variables? The technique indicated to answer such a question is to regress the residuals from [7.23] on the explanatory variables in [7.24].

The "Economists' explanation" and the "Corporate Strategists' explanation" are two variants of an implicit "rational actor" model of pricing behavior.^[11] Both of these explanations assume an underlying, unitary, goal-oriented, profit-maximizing behavior on the part of the publisher. They differ largely in their estimation of the power of the publisher to set his price. The "Economist" assumes that the publisher is constrained by demand conditions while the "Corporate Strategist" assumes that strategic factors, e.g., absolute scale and market share, provide the publisher with the power to generate rents. My guess (and, until the analysis is done, it is only a guess) is that there is some validity in both explanations, that is, that underlying environmental conditions -- mobility, income, entrenched competitors, etc. -- set certain upper limits on feasible per capita revenues, but that within these upper limits, publishers have a great deal of latitude to act. Policy, e.g., to squeeze the advertisers with constant price-ups, explains much of the variance in publisher revenues, but high per capita revenues may be a

short term result. The price umbrella erected and the potential ill will generated through aggressive price policies may have serious negative long term consequences.

I expect that price (properly measured) will explain a good deal of the variance in revenues but that neither quantifiable demand (as in expression [7.23]) nor quantifiable strategy (as in expression [7.24]) will explain the variance in price. For price may be set in large part as an "organizational output," the result of longstanding traditions and corporate-cultural predispositions. I have already suggested that the politico-regulatory climate may have a profound, but difficult to measure, impact on publisher pricing policies. Just what determines Yellow Pages price and profitability is by no means self-evident. More work on the problem is in order.

7.4. SUMMARY

The spectacular growth in the Yellow Pages industry over the past decade or so has been the result of two complementary sets of policies: the introduction of new-products and the raising of advertising rates. Some new-products are truly innovative but others are effectively stratagems through which the advertiser is induced to buy more advertising (i.e., bigger quantum of space) or to pay more for the same advertising. Even such eminently reasonable innovations as Business to Business books can be seen in some circumstances -- in small markets where a single directory can adequately contain all relevant information for both consumer and industrial sectors -- as thinly veiled rate hikes. The proliferation of units and programs in recent years has been in large measure a tactic to merchandise price hikes. Pricing in the Yellow Pages is at once highly complex and critically important.

Four simple pricing rules -- (1) each directory has a price; (2) the relative prices of different units are quite stable across directories; (3) smaller ads cost more per unit of space than larger ones, while display advertising is linear; and (4) the relationship of population and price is logarithmic -- are broadly applicable across directories and publishers. A fifth rule -- that publishers follow

systematically different price policies which can be formalized as rules that map from population size to price -- explains much of what appears at first blush as arbitrary and chaotic pricing behavior.

Different Bell Operating Companies generate very different per capita Yellow Pages revenues. The differences in per capita Yellow Pages income are much greater than the differences in overall BOC revenues and my first question was simply: How or by way of what mechanisms can it happen that similar enterprises owned and controlled by the same corporate parent generate such different revenues from the same line of business? Since standard economic and geographic variables seemed to explain little of the variance in per capita Yellow Pages income across major (BOC) publishers, I suggested that price policy may be a key to the explanation. The remainder of the section on price policy is given over to the elaboration of a methodology to explore the relationship of publisher price, revenue, and policy. How can we characterize a publisher's price to permit a regression analysis of the relationship of price and revenue? Once we have settled on a good indicator of price, what can we say about the relation of price to quantity sold? As price goes up across publishers, does quantity sold decrease, remain constant, fluctuate, or even

increase? To what extent is price charged a function of local demand conditions? Do all publishers optimize price with respect to demand or is the demand for Yellow Pages advertising inelastic with respect to price? How do strategic variables, such as market share, absolute scale, and market penetration (i.e., copies per capita), relate to price charged? To answer these and related questions about directory pricing would require a large scale, detailed analysis of an enormous data set.^[12] This kind of analysis is beyond the scope of the current inquiry, though I fully intend to carry it out in the future. In my discussion of price policy, I have attempted to lay the groundwork for future study. The logic and the modeling approach that I have proposed could also be used in the study of less arcane advertising media.

Implicit in my formulation of the "corporate strategists'" hypothesis about the etiology of directory pricing differentials is a notion that "the market" and competition play a relatively small role in the establishment of directory prices and, by extension, that BOC publishers have been able to set their own prices based on their own internal decisions. The further implication is that in each market there is a dominant publisher which has traditionally been able to exert market power to achieve its

profitability and growth goals by way of price policy. In Chapter 8, I discuss the nature of buyer/seller interactions and characterize the relative power of various players in an introduction to the structure of the pre-divestiture Yellow Pages industry.

FOOTNOTES
(CHAPTER 7)

- [1] It was the changes in shopping patterns that provided impetus for Feldman's work in the mid-1960s on shopping patterns and directory scoping, Cf., Feldman (1965).
- [2] With the spate of recent regulatory and court decisions striking down prohibitions against professionals' advertising, the Guide sections, which are entirely advertiser-supported, as well as in-column and even, in the case of lawyers (but not yet physicians in the 1983 Boston Yellow Pages) display advertising for professional services has grown significantly.
- [3] The present analysis is based largely on the December 1982 edition of NYPSA's Market Rates and Data.
- [4] In the Quick Reference Cost Study, the sum of each rate column is broken out by directory population.
- [5] Not all directories sell all units. Semi-Bold units and Triple Quarter Column units correlate with all the others in the range of .85 rather than .99. This is in large measure a reflection of the fact that many directories simply do not offer these units.
- [6] A Quarter Column is 2.5 column inches long. Thus, 1 QCE = 2.5 column inches. A Bold Listing = .125 column inches = .05 QCE, etc.
- [7] This is a sample of 46 directories serving the Philadelphia market compiled by the Wahlstrom & Co. Advertising Agency.
- [8] For the sake of consistency, I used the population data and the cost per QC in the December 1982 Rates and Data

book rather than the city size data and cost per Double Half Column cited by Klienfield.

[9] Expression [7.7] suggests that publishers also have a characteristic number of QCEs function such that:

$$n'_{ip} = g_p(\text{pop}_i, \epsilon)$$

where

n'_{ip} = the number of QCEs sold in directory i published by p and g_p is a publisher-specific function.

No available data allows us to estimate g_p directly, but some logical boundaries can be proposed. The number of QCE sold per capita must be between 0 and 1, formally:

$$0 < \alpha_i < 1$$

therefore

$$0 < n_i < \text{pop}_i$$

But, there is no data to allow us to claim, as we can in the case of the price function, that g_p is well be-

haved and linear, logarithmic or even monotone increasing. The number of pages in a directory is a good surrogate measure for n' .

[10] Using cost per thousand in expression [7.12] simply reduces it to [7.11].

[11] Thanks to Mel Horwitch who pointed out the applicability of Allison's (1971) three models to the directory pricing question.

[12] The NYPSA's Rates and Data book can be conceptualized as a 6,000 by 25 data matrix. Including the economic, demographic and strategic variables that I have discussed in this chapter -- e.g., per capita income,

percentage of population in metropolitan areas, and Herfindahl index -- would expand the matrix to 6,000 observations (directories) by 50 or so variables.

8. ASPECTS OF CORPORATE STRATEGY

8.1. INTRODUCTION

In this chapter I treat some aspects of corporate strategy in the pre-divestiture Yellow Pages industry. Having, in the last chapter, discussed two aspects of business unit strategy, product and price policy, here I treat the structure of the Yellow Pages industry and then I, assuming a "Chief Executive Officer's perspective," consider the Yellow Pages as one business (and the industry as one competitive domain) in the diversified portfolio of a multi-division corporation operating in a number of more or less related industries.

The first section examines who are the buyers and who are the sellers in the industry and on what terms buyers and sellers interact. Next, I deal with the relative power of various players in what Porter (1980) calls the "extended rivalry" of industry competition. Historically, the Yellow Pages has tended to be a quasi-monopoly with a single dominant player -- the telephone utility -- in each market. I discuss the structural features and the cultural milieu of the industry that have given rise to its quasi-monopoly character.

In the next section, I attempt to illuminate those aspects of the Yellow Pages business that might be of especial interest to "the Chief Executive Officer (CEO)" of a diversified company in which any given Yellow Pages operation is a part. The first issues I treat are organizational. Is the Yellow Pages a functional department (as in the Bell Operating Companies and in several of the large advertising agencies), or is it a separate division with its own President (as in GTE, Foote Cone & Belding, Continental Telephone, and Dun and Bradstreet), or is it a free-standing business such that the President of the Yellow Pages business is the President of the entire corporation (as at L.M. Berry and some of the specialized Yellow Pages advertising agencies)? Identifying the organizational position of directory in different companies provides a clue to the perceived centrality or peripheralness of the Yellow Pages business to the corporation. I present a comparative analysis of the contents of GTE and AT&T annual reports to suggest that GTE's centralization of Directory in a separate operating division has made the Yellow Pages more visible at GTE than is the much larger but highly decentralized directory function at AT&T.

Having located Yellow Pages within the organizational context, I next discuss just how the Yellow Pages

enterprise relates to other lines of business in the corporation. I argue that while directory service is intimately related to local exchange service and the production of a directory requires as key inputs by-products of the production of local exchange service, directory is fundamentally different from the rest of a telephone utility's business. The skills, temperament, and orientation required to put together a directory are far different from those required to provide common carrier telecommunications service. The decision to separate these activities organizationally -- either through specialized directory subsidiaries or through the use of outside vendors -- is understandable. The decision not to separate them and to apply standard operating procedures from the common carrier business in the directory business can cause disharmonies.

The CEO must be especially concerned with the bottom line profitability of the businesses in his portfolio. I recast the New York Telephone cost and revenue data (Form SN994) and show that the Yellow Pages publishing is a remarkably lucrative business. Moreover, its low investment requirement coupled with its high cash flows make it particularly attractive to balance the portfolios of the highly capital-intensive telephone utilities. The Yellow Pages is a business with very high market share and high growth

which, unlike most "stars," throws off substantial cash flows, like "cash cows."

By way of summary, following Christensen, Andrews and Bower (1978), I provide a capsule statement of pre-divestiture AT&T directory strategy, showing how product, price, sales, and manufacturing policies have been integrated in this high growth, high profit business. I contrast aspects of Bell's strategy with that of some other major players and show how it is that different corporations have strategically related Yellow Pages to other lines of business, resources or expertise in the corporation.

It has been argued that the Yellow Pages business, in order to attain its profitability and social welfare potential, should not be owned and controlled by a rate-of-return regulated utility. Even a cursory examination of the data -- on, e.g., new products, technological innovation and growth -- generates powerful counterpoints to this argument, but the insight that the Yellow Pages is very different from the rest of a utility's business is valuable. I then reflect on the implications of the strategic centrality of selling in the Yellow Pages business and conclude by speculating about the trajectory for the industry's future growth.

8.2. AN INTRODUCTION TO THE PRE-DIVESTITURE YELLOW PAGES INDUSTRY STRUCTURE

8.2.1. Buyers And Sellers

There are at least three distinct sets of "customers" -- users, advertisers, and publishers -- in the Yellow Pages industry. Business and residential directory users make up the first set. In markets where two separate local telephone utility franchises meet, utility publishers may compete head to head for the custom of the audience living at the cusp. (Such direct telephone company versus telephone company competition for user is not terribly significant.) The competition of a nonutility directory for user patronage may be much more important because such competition is normally based on the differential preferences of particular user segments for differently scoped directories. This kind of competition can be understood in more formal terms by recasting Figure 2.3 as a perceptual map. The indifference curve of Figure 2.5 is now with respect to the two dimensions of scope (Geography and Product Market Focus). A user selects the one competitively scoped directory which is tangent to his indifference curve.

In product markets, where the non-utility publisher's scoping decisions are more appropriate than those of the

utility, the little non-utility publisher can be a formidable competitor. A study commissioned by the Association of North American Directory Publishers (ANADP) and carried out by J.D. Powers & Associates in the late 1970s, indicates that people are aware of and use local non-utility directories. Moreover, users of non-utility directories were particularly likely to be frequent Yellow Pages users and to have demographic characteristics -- youth, high income, and large family size -- of particular interest to advertisers. A study conducted by Creative Research Services for Yellow Book Corporation indicates that among Nassau County residents, 80% use the non-utility directory (76% at least once a month) and that 39% preferred the non-utility Yellow Book directory while only 21% preferred the New York Telephone Nassau County book. Yellow Book puts out a particularly useful directory, but overall nationwide, the Foote, Cone & Belding/Wahlstrom study (1981) found that only 14% of respondents were aware of owning a non-utility directory, so the extent of such competition is highly various. Independents publish about 1,000 books, or 17% of the total number of directory titles, but they earn only about 5% of the total advertising revenues (Sherrid, 1983).

Wise scoping decisions by the dominant publisher can effectively preempt entry by non-utility competitors. Again, referring back to Figure 2.3, note that there is no reason why a single publisher cannot occupy every niche on the map. Because the Yellow Pages content is already stored in electronic form, utility publishers, with the entire broad area data base on line, are able to create differently scoped directories at relatively little incremental expense. Given an exhaustive set of listings, production is a simple matter of reformatting part of the data base and electronically photocomposing it. Even if the dominant publisher does not preempt competition from a non-utility directory publisher, that is, even if a non-utility publisher finds a niche and builds a business, the dominant publisher may choose to take over the niche. For example, GTE Directories began publishing a series of Business to Business directories in Bell territories not yet publishing such directories. Southwestern Bell retaliated by publishing its own more comprehensive, higher circulation Business to Business book in direct competition with GTE. When GTE decided to pull out of the Business to Business market in Texas, Southwestern Bell also stopped publishing its book. The message was clear: this is Southwestern Bell territory and we will brook no major competitive entry.

While end users are the ultimate customers of the directory, they do not pay for its use. Rather, in this entirely advertiser-supported medium, a second category of directory customers -- the advertisers -- pay to get their messages before the end user. Direct competition for users is not likely to take place between publishers in adjacent geographical areas. But, such neighbors might well compete for the same advertising dollars. A Camden, New Jersey user is likely to find in his local directory advertising for businesses in Philadelphia and a Hoboken, New Jersey user is likely to find advertising in his local directory for businesses in New York City. In the pre-divestiture days when publishers serving major metropolitan centers were almost certainly part of the Bell System (even if they were in different operating companies), out-of-town sales were handled in a "gentlemanly" manner. Local salesmen "sold into" out-of-town books and were commissioned for their sales. Such sales, though, were not aggressively pursued because the local sales management received no credit for foreign sales. Utility and non-utility publishers compete for the same, limited, advertising revenues.

The final set of customers consists of telephone companies, especially those that are not fully integrated

publishers. The publisher stands between the advertiser and the directory user -- literally and figuratively mediating between these two customer groups -- and various intermediaries (advertising agencies, authorized selling agents) and suppliers (paper companies, photocomposition houses, computer service vendors, printers, delivery agents, etc.) participate in the production chain. There is some competition in the paper, ink, and printing markets. But, historically, the Bell System has tended to establish long term supply relationships at a premium cost rather than to suffer the vicissitudes of uncertain spot markets.^[1] Based on recent trends in consumption and cost, I have estimated that paper for directories will cost nearly \$460 million in 1985. This is a significant amount of money. But, paper accounts for less than 12% of total directory costs while sales and compilation account for 70%. To understand Yellow Pages industry structure, we need to examine how publishers accomplish the sales and compilation functions.

Different publishers make very different decisions about how to organize these functions and I was struck by the welter of possible ways of putting together a directory operation:

- . Some BOCs are fully integrated publishers.

- . Some BOCs are partially integrated publishers.
- . Some BOCs do not publish their own directories.
- . Some independent telephone companies publish their own and others' directories.
- . Some selling companies are sometimes publishers working for the local telephone company.
- . Some independent, "non-utility," publishers have no formal relationship with the local telephone company.

These different arrangements reflect different basic make-buy decisions which naturally lead to different levels and styles of vertical integration. Only GTE, among the telephone directory publishers, approaches the degree of vertical integration realized by R.L. Polk, the city directory publisher, which not only hires its own enumerators to collect the basic data and maintains its own data processing and sales staffs, it prints its directories in its own plants and even delivers them to each customer (the only things Polk does not do is to make its own paper and ink).

Small, independent telephone companies (e.g., cooperatives serving rural areas, etc.) for the most part do not have the facilities or expertise to sell and compile and produce their own directories and so contract the entire task to an outside service provider for end-to-end, turnkey directory service. An article entitled "Directory Service

Compilation Center Does It All For Its Telco Customers" (Telephony, June 25, 1979, pp. 34-35) describes the scope of Reuben H. Donnelley Corporation's Yellow Pages service:

- "- Generate sales leads for the Yellow Pages.
- Support sales efforts with market research and, if required, personnel.
- Prepare for composition the actual information and materials to be printed.
- Design and create page layouts to meet client specifications.
- Produce the metal plates or the photographic films from which the directory will be printed.
- Obtain estimates and schedules on printing of the books.
- Print the directories, including covers and informational material.
- Bind the pages together with the cover.
- Ship and deliver to telephone companies in bulk or directly to individual subscribers."

I would amend this list only to add that in addition to generating sales leads, Donnelley also sells ads. In its two-page advertisement in Telephony's Directory 1981, L.M.

Berry lists the following capabilities:

"Sales, compilation, production, traffic records, addenda, cover design, printing, delivery, foreign billing and collection, national selling, publishing, billing and collection."

It is not only small, independent telephone companies that turn to outside providers for directory service. R.H. Donnelley is the publisher, as well as the selling agent, etc., for Illinois Bell and Cincinnati Bell and we have seen that New York Telephone follows a partial integration strategy by doing a good deal of its own White Pages compilation while farming out sales and most of Yellow Pages production. Some telephone operating companies (e.g., Southwestern Bell and Pacific Telephone) act as fully integrated publishers, maintaining sales, compilation and production as in-house functions. Not only is there little consistency across operating companies -- even within the Bell System -- but within the same company, different procedures obtain. Thus, while most of New York Telephone's sales are handled by Donnelley, Berry covers one small area (about 10%) of upstate New York and the compilation function is handled differently in different parts of the state. In New Jersey, half the state is "agency-sold" (i.e., by an outside selling agent) and half "company-sold" by New Jersey Bell. Table 8.1 indicates how some major telephone companies organize the selling function.

There is a good deal of competition among the major selling company/publishers -- R.H. Donnelley, L.M. Berry, GTE Directories, and Leland Mast -- for the privilege of

Table 8.1

Telephone Companies And Their Selling Agents

| BOC | New ROC | Selling Agent |
|------------------------------------|---------------|---|
| New York Telephone | NYNEX | R.H. Donnelley & L.M. Berry |
| New Jersey Bell | Bell Atlantic | National Telephone Directories and Internal |
| Pennsylvania Bell | Bell Atlantic | R.H. Donnelley |
| Diamond State Telephone | Bell Atlantic | R.H. Donnelley |
| C&P Washington D.C. | Bell Atlantic | R.H. Donnelley |
| C&P W. Virginia | Bell Atlantic | R.H. Donnelley |
| C&P Maryland | Bell Atlantic | R.H. Donnelley |
| C&P Virginia | Bell Atlantic | R.H. Donnelley |
| South Central Bell | BELLSOUTH | L.M. Berry |
| Cincinnati Bell | Ameritech | R.H. Donnelley |
| Ohio Bell | Ameritech | L.M. Berry and Internal |
| Illinois Bell | Ameritech | R.H. Donnelley |
| Wisconsin Bell | Ameritech | L.M. Berry |
| All Other Bell Operating Companies | | Internal |
| Independents | | Selling Agent |
| GTE | | GTE Directories |
| Continental Telephone | | Leland Mast |
| United Telecoms | | L.M. Berry and R.H. Donnelley |
| Rochester Telephone | | L.M. Berry |
| Central Telephone | | R.H. Donnelley |

NOTE: L.M. Berry is the dominant selling and compilation firm for the independents while R.H. Donnelley's base is in the Bell System companies. Berry, Donnelley, Mast, and GTE all compete for independent telephone company contracts.

serving small, independent telephone companies, and the same U.S. firms compete in the international arena to provide Yellow Pages services to foreign Post, Telegraph, and Telephone authorities. A significant portion of GTE Directories' business comes from serving GTE's overseas telephone operating companies and providing Yellow Pages service from London to Singapore.^[2] R.H. Donnelley recently lost a major British Telecoms contract for the United Kingdom market to GTE Directories and L.M. Berry/ITT. Donnelley has joined its erstwhile partner, the Thompson Organisation, in the publication of "non-utility" local directories in the United Kingdom. In the international realm, explicit joint ventures, e.g., between ITT and L.M. Berry or between R.H. Donnelley and the Thompson Organisation, are unexceptional.

The competition for independent telephone company and international service contracts has heated up in the past five years or so, but the total magnitude of this business is relatively modest. The Bell System accounts for about 80% of U.S. phones and GTE for another 10% or so. GTE telephone operating companies are a captive market for GTE Directories. Above all, the make-buy decisions of the Bell Operating Companies have been remarkably stable, remaining essentially unchanged for at least the last 15 years.

Integrated BOCs (e.g., Pacific Telephone) have continued to do it all in-house while non-integrated ones, like New York Telephone or Illinois Bell, have continued to buy services from the same supplier year after year. Service contracts tend to run five years or more and have been routinely renewed.

The relationship between the telephone operating company and its sales agent has not, as far as I am aware, been characterized formally as a joint venture, nevertheless, the owner/seller dyad is quite similar in spirit to one. Two firms enter into a long term, mutually beneficial relationship. Their staffs work cooperatively to plan and produce the product. To the party the telephone company brings the service order information, and sometimes the compiled White Pages listing. The seller brings a sales force and, if necessary, the resources to compile and produce the directory. Rather than receiving a fee for its services, the selling company receives a substantial commission on sales and so both owner and seller share a motivation to realize the maximum sales in the short run and to build a solid and growing business in the longer run. Because of their common motivation and the (generally speaking) long term relationship, the seller and the owner can be seen as partners.

8.2.2. Power And Monopoly

Following Porter (1980) we can characterize the "underlying structure" of the 1983 Yellow Pages industry in terms of the relative strength or power of 1) competing publishers, 2) buyers, 3) substitutes, 4) suppliers, and 5) entrants. Among Yellow Pages publishers, the dominant utility publisher (i.e., the local telephone company or its publisher/agent) is overwhelmingly powerful. Non-utility publishers may be niche players but only to the extent that they can differentiate their product. To the extent that the scope and presentation of the non-utility books are more attractive to users than the utility directory and to the extent that the non-utility publisher is willing to charge less and make less than the local telephone company (i.e., to operate under the dominant publisher's price and profit umbrella), he can have a viable business. But, if the utility publisher chooses to do so (and absent governmental antitrust constraints) he can effectively undercut the competition as Southwestern Bell did to GTE Directories in Texas. Competition from other publishers -- non-utility and out-of-town -- is present, but, in general, relatively weak. Historically, the utility publisher has maintained at least a 70% market share in the relevant territory.

While telephone-based classified directory services are available in two or three markets, in the pre-divestiture era there were effectively no substitutes for the Yellow Pages. Because of this lack of substitutes and the relatively modest coverage of non-utility directories in most markets, the advertiser is constrained to use the telephone company's Yellow Pages much as he may not want to. The frequent complaints of Yellow Pages advertisers in the face of growing Yellow Pages advertising revenues is ample evidence of the lack of power of buyers vis-a-vis the dominant publisher.

I have suggested that telephone operating companies and their selling agents can be seen as partners, but the partnership is not one of equals. Selling and compilation is the sole business of an L.M. Berry or R.H. Donnelley, while directory is just a small portion of an Ohio Bell or New York Telephone. Thus, the selling company tends to be far larger than the Yellow Pages department it serves. But, if the Berry Yellow Pages business is far bigger than that of Ohio Bell, the combined Bell System companies directory operations are much bigger than Berry. In the pre-divestiture era the Bell System qua System, acting through the local BOC, was firmly in control and the senior member

of the seller/owner partnership.^[3] Through astute decisions 50 years ago, L.M. Berry has been able to gain some leverage vis-a-vis some of its independent telephone company customers. During the Depression, Berry provided directory services to cash-short, small telephone utilities in exchange for stock in those companies. Ties of tradition and an equity position have tended to make the Berry/Independent relationship somewhat more equal than the Donnelley/Bell one.

In most cases, the local utility publisher has overwhelmingly dominated the "extended rivalry" embodied in the four major competitive forces -- "threat of substitution, bargaining power of buyers, bargaining power of suppliers and rivalry among current competitors" (Porter, 1980, p. 6). Is the Yellow Pages, then, a monopoly; and if it is, how can we characterize the nature of entry barriers in an information industry?

The California Public Utilities Commission (1982) makes an interesting argument about the "natural" monopoly character of the Yellow Pages business. The argument takes the following form:

1. A directory, in order to be useful, must be "comprehensive" in at least two respects. First, from the subscriber's point of view,

it must list "all businesses in the relevant service territory" since it would be of "considerably less value ... if a significant portion of businesses were not listed." Second, from the advertiser's point of view, all subscribers should receive the directory.

2. One and only one directory is the "ideal number to serve a territory. Advertisers would prefer to choose the directory most widely in circulation. Subscribers would prefer the most comprehensive book."
3. Directory advertising involves mostly fixed costs with declining marginal costs.

"The result of these characteristics is that directory advertising competition would be unstable, and ultimately only one directory service of comparable scope would be likely to survive in any service territory. In a hypothetical competitive directory advertising market one should expect something like the following to occur. Each competitor, recognizing the need to offer the most comprehensive set of listings, would lower advertising rates and adopt aggressive distribution strategies to persuade subscribers to use its book instead of its competitors'. Because this is a declining cost industry, these tactics would lead to serious losses among competitors until every advertiser save one is driven out. The remaining advertiser could establish a comprehensive system, charge

high rates, and enjoy favorable returns. This end result is, of course, exactly the nature of the market now, except that the favorable returns are employed to support relatively low rates for local exchange telephone service."

(p. 52)

4. There are no adequate substitutes for Yellow Pages. While new technologies might provide substitutes in the future, for now the business is a natural monopoly.
5. The Yellow Pages is an integral part of the BOC's local exchange business.

Caves (1977) suggests a general empirical test for monopoly based on the "normality" or "excessiveness" of typical profits in an industry.

"Profits greater than normal which we cannot lay to risk or windfalls must arise from the one remaining cause: unvarnished monopolistic restriction of output."

(p. 69)

The Yellow Pages is a mature, relatively risk-free enterprise that consistently generates higher than "normal" profits -- typically, telephone companies achieve returns on sales of 50% in their Yellow Pages operations -- which cannot be ascribed to windfalls. Therefore, by the

"excessive" profits test, the Yellow Pages is probably a monopoly.

Pool (1982) discusses the instability of competition in the domain of any specialized information service (of which the Yellow Pages is one), arguing that as one service becomes more comprehensive or reliable than another, it will draw more customers, lower its marginal costs, and drive the other service out of business. This is very much the same story as is told of competition in the local exchange business and it resembles the argument made by the California Public Utilities Commission. But, Pool qualifies the extent to which a specialized information base is a natural monopoly, insisting that "such monopolies ... are narrow" (p. 21). In fact, if we read the California Public Utilities Commission argument closely, we see that it implicitly concedes the narrowness of the natural monopoly in Yellow Pages services by qualifying its assertions with phrases as "in the relevant service territory" and "only one directory service of comparable scope [emphasis added]. Both Pool and the California Public Utilities Commission highlight the "natural" monopoly of a single, comprehensive directory and both argue, Pool explicitly and the CPUC implicitly, that competition at the fringes is possible. It is precisely this kind of marginal competition that we see

in the non-utility directory business and so local "quasi-monopoly" is probably an accurate characterization of the Yellow Pages business.^[4]

The Yellow Pages, if not strictly speaking a monopoly, is still a highly concentrated and highly lucrative enterprise. By way of summary, it will be useful to delineate more precisely the nature of entry barriers in the industry. First, there is the natural monopoly inherent in any specialized data base: two comprehensive Boston Yellow Pages directories are less useful to the advertiser and to the user than one, and as theory would lead us to expect, we do not find long term competition between identically scoped books. Related to the natural monopoly in data bases is a series of economies of scale that are typical of the Yellow Pages business. Large telephone company publishers realize classical economies of scale, i.e., declines in the cost of producing a directory as the absolute volume of directories produced in a given year increases (Cf., Porter, 1980, p. 7). These scale economies are present both because the utility producer produces lots of identical directories (e.g., 1,750,000 in Chicago) and because the same basic production facilities are used to produce many different directories. Not only is the large publisher able to share facilities costs across a number of

products (directories), we saw that the same raw material (the listing control file #1 on Figure 2.1) can be reused and repackaged in differently scoped directories. A second kind of scale economy inheres in the sharing of joint costs between multiple lines of business. The provision of local exchange service necessitates the compilation and publication of White Pages directories. The California Public Utilities Commission (1982) points out that delivery costs for Yellow Pages are shared with those of White Pages, but a more important cost consideration is that some of the raw material of the Yellow Pages is a by-product of local exchange services. (The sharing of joint costs across several lines of business can be seen as an instance of economies of scope.) To the extent that the telephone company has or can maintain bottleneck control over the service order information (the by-product), it can erect powerful barriers to competitive entry.

The telephone companies have been in the classified directory business for more than 100 years. They have certainly achieved economies due to experience (i.e., due to cumulative volume over time as distinct from economies of scale due to production volume in a given period) in e.g., organizing a sales force or compiling and manipulating huge data bases. As I pointed out in Chapter 2, the production

system represented in Figure 2.1 is not difficult in principle to design or build, but to operate it at very low cost with the level of reliability at the volume required by a directory operation requires very special skills that have taken time to learn (Cf., Telephony, June 25, 1979, pp. 34-35).

A final, crucial entry barrier is immanent in the cost structure of the industry. Nearly 50% of the cost of producing a directory is for sales. In order to enter in a credible fashion, the new player must either assume a niche or be prepared to match or to exceed the monumental selling expenses involved in directory production -- this without a cash flow from an established directory product and subject to the risk of predatory price cutting from the dominant producer. Selling costs in the Yellow Pages industry play the same role as national T.V. advertising in some consumer frequently purchased goods industries.^[5] Both Yellow Pages selling and national T.V. advertising (in contrast to advertising in the Yellow Pages) involve very high entry thresholds and are nondivisible. Replacing the word "advertising" with "Yellow Pages selling" does no violence to the Porter quote cited earlier.

"[Yellow Pages Selling] leads to entry barriers because its provision is subject to economies of scale, creates absolute

advantages for going firms and enhances the capital required for entry into an industry."
(Porter, 1976, p. 401)

To this list of structural determinants of competition or monopoly must be added a cultural one. The Yellow Pages industry has a well-deserved reputation for "toughness." Sales people are trained and compensated to be aggressive. A kind of "if they don't like it they can lump it" attitude with respect to the advertiser prevails. Top management tends to come up through sales and executives talk about having "the guts" to raise prices in the face of advertiser protest as being the key to success and growth. The industry is not used to competition; in fact, some executives seem to take it as an affront. The directory industry has a venerable tradition of anti-competitive practices. As early as 1954, R.L. Polk, the city directory publisher, was constrained by an antitrust consent decree not to enter into any additional markets with its city directory business.^[6] As I reconstruct the story, Polk's practice was to enter a territory served by another publisher and, taking advantage of its already substantial cash and selling resources, would underprice to outsell the existing publisher who would then either go out of business or be absorbed by R.L. Polk. This is precisely the scenario outlined by the California Public Utilities Commission and

provides empirical historical support for their case about the monopoly character of the Yellow Pages industry.

Fletcher McLelland, President of the Cambridge, Massachusetts Phonebook Corporation, feels that New England Telephone went out of its way to make his recent competitive entry more difficult, but the actions involved were subtle and certainly subject to other less dire interpretations. The actions taken by L.M. Berry Company in response to a private suit alleging collusive and anti-competitive national advertising practices by Berry, GTE Directories, Pacific Telephone and the National Yellow Pages Service Association, are hard to misinterpret and are emblematic of the "macho" or "hard ball" culture of the Yellow Pages industry. In one fell swoop, Berry filed 43 counter suits in separate state court jurisdictions. U.S. District Court Judge Robert Takasugi then issued a 10-page order enjoining Berry from pursuing the suits, arguing that they were "in furtherance of an anticompetitive scheme used as a bludgeon to retain a monopoly and to interfere with the business relationships of a competitor" [emphasis added] (Advertising Age, June 16, 1980, p. 14).^[7]

I underline "bludgeon" because I think the Judge chose a particularly fortunate image to characterize industry members' response to competition. Porter (1980) says:

"If existing competitors are expected to respond forcefully to make the entrant's stay in the industry an unpleasant one, then entry may well be deterred."

(p. 14)

He then lists some conditions that signal the "strong likelihood of retaliation to entry." These include a history of retaliation, entrenched firms with substantial resources, and firms with a particularly strong commitment to the industry. All of these conditions obtain in the Yellow Pages industry. In sum, along with the natural monopoly quality of any specialized data base, the Yellow Pages is an industry of important economies of scale, scope and experience, one where a key input is a by-product of one set of producers (i.e., phone companies), and where a cult of "toughness" is reinforced by conditions favoring strong retaliation and a historical willingness to retaliate. It is hardly surprising, then, that this highly profitable industry has seen no major new entrants in over half a century.

8.3. A VIEW FROM THE TOP: YELLOW PAGES IN THE CORPORATE PORTFOLIO

Up to now, I have taken the Yellow Pages enterprise to be a free standing business unit. In some companies this is the case, but for most large players in the industry the Yellow Pages is only one business in a more or less diversified portfolio of businesses. In this section, I take what might be characterized as the "Chief Executive Officer's Perspective (CEO)" to investigate the role of the Yellow Pages in the larger corporate context. The first issues we must consider in such an investigation are organizational: if we are to understand the CEO's point of view on the Yellow Pages business, we need to know where he sits. Who is "the CEO?" How far from the Yellow Pages business is he?

The organizational position of the Yellow Pages in the larger parent varies a great deal from industry sector to industry sector and even from company to company in the same sector. In the specialized Yellow Pages advertising agency sector, for example, a variety of organizational schemes are employed. There are some strictly free standing Yellow Pages advertising agencies in which the president of the agency is the CEO of the parent company (or, put differently, there is no parent company). In major,

multi-purpose, advertising agencies with Yellow Pages billings of over \$10 million per annum, the Yellow Pages is frequently just a department (and not necessarily a very large department) that generates a strong cash flow but that has relatively little visibility at the highest levels. Some Yellow Pages agencies are free standing divisions of larger ad agencies, for example, Wahlstrom & Company is a large Yellow Pages agency but a relatively small division of the enormous multi-national Foote Cone & Belding organization.

L.M. Berry, which sells Yellow Pages advertising and compiles directories for Bell and independent telephone companies, is a family owned, single product line business with 1982 sales of over \$500 million. At Berry, as at the much smaller, self-contained Yellow Pages advertising agencies, the Yellow Pages business is the entire business so there is little meaningful distinction between business unit strategy and portfolio strategy. R.H. Donnelley, a company in basically the same business as Berry, is a unit in the large and diversified portfolio of the Dun and Bradstreet Corporation. The president of Donnelley has several General Managers of geographically defined divisions reporting to him, but in terms of portfolio strategy,

"the CEO" sits in Dun and Bradstreet corporate headquarters in New York.

The organization of communication and control of the Yellow Pages within different telephone companies is, again, highly various. Traditionally, in the Bell System, each operating company has been separately responsible for its own directory department. AT&T's role was (at least until the mid-1970s) strictly to provide advice and coordination of tasks like heading selection. The "President," then, for most of the history of the Bell System's Yellow Pages operations was not the CEO of AT&T, but rather the president of the operating company. Except in the very largest of the operating companies, Yellow Pages was a relatively small business under the control of a high level manager or a relatively low level vice president.

At GTE and Continental Telephone, two of the large, independent telephone companies, the organizational niche of the Yellow Pages is very different from that assigned to it in the Bell System, for in these two companies, directory publishing is a separate division under its own president. Here is how James V. Napier, President of Continental Telephone, characterizes the arrangement:

"Our directory company is Leland Mast. Since it's part of our Continental family, but a completely separate operation, it's like being served by an outside, yet an inside

directory company. Our personnel and theirs work very closely together. The directory salespeople are headquartered in Kansas City, so that they come into the area at the time of the canvass.

"People might say that with your own directory company there's no pressure to perform; but with us, each subsidiary is separately responsible. Each has goals and objectives. We certainly don't have any problems with our directory operation. And there's good public relations because customers feel it's all part of the Continental company. What's more, we've been able to double the revenue by doing it internally."

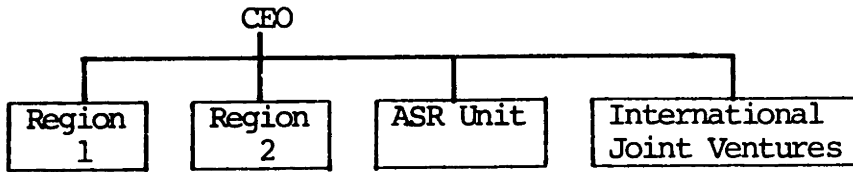
(Telephony, October 6, 1980, p. 156)

Figure 8.1 presents, in a highly simplified and schematic manner, four different ways in which the Yellow Pages business is organized in major corporations in the industry. L.M. Berry (panel 1) is essentially a single business firm organized into regions with some cross-cutting functions (i.e., the national ASR business is handled centrally). Most non-utility publishers and some specialized Yellow Pages advertising agencies follow this same basic paradigm. GTE Directories (panel 2) is a division of GTE, and GTE Directories President reports to the CEO of GTE. The same basic structure is followed at Continental Telephone (with its Leland Mast subsidiary) and, on the agency side, at Foote, Cone & Belding with its Wahlstrom subsidiary. At AT&T before the divestiture (panel 3), there was a small headquarters staff unit but operational control was in the

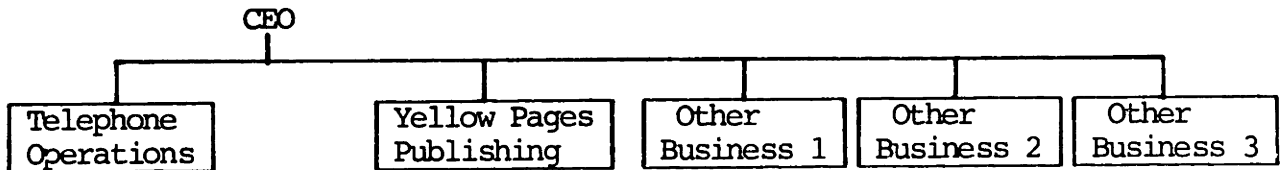
Figure 8.1

Schematic Rendering Of The Organizational Position
Of The Yellow Pages Business In Four
Major Corporations

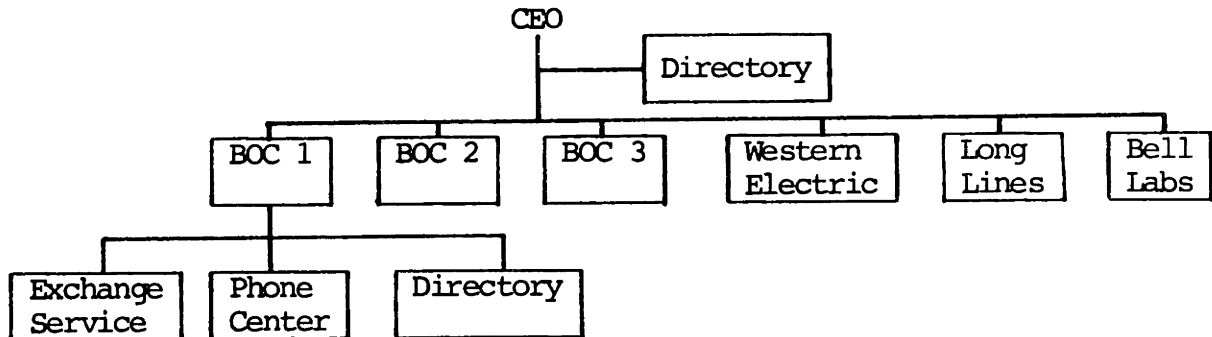
(1) L.M. Berry



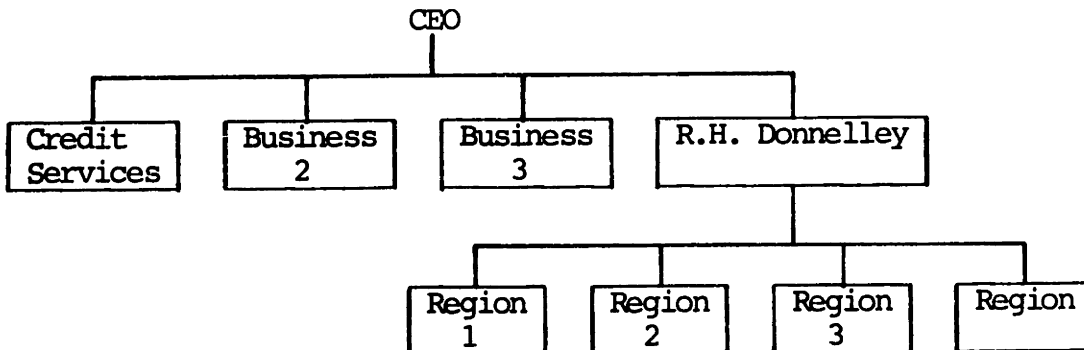
(2) GTE



(3) Pre-Divestiture AT&T



(4) Dun & Bradstreet



operating companies in which directory (including Yellow Pages) was a functional department. Dun and Bradstreet (panel 4), parent of R.H. Donnelley, follows a pattern similar to GTE and Continental, but, unlike those companies, Dun and Bradstreet has no telephone operating companies of its own. At least until the divestiture, its sole role was as a more or less arm's length vendor of services to Bell and independent telephone companies.

One indicator of the visibility and perceived importance of an issue to a corporation's top management is the degree and frequency of its mention in the company's annual report (Cf., Bowman and Haire (1975); Bowman (1978)). The AT&T annual reports from 1973 to 1980 make essentially no mention of directory (i.e., it is mentioned occasionally in tables, technical footnotes and in passing). Contrast this to the GTE annual reports which, in 1972, contained the following passage:

"New records in revenues and earnings were set in 1972 by General Telephone Directory Company, a GTE subsidiary which sells Yellow Pages advertising and produces more than 900 telephone directories for GTE companies and other Independents. One of the largest directory publishing companies in the industry, the company has operations in the U.S., the Caribbean area, Central America, Australia and the Far East. Dominion Directory Company Limited, an affiliate, serves customers in Canada."

The crucial difference between the AT&T and GTE annual reports with respect to directory is not this single mention by GTE of its directory business, but the repetition from 1972 through 1980 of a similar passage each year emphasizing the "new records set" and the new initiatives taken by the recently renamed GTE Directories Co.

Examining the position of the Yellow Pages and its visibility in the organization provides some insight into how the various CEOs see their various Yellow Pages businesses. We can deepen our insights by considering how the Yellow Pages business relates^[8] to the other lines of businesses in the corporation's portfolio with an eye to synergies and harmonies as well as dissonance and conflicts. R.H. Donnelley Company began as a division of R.R. Donnelley, a large printer of (inter alia) telephone directories. Dun and Bradstreet acquired R.H. Donnelley from R.R. Donnelley Co. in 1961 in exchange for a larger block of stock. The acquisition of Donnelley by Dun and Bradstreet was a recognition that directory is fundamentally a selling and information processing business and not a manufacturing (i.e., printing) business. Donnelley (which, incidentally, is always prominently featured in the Dun and Bradstreet annual report) shares some important characteristics of other Dun and Bradstreet enterprises, but in

spite of being, like other Dun and Bradstreet units, in the (broadly defined) information industry, Donnelley remains largely strategically unconnected with other Dun and Bradstreet companies.

In the telephone industry, directory is seen as intimately related to the provision of other services. The California Public Utilities Commission (1982) has argued:

"Indeed, the Yellow Pages business is an integral part of BOC operations. The availability of the local Yellow Pages to every telephone subscriber is a means of enhancing the value of exchange telecommunications, by broadening and simplifying use of the telephone. The publication and distribution of the Yellow Pages may, in itself, reasonably be seen as a public utility service."

(pp. 53-54)

Delbert Staley, Chairman of the Board of NYNEX, made a similar point in his February 10, 1983 presentation to the M.I.T. Research Program on Communications Policy. Compiling and publishing lists of subscriber telephone numbers is a fundamental part of telephone service, a part seen as crucial by the local telephone subscriber. Robert Reuss, Chairman of the Board of Central Telephone and Utilities Corporation, puts it this way:

"We look at Yellow Pages as an important part of the total telephone operation. It's part of the total service we offer, very much affecting the value of the telephone itself in terms of usage."

(Telephony, October 6, 1980, p. 152)

We have seen that service order information and scoping data are by-products of the provision of local exchange service, so, not only is directory perceived by telephone companies and telephone subscribers as ancillary to local service, but the production of directory service is related to the production of local service. But, just because the subscriber and the telephone company both recognize directory as an aspect of telephone service, the telephone company may not be the most appropriate provider of the service. Again, Reuss makes the case cogently:

"We're basically communications people, not directory people. And having someone outside handle our directory activity gives us the flexibility to meet manpower requirements on a seasonal basis. We can have a trained sales force working for us when we need them. We can obtain proper follow-up. We gain much from outside contractors. That's why we use service companies like Reuben H. Donnelley. Generally, we feel that the best service to the customers and the advertiser, plus maximum retention of profit, come from hiring outside contractors."

(Telephony, October 6, 1980, p. 157)

[Empahsis added]

In my discussion of directory production, I pointed out a fundamental conflict between the ethos of the common carrier and that of the publisher. That conflict in ethos or culture is just one manifestation of the more pervasive dissonance that Reuss highlights. Telephone people are, for the most part, communications-oriented with a strong

engineering focus and a habit of working in a rate of return regulated environment. Until quite recently (the mid-1970s at the earliest) sales and marketing were not seen as particularly important functions in the telephone industry. Top management in the telephone industry has tended to come up through operations and to be technically oriented. Top management in the directory business has tended to come up through sales. The Yellow Pages is first and foremost a selling business. There are important technical skills to be mastered in order to produce a directory, but they are the skills of a data base compiler and publisher, very different from those of a telecommunications carrier. So, while the provision of Yellow Pages services is intimately related to the provision of local exchange telephone service and the production of Yellow Pages service has relied on a by-product of the production of local exchange service, the production of the Yellow Pages -- sales and compilation of classified advertising -- is fundamentally different from the rest of a telephone company's business. Small wonder that the independent telephone utilities that do produce their own Yellow Pages do so through a specialized subsidiary that is organizationally separated from the operating telephone companies, or that many telephone

companies, large and small, have chosen to contract out the directory sales and compilation functions.

In telephone companies that have in-house Yellow Pages selling departments, the application of standard operating procedures for "communications people" to "directory people" has made for some unusual arrangements. One instance is the unionization of highly paid commissioned directory sales forces in the telephone companies. I am aware of no other industry in which large commissioned sales forces are under union contract, especially under a Communication Workers of America contract. Though they account for a very small proportion of the total unionized work force and are paid a good deal more than the preponderance of their fellow workers, unionized directory sales forces are able to wield remarkable power and wrest handsome concessions from management for if the directory sales force refuses to return to work (as happened in the summer of 1983 in California), the entire company remains on strike. My point in all this is to argue that while there is a basic complementarity between local exchange service and directory service, there is also a fundamental dissonance between the temperament and skills required to accomplish the two, especially in the production process. This complementarity/

dissonance relationship must also be part of the CEO's perspective.

In thinking about the CEO's perspective, I have touched on organization, visibility, a shared customer base, production and service complementarities, and cultural dissonances. A key set of issues that remain to be explored have to do with cash flows and capital structure -- in a word, the presidential perspective of the bottom line. For some companies, the Yellow Pages accounts for 100% of total revenues, but for most (i.e., those in which the Yellow Pages is one in a portfolio of several businesses) the Yellow Pages is a relatively small portion of the total corporation. In the advertising agency sector, for example, Yellow Pages departments or subsidiaries are quite modest in scale. R.H. Donnelley brings in a significant, but by no means overwhelming, 13% or so of total Dun and Bradstreet revenues. In the telephone companies themselves, Yellow Pages tend to account for, at most, 5% of total revenues.

But, this relatively modest percentage of total must be put into perspective. First, it may only be 5%, but it is 5% of an enormous multi-billion dollar base. Moreover, the growth rate of the Yellow Pages has outstripped even the remarkably fast growing telecommunications industry.

"Directory and other" revenues (about 80% of this category appears to be strictly directory-related) accounted for 4.5% of total local and toll service revenues for AT&T in 1972 and for 5.4% in 1981. From 1972 to 1981, local AT&T revenues experienced a compound growth rate of 10.5%, toll revenues a rate of 13.4%, and directory and other revenues a rate of 14.2%. During the height of AT&T directory growth, between 1976 and 1980, compound growth was over 19% per year! At GTE, "directory and other" revenues grew at a slightly slower, but still respectable, 11.6% compound rate and at Donnelley, growth has been a steady 14+% compounded.

Growth in directory revenues has occurred in a remarkably concentrated industry. In the pre-divestiture epoch, the Bell System accounted for some 80% of total industry revenues. The combined national share of the top four providers -- AT&T, the independent telephone companies served by GTE, L.M. Berry, and Leland Mast Co. -- is well over 90%. The total national share of any given Bell Operating Company would be rather small, but its share in the relevant market is enormous. For example, in Cook County, which includes Chicago and a large portion of the Chicago metropolitan population, there are 54 directories published by five different publishers. Illinois Bell and its agent,

R.H. Donnelley, publish 33 of the directories (61%) accounting for about 84% of the approximately 5.5 million copies distributed. The four independent competitors in the country have shares of 6%, 4%, 4%, and 2% of the total copies published.

The Yellow Pages business is large, rapidly growing, and highly concentrated. Moreover, the industry is characterized by a few very powerful and very large players who have effectively erected formidable entry barriers and who have made it clear that new entrants or others wishing to alter the status quo are not welcome. This fast growing quasi-monopoly industry provides a product of very real value to both the advertiser and to the user. In providing a highly sought after product which is deemed indispensable to many of its users (advertisers and directory users) in a quasi-monopoly setting, the directory publisher is able to realize very attractive returns. We can arrive at a first approximation of industry profitability, an issue of central concern to "the CEO," by reexamining the data in New York Telephone's 1980 Form SN994. In Table 8.2 I recast the numbers in terms of revenues or cash flows, using the same allocation rules and assumptions employed in my analysis of costs (Table 2.2).

Table 8.2
New York Telephone 1980 Yellow Pages Cash Flows Expressed As % Of Total Revenue

Total Yellow Pages Revenue = \$132,954,880



| Column 1 Category of Cost | Column 2 Out-of-House/Information Related % | Column 3 New York Telephone In-House % | Column 4 Out-of-House/Material-Related % |
|------------------------------|--|---|---|
| Local Sales | 22.8 (90.4%* #180) | .2 (90.4%* #110,190) | - |
| National Sales† | .09 (#132-200) | .06 (#290) | - |
| Promotion | .8 (90.4%* #340,350) | .07 (90.4%* #310,330,390) | - |
| Production | - | 2.6 (#435,436,438,439) | 7.2 (#434,531,534) |
| Printing | - | - | 3.4 (#538) |
| Paper | - | - | 5.4 (#537) |
| Delivery | - | .3 (50%** #610) | 1.2 (50%** #630) |
| G&A/Other | - | 2.5 (73%*** #132-900) | - |
| TOTAL | ~ 23.7% | ~ 5.7% | ~ 17.2% |

New York Telephone Yellow Pages Margin = Revenue - Costs = 100% - (23.7% + 5.7% + 17.2%) = 53.4%

Return on Value Added = Margin ÷ In-House Costs = 937%

+NYP&A revenues appear to be net of commissions
 *Yellow Pages revenue - (Yellow Pages Revenue + White Pages Advertising Revenue) = 90.4%
 **Assume 50% of Total Delivery Costs = Yellow Pages Delivery Costs
 ***Allocate G&A as the Ratio of Yellow Pages and White Pages Costs to Total Costs → Yellow Pages, 73%, White Pages 27%

The first impression that emerges from my analysis is just how profitable the Yellow Pages side of the business is. While the White Pages, with its nearly \$13 million in advertising, is a net loser (costs ÷ revenues = 177%), the Yellow Pages is remarkably profitable with a 53% pre-tax margin. "Return on Equity" and "Return on Investment," both generally used performance ratios, are not particularly applicable in the present context because no measure of the investment required is available. What I have called "Margin" is, in fact, "Return on Sales" (net income - sales x 100). I have also proposed a ratio which I call "Return on Value Added" (return on value added = return on sales ÷ in-house costs x 100) which approaches 1,000%. Applying the same adjustments to the revenue and cost data suggested in Chapter 2, -- i.e., estimating gross as opposed to net national Yellow Pages revenue and inflating the in-house costs to reflect real indirect expenses (Cf., Table 2.3) -- we can arrive at more perspicuous estimates of return on sales and return on value added. The most striking difference between columns 1 and 2 of Table 8.3 is the decrease in Return on Value Added from 937% to a still quite respectable 416%. Return on Sales is down only modestly from just over 50% to just under 50%.

Table 8.3
Yellow Pages Profitability

| | Old Based On SN994 | New Based On Additional Assumptions |
|-----------------------|--------------------------|---|
| <u>Revenue</u> | | |
| Total Revenue | 133.0 million | 137.1 million |
| Local Sales | 90.5% | 87.7% |
| National Sales | 9.5% | 12.3% |
| <u>Results</u> | | |
| Return on Sales | 53.4% | 46.2% |
| Return on Value Added | 937% | 416% |

There are very few lines of business that are as profitable as the Yellow Pages. Companies like New York Telephone and Illinois Bell have been able to reap remarkable returns with minimal expenditures on in-house staffs or facilities. VideoPrint (July 8, 1980) estimated that directory accounted for over 7% of AT&T's 1979 profits. Reuss, of Central Telephone, said in 1980 that:

"A total of 8% to 10% of our profits are related to our directory operations. We're constantly striving to improve the contribution Yellow Pages makes. For example, this year we're looking for a 14% share."

(Telephony, October 6, 1980, p. 152)

We have seen that various intermediaries, contractors and service providers participate in the revenue and profits generated by the Yellow Pages, but the lion's share has traditionally gone to the telephone company. This cash stream plays a unique role in the telephone company.

According to Winston Himsworth, First Vice President, Lehman Brothers Kuhn Loeb (in testimony before the Senate Committee on Commerce, Science and Transportation, June 2, 1981), the telecommunications industry is "extremely capital-intensive, typically taking \$2.50 of capital to generate \$1 of annual revenues."^[9] The vast preponderance of that capital (80% by some estimates) is for local exchange communications. So, while local operating companies (both Bell and independent) need to raise huge amounts of capital

(debt and equity), the Yellow Pages generates steady and growing cash flows with only the most minimal capital requirements. Presidents recognize this, as Reuss indicates:

"The Yellow Pages makes a very important contribution to our bottom line. Ours is a capital-intensive industry. Directories can help the bottom line without a big investment in dollars."

(Telephony, October 6, 1980)

The capital requirements for the Yellow Pages are almost nil. True, a company could choose (as does New England Telephone) to build a building and buy various kinds of data management, compilation and production hardware, and to train and maintain the staff to operate all this. But, it is equally possible to "expense" everything by renting office space or even (as in the case of Illinois Bell) contracting out the entire publication task. In any case, no matter how heavily a telephone company chooses to invest in Yellow Pages-related capital, the investment is minimal compared to others required in the telecommunications portion of the industry. This high cash flow and high profitability in an only minimally regulated environment are coupled with low requirements for either fixed or working capital to make the Yellow Pages a particularly attractive complement to other highly capital-intensive business units within a utility's portfolio.

Using the familiar Boston Consulting Group Growth/Share matrix terminology, I would characterize the Yellow Pages as a high growth, high market share "star." But, Yellow Pages is an unusual "star" because it is a 100-year-old product which would normally imply "maturity" or slow growth. Moreover, unlike most "stars" which are expected either to be cash consumers or at best to throw off only modest cash flows (the star is valued for the discounted value of future cash flows), the Yellow Pages throws off a remarkable amount of current net profits while, as I have already emphasized, requiring relatively little capitalization. The Yellow Pages has the best of both worlds; it throws off cash like a "cash cow," and it grows like a "star."

8.4. CONCLUSION

The pre-divestiture Yellow Pages industry consists of one Behemoth (AT&T, which is, in turn, composed of 20 or so gigantic, semi-autonomous, strategic business units), three or four Giants (GTE Directories, L.M. Berry, Leland Mast, R.H. Donnelley), and 150 or so Pygmies (independent telephone companies which publish their own books and non-utility publishers). The Behemoth is serviced by two of the Giants, L.M. Berry and R.H. Donnelley, in different (but sometimes overlapping) territories. These and the other Giants (Mast and GTE) compete for the custom of independent telephone companies and a relatively small but growing international trade. In a series of geographically defined, local quasi-monopolies, the Behemoth or one of the Giants competes with aggressive Pygmies but only rarely and marginally with other Giants.

Each Bell Operating Company has its own Yellow Pages strategy. Aspects of these business unit strategies have their origins in idiosyncratic historical accident rather than in rational planning. For example, the crucial make-buy decision in which the operating company determines just how it will deploy its resources, seems to have been made once 75 years (or more) ago and not seriously reexamined or modified. The selling agency/publisher relationship (which

is a key dyad and might even be characterized as an informal joint venture) tends to remain stable for decades. Notwithstanding the seemingly arbitrary or accidental foundations of BOC Yellow Pages strategies, it is possible to reconstruct an overall Bell System strategy. A key feature of that overall strategy has been to push operational decision-making to the operating company level. Price policy, which I believe is crucial, seems to be made by the operating companies with only the most general guidance from AT&T. The make-buy decision, which looks so haphazard at the operating company level, appears to be quite rational and shrewd when viewed from above. AT&T has effectively followed a policy of Tapered Integration. The company has retained the capacity and know-how to carry out all aspects of sales and compilation in some of its units. At the same time, AT&T has avoided a reliance on a single sales and compilation supplier by providing substantial contracts to both Berry and Donnelley. While the relations of supply are traditional and long term, AT&T has maintained a credible threat to go it alone or to switch to a different supplier if one or the other of its agents should become unruly and demand a larger share of the profits. The BOCs that sell and compile their own directories are able to internalize the profits that would otherwise go to a selling

agent, but only at the cost of higher personnel expenses and capital investments. Return on value added must be lower in these integrated Yellow Pages operations, as must return on investment even though return on sales must be higher. Operating companies that buy selling services invest less capital and generate substantial cash flows with very little effort. They also avoid the problems associated with mixing "directory people" and "communications people" in the same enterprise. Bell directory operations serve strictly its own telephone operations.

Christensen, Andrews and Bower (1978) characterize a "summary statement of strategy" as one that will describe:

"the product line and services offered or planned by the company, the markets and market segments for which products and services are now or will be designed, and the channels through which these markets will be reached. The means by which the operation is to be financed will be specified, as will the profit objectives and the emphasis to be placed on the safety of capital versus level of return. Major policy in central functions such as marketing, manufacturing, procurement, research and development, labor relations, and personnel, would be stated where they distinguish the company from others, and usually the intended size, form, and climate of the organization would be included."

Here is how I understand the overall Bell System Yellow Pages strategy.

The Bell System has aimed to provide classified directories of increasing variety to more and more clearly delineated and defined segments of the telephone user market.

Segmentation (which is a relatively recent phenomenon) has been accomplished largely through directory scoping decisions which take into account both geography and product-market scope. Directory operations have required very little investment and have been funded through cash flow generated by on-going directory sales. The business is targeted to return very high profits (on the order of 50% return on sales or 25% after tax profits). Since the early to mid-1970s when the enterprise became more visible and recognized in the corporation, very high growth targets have been established with typical growth since the mid-1970s of nearly 15% compounded annually; growth has been consistently even more rapid than the growth in long distance telephone revenues. Accompanying the growth spurt of the mid-1970s was a major shift in marketing policy away from selling (to the advertiser) and toward marketing (to the end user). Sales remains the key element of the marketing mix. A major factor in the sustained growth of the business has been an aggressive price policy which has sought (through the introduction of "style changes" and bold price increases) to boost advertising rates.

Manufacturing policy has been to pursue increasingly integrated electronic compilation, production and sales support. Initiated as a means of cost control and data processing enhancement, the new approach to manufacturing was linked with the emerging marketing orientation to make possible a major new-product thrust both in the creation of new advertising units and new directories. A policy of tapered integration in manufacturing and the use of two different major selling agents in different BOCs has permitted the system qua system to maintain a credible threat of vertical integration and has thus permitted appropriation of the lion's share of the profits in low value added situations. Manufacturing, marketing, product, and price policies have complemented each other and have resulted in high profitability and high growth.

While directory publishing has been a relatively small piece of each operating company's business, the scale of Yellow Pages publishing in all of the larger BOCs is mammoth, so that AT&T has been the world's largest publisher and the larger operating companies run publishing businesses that rank among the top 50 in the United States. The Yellow Pages operations have been organized as departments of the operating companies and have been staffed by long-time Bell System personnel. The climate in these departments is an unusual (and not always comfortable)

amalgam of Bell System Standard Operating Procedures approach and a more aggressive sales-oriented mentality. The contrast is between the publisher's ethos and the carrier's ethos as well as between the culture of the salesman and that of the engineer. Competition has always been a factor, albeit a relatively unthreatening one, of the climate of the Yellow Pages department. It was never an issue in the rest of the operating company.

The strategy of other major players has paralleled that of AT&T but with some significant departures. GTE has organized its directory operations in a separate subsidiary that serves not only domestic and foreign GTE operating telephone companies, but also other domestic independents and foreign telecommunications authorities. GTE's manufacturing policy has been one of full vertical integration (including printing of directories) with a move (as in AT&T and others) to fully integrated electronic sales and compilation systems. GTE has also attempted (with little success) to enter Bell territories with lower price Business to Business books. GTE's product and price policy seems to parallel that of AT&T. Directory is more visible a corporate presence at GTE than at Bell, but the enterprise appears to have similar growth and profitability objectives. The international arena is an important market for continued GTE directory growth.

L.M. Berry and R.H. Donnelley both act as publishers, but their basic business is in directory advertising sales. Berry has concentrated on non-GTE independents and has

formed long term, family-style ties with their customers. Berry has an important equity interest in a number of independent telephone companies. Donnelley has only recently begun vigorously to pursue the independent telephone utility market. Its overseas business is small and not wildly successful. The Donnelley strategy in the pre-divestiture era has been to enter into long term joint venture relations with a few of the Bell operating companies. Growth in Donnelley's revenues has resulted from growth in the owner's (telephone company's) directory revenues. Donnelley has been responsible in the BOCs it serves for implementing the AT&T strategy of growth through market segmentation, new product introductions, and aggressive price increases.^[10]

In my treatment of the Yellow Pages as (generally speaking) one of a portfolio of businesses, I stressed the issue of relatedness. Organizationally, the Yellow Pages is related to other lines of business by channels of communication and control. In the Bell System, control has emanated largely from the operating company rather than from AT&T headquarters. Others have chosen to organize the Yellow Pages quite differently, as in the case of GTE where directory is related much more closely to the total portfolio of businesses and less directly with the operating

telephone companies. The low investment cash flows generated by directory tend to balance the highly capital intensive local telephone business and this balancing is a crucial form of relatedness. Contrariety is a form of relatedness, and I have highlighted the disparity between the culture of the sales-oriented directory manager and the engineering-oriented telephone executive. Dissonances and disharmonies do exist, but I am struck by the niceness of the fit that various corporations have engineered to relate Yellow Pages to the rest of the enterprise. In telephone companies the WHO dimension is the key dimension of fit: directory is related to local service above all because the customer perceives it as such. A secondary dimension of fit is the creation of an input for directory as a by-product of the production of local service. Dun and Bradstreet has no direct relationship with the directory user/exchange subscriber. Its relatedness inheres not in the WHO dimension or even the WHAT NEEDS dimension, but rather in the HOW dimension. Dun and Bradstreet is in the business of collecting, organizing, manipulating, and selling huge volumes of information. The Yellow Pages has no editorial content (like a newspaper) and no entertainment mission (like a T.V. station). The Yellow Pages is a data base and Dun and Bradstreet has expertise in the data base business.

We can formalize this intuition in a simple matrix (Figure 8.2).

Bowman (1974) suggests that "... corporate strategy can be conceived of as a continuing search for rent, where rent is intended in the sense of returns to a 'unique place.'" (p. 47) The local telephone company has traditionally occupied the unique place of dominant local Yellow Pages publishers. Any market will sustain just one dominant publisher and while there may be competition at the margins, the telephone company has been able to protect its unique place with a series of competitive advantages -- entry barriers, economies of scale and scope, bottleneck control of a strategic by-product -- and a willingness to crush any serious competitive entry. The returns realized by the telephone company (either directly or through its agent/publisher) from this unregulated monopoly are much higher than those from the regulated, common carriage, side of the business. Not satisfied passively to collect "rents," publishers and their agents have followed an aggressive growth policy through the introduction of new products and price increases. In spite of all this, it has been argued^[11] that since the revenues from the Yellow Pages go into the same pot as revenues from the rate of return regulated side of the business, telephone companies

Figure 8.2

Dimensions Of Yellow Pages Relatedness

| | | WHO | |
|-----|-------------|---------|-------------|
| | | Related | Not Related |
| HOW | Related | | D&B |
| | Not Related | BOCs | |

have no incentive to develop the Yellow Pages business by way of product innovation and service enhancement. Since the BOCs are unable to realize any separate profitability with Yellow Pages revenues merely subsidizing other lines of business, especially because most of the state regulators insist on using Yellow Pages income to maintain low residential telephone rates, there is no reason, the argument goes on, to expect the telephone company to foster growth. Even though this argument has some logical appeal, it has no empirical foundation.

The argument is based on what I would characterize as the "lazy monopoly" model of the telephone industry. The local operating company is seen in this model to be guaranteed a rate of return on its investment, so its incentive is only to overinvest (to "gold plate") in order to up its returns. Since the Yellow Pages generates cash without investment (or with only very minimal investment) and since this cash is used to offset returns that might otherwise be gained through inaction (or through the active pursuit of rate increases in the political sphere), there is no reason to think that the "lazy monopoly" will go out of its way to increase its Yellow Pages revenues. There are several flaws in this model. First, as Delbert Staley, Chairman of NYNEX, has said (Research Program on Communications Policy

Seminar, February 10, 1983), the regulators permit the telephone company to earn a certain amount, but it is up to the company to execute so as to earn as much as it is allowed. The Bell System and the other local telephone companies may justly be accused of many things; laziness, though, is not one of them. The telephone companies are profit making enterprises and they will garner their profits where they can. That the Yellow Pages is attractive to them is evidenced by the level of pressure on the sales force and the constantly growing revenue stream. The lazy monopoly model neglects the motivations of the sales force and line managers, all of whom have personal reasons (pride as well as money incentives) to see their business grow. More fundamentally, the lazy monopoly model confuses the mores and standard operating procedures of "communications people" with those of "directory people." Directory people may be accustomed to work in a quasi-monopoly setting, but they are not accustomed to rate of return regulation and the pursuit of growth through the regulatory process. Selling is the engine of growth and profitability in the directory business.

Evidence of the perceived importance of sales comes from some recent statements by Donnelley's President, Richard Swank. In a 1982 interview (Donnelley Directory

Record, 1982, #1, p. 2), Swank argued that the directory business "always has been, and always will be, a people business" and that "people" (I think it is fair to say salespeople) are the most important consideration for the future of the directory industry. Swank begins his 1982 Annual Report to Employees with the following sentence: "Last year we reconfirmed our commitment to our greatest resource -- sales." Like most top directory executives, Donnelley's President came up through sales management. Selling is certainly seen as of prime importance in the business, but why is this so?

First of all, good directory selling leads to a good directory. Yellow Pages users like and use the information in the directory and the more information available, the more they like it. All information in the directory beyond bare bones listings is there as a result of sales efforts. Yellow Pages salespeople are largely responsible for composing the copy and layout of most display ads. The quality and usefulness of the directory is a function of the persuasiveness and intelligence of the Yellow Pages sales force.

The selling function also has consequences for competitive strategy. Let us assume, hypothetically, that access to service orders were equally available to all comers

on reasonable terms, that is, let us assume that no bottleneck control over inputs were possible. Would the Yellow Pages still retain its natural monopoly character? I think that it would. In the provision of Yellow Pages (or local exchange service both declining cost industries where comprehensiveness is critical to utility) competition is unstable. In order to compete, prices must be set below cost (temporarily) and the competitor with the lowest cost will eventually prevail.^[12] Now, imagine competitor A has printing costs 50% lower than competitor B, but competitor B's selling costs were 10% lower than competitor A's. All else being equal, A's overall costs would be reduced by under 4% while B's was reduced by 5%. Such is the leverage of selling costs that if one competitor has a sales force that is only marginally more productive than the other's, he will prevail. Now, "productivity" can translate into more sales generated for the same dollar of salary, or the same sales generated for less salary. If a unionized sales force is only marginally less productive than a non-unionized one, then the competitor with the unionized sales force will probably have higher overall costs and will not prevail in head-to-head competition.^[13] The upgrading of the compilation function with electronic data processing

technology has signally lowered the cost of directory compilation. The task now is to apply the same technology in support of sales. The growing emphasis on telephone-based selling and the development of integrated selling and data input systems (in which the salesperson composes the ad at a terminal and inputs it directly to the data base) will be critical for a low cost strategy.

"Overall cost leadership" is one of Porter's three generic strategies and might be applicable in any industry. But, in the Yellow Pages industry, with its declining cost structure, low cost position, which means low selling costs, is absolutely essential.^[14] Low selling costs are the sine qua non of cost leadership. But, we have already seen that high selling costs act as an important entry barrier. This is not as paradoxical a state of affairs as it at first appears. High absolute selling costs are a barrier to entry because they force potential competitors to make similarly high investments in sales and because going firms are able to realize economies of scale, scope, and experience not available to new entrants or small players. High absolute selling costs may, because of the economies inherent in them, lead to the low cost position (low selling cost per sale) that a dominant directory publisher must maintain.

Selling is one of the elements of the communications mix (along with publicity, promotion, and advertising) and these elements are amenable to various kinds of comparison. In Chapter 2 I compared advertising costs with selling costs in the Yellow Pages business. In Chapter 5 I compared the effectiveness of various advertising media and the effectiveness of the same medium across several product categories. I also suggested a series of social welfare criteria and compared various media on them showing that the Yellow Pages, as a medium, had very positive social welfare consequences. How would Yellow Pages selling rate as a form of communication on these same criteria? In Table 8.4 I reproduce Table 5.7 with the addition of one column which I have called "Selling the Yellow Pages." Note that selling the Yellow Pages is very different from advertising in the Yellow Pages. For example, while Yellow Pages advertising is low key and dispassionate, Yellow Pages selling is aggressively persuasive making appeals to both reason and fear (the "institutionalized prisoner's dilemma"). Yellow Pages selling is an entry barrier precisely because its supply is characterized by all the "bad" attributes of network T.V.! Moreover, while Yellow Pages selling does not approach children, it is frequently not information sought, but rather information imposed on the

Table 8.4

Social Welfare Ratings Of Selected Advertising Media On Salient Dimensions

| Evaluative Dimensions: | Media: Spot/Local T.V. | | Network T.V. | | Newspaper Display | | Newspaper Classified | | Magazine | | Yellow Pages | | Selling the Yellow Pages | |
|---|------------------------|----|--------------|-----|-------------------|---|----------------------|----|----------|----|--------------|-----|--------------------------|----|
| | | | | | | | | | | | | | | |
| I. <u>Content</u> Informativeness Persuasiveness Emotional Rational | L | -1 | L | -1 | M | 0 | H | 1 | M | 0 | H | 1 | H | 1 |
| | H | -1 | H | -1 | M | 0 | L | 1 | M | 0 | L | 1 | H | -1 |
| | H | -1 | H | -1 | L | 1 | L | 1 | M | 0 | L | 1 | H | -1 |
| | M | 0 | M | 0 | M | 0 | H | 1 | H | 1 | H | 1 | M | 0 |
| II. <u>Good Advertised</u> <u>Shopping</u> Convenience | Y/N | 0 | Y/N | 0 | Y | 1 | Y | 1 | Y/N | 0* | Y | 1 | N/A | 0 |
| | Y | -1 | Y | -1 | N | 1 | N | 1 | Y/N | 0* | N | 1 | N/A | 0 |
| III. <u>Structure of Supply</u> Divisible Economies of Scale Advantages to En- trenched Competitors High Capital Require- ments | M | 0 | L | -1 | H | 1 | H | 1 | M | 0 | H | 1 | L | -1 |
| | H | -1 | H | -1 | L | 1 | L | 1 | M | 0 | M | 0** | H | -1 |
| | H | -1 | H | -1 | L | 1 | L | 1 | M | 0 | L | 1 | H | -1 |
| | H | -1 | H | -1 | L | 1 | L | 1 | M | 0 | L | 1 | H | -1 |
| IV. <u>Audience</u> Adults Children Information Sought | Y | 1 | Y | 0 | Y | 1 | Y | 1 | Y | 1 | Y | 1 | Y | 1 |
| | Y | -1 | Y | -1 | N | 1 | N | 1 | N | 1 | N | 1 | N | 1 |
| | N | -1 | N | -1 | Y/N | 0 | Y | 1 | Y/N | 0 | Y | 1 | N | -1 |
| | | -8 | | -10 | | 9 | | 13 | | 3 | | 12 | | -4 |

*The nature of the goods advertised in a magazine is a function of the magazine's content, some (e.g., women's) magazines have more ads for convenience goods than do others that advertise more expensive, high-brow, shopping goods.

**Economies of Scale in Yellow Pages have to do with the response curve with respect to advertising size. Large ads cost relatively less per reader than smaller ones.

potential advertiser. In a word, if advertising in the Yellow Pages is "convivial," then selling of the Yellow Pages is highly "manipulative."

Aggressive selling has been the tool with which large publishers have implemented their two major strategic growth thrusts: market segmentation and rate increases. Non-utility publishers have adopted a niche strategy of providing low price advertising to (generally narrow) geographically segmented markets. This niche strategy has succeeded because of the very high price umbrella erected by the dominant publisher. Geographic segmentation is an inherently limited strategy;^[15] once all the reasonably definable neighborhoods have been broken out and the larger areas covered by an umbrella directory, there is no more room for geographical segmentation. Recently, therefore, segmentation by product market or audience type, rather than by geography alone, has become current in the industry. This kind of segmentation is inherently unlimited, although it is difficult to imagine a successful directory for each seven digit SIC code.

Price also appears to be an unlimited domain of growth, but this appearance must be incorrect. There must be some price elasticity of demand and some prices that advertisers will simply refuse to pay. This price frontier

remains hypothetical. Despite continual increases, directory prices have not yet reached the point of diminishing returns, but even if directory is still underpriced, rate increases cannot go on forever. Like geographical scoping, increasing rates is an inherently finite growth strategy.

For many years, directory was a "cash cow." 1960 and the advent of national advertising saw the first glimmerings of a more aggressive growth posture. The early 1970s saw the coming of electronic compilation, a marketing orientation and a shift to high growth. I am convinced that the continued pursuit of segmentation and rate hikes will not be able to sustain the high growth rates of the past decade. If management does not want to see the business become a "cash cow" again, then lateral diversification into new technologies will be a necessary strategic move. Since sales and data processing are the major skills of the large publishers, I would expect them to employ these resources "synergistically" in the development and promotion of truly new products. An Electronic Yellow Pages for videotex subscribers is the most obvious, but perhaps not the most interesting of the potential lateral diversifications. Directory publishers (at least those publishers not constrained by court order) may enter the electronic mail

business or may act not only as intermediaries, but also as transaction intermediaries.

Paper directories are and will continue to be a good, profitable business. But, as in the mid-1970s, the industry is at an important cusp. In the concluding chapter I speculate about its future direction.

FOOTNOTES
(CHAPTER 8)

- [1] Personal communication with David Allen, Pulp and Paper Magazine, Spring 1982.
- [2] Data on the precise split of international and domestic GTE revenues is not publicly available.
- [3] The relative power of the BOC and its agent is reflected in Table 8.2 where we see Donnelley adding most of the value and New York Telephone retaining the lion's share of the profits.
- [4] Nader and Warner (1975) make a not very convincing argument about the absence of any natural monopoly in the Yellow Pages. The main virtue of their article is its early recognition of the high profit and high concentration that characterize the very low profile directory industry.
- [5] Formally, Selling:Yellow Pages::National T.V.:Toiletries.
- [6] Polk was also forced to give up its membership in the Association of North American Directory Publishers, a trade association of small regional, city, and non-utility directory publishers which Polk, by its very size, had dominated.
- [7] In their original complaint, the California agencies argued that the defendants conspired to put them out of business by, among other things, intentionally sabotaging their clients' Yellow Pages advertising and (I think this one is fascinating) omitting their own listings from the Yellow Pages -- what better way to squelch competition than to eliminate their presence in the Yellow Pages. It should be emphasized that these are allegations and I have no evidence one way or the

other of their veracity. I understand the suits were subsequently settled out of court and that both sides claimed victory. See, also, Advertising Age, September 14, 1979, p. 38 and October 29, 1979, p. 10.

- [8] For an excellent investigation of the issue of the "relatedness" of corporate lines of business, Cf., Rumelt, 1973.
- [9] Lehman Brothers calculates that approximately 8% of all U.S. plant and equipment expenditures over the past 20 years have been in telecommunications. Telecommunications debt accounts for nearly 20% of U.S. corporate debt and nearly 10% of the stock market value.
- [10] To what extent Donnelley was implementing AT&T's strategy or AT&T was articulating Donnelley's existing strategy is not clear, but since the two have been so closely associated the distinction may be more a matter of semantics than substance.
- [11] I have heard the argument several times at seminars conducted under the auspices of the Harvard Program on Information Resources Policy.
- [12] It is possible that the competitor with the greatest commitment and the greatest willingness and ability to suffer losses will win, but assuming equal commitment and resources, the low cost producer will prevail.
- [13] Of course, the higher paid unionized sales force could be more productive than the non-union sales force, in which case the unionized shop would prevail.
- [14] Assuming, as I noted above, the general availability of listing data.
- [15] A neighborhood directory makes sense, but a city block directory does not.

9. CONCLUSION

9.1. A DIALECTIC OF CONTINUITY AND CHANGE

The student of the Yellow Pages is confronted with a remarkable admixture of stability and dynamism, continuity and change. The Yellow Pages is an old medium and industry in the process of transition and transformation. Some aspects of this metamorphosis are incremental and continuous, for example, the secular acceleration of revenues and profits garnered by Yellow Pages publishers. Other changes are discontinuous and radical as the change from a hand-compiled hot lead-printed book to an electronically-compiled photocomposed one. With the AT&T divestiture and the imminent introduction to the home of videotex and other on-line electronic services, the Yellow Pages is at the brink of a series of new changes that will fundamentally alter the character of the medium and the structure of the industry. Still, in the face of major changes, I expect there to be significant continuities.

Before launching into my speculations about the future, let me briefly recapitulate some aspects of continuity and change that we have already noted. A first and perhaps most obvious continuity is in the actual physical embodiment of the medium; the Yellow Pages, that volume of

flimsy yellow paper, is largely unchanged, in terms of gross appearance, from the directories published in the 1890s when yellow paper was first used to distinguish the classified from the alphabetical sections of the directory. Moreover, the content of the directory is today much as it was a century ago: a mixture of listings and advertising (early advertising was in the form of business cards) organized by an arbitrary, but conventional, series of classifications or headings. Since the book is after all a telephone directory, phone numbers and street addresses have always been a major item of content, but content has also included, practically ab initio, additional information -- on products and services offered, and on the company offering them -- designed to attract the attention and the custom of the directory user. This content was and remains information-rich, icon-poor and under the strict editorial control of the directory publisher.

Another striking continuity is in the ownership of the medium. The Yellow Pages has not changed hands so the original publishers of the fourth quarter of the 19th Century continue to publish in the fourth quarter of the 20th Century. Some new publishers have entered the industry, as former city directory publishers moved into the more lucrative Yellow Pages business^[1] and as entrepreneurs have

begun new directory publishing concerns, but these non-utility publishers have been and remain quite marginal to the mainstream of telephone company publishers who continue to account for some 95% of Yellow Pages revenues.

As ownership and control has remained stable, so in large measure has the structure of the industry. In the pre-divestiture days, the local utility always dominated the extended rivalry of the industry. Competition from non-utility and adjacent telephone company publishers has always been minimal and in the absence of viable substitutes for the Yellow Pages, the local telephone company has been overwhelmingly powerful with respect to both its suppliers (of compilation and selling services) and its buyers (of advertising space).

Not only has the medium, its content, ownership and industry structure remained largely unchanged, but we have seen convincing evidence that the behavior of directory users has also been remarkably stable over time. Available data dating back to the early 1960s suggests a demographic profile of the Yellow Pages user (and the heavy user) that characterizes the user of the early 1980s. The same 80-20 phenomenon, where 20% of users account for 80% of use, still seems to obtain. Users were and are relatively

wealthy, educated, young, and mobile. And the 1980 consumers use the directory in very much the same manner, for much the same purposes as did their parents and grandparents. A peculiar behavioral sequence in which the user has effectively "yielded" before he is "exposed" to the message accounts for the effectiveness of the Yellow Pages as an advertising medium today and the same sequence must have accounted for Yellow Pages use and impact in the 1920s. The Yellow Pages has always been a medium of directional advertising, aggressively sold by the publisher or its agent: "convivial" for the user, the Yellow Pages has always been "manipulative" for the advertiser.

These aspects of stability are all the more striking when we compare the Yellow Pages with the other leading advertising media. Newspapers and magazines, two of the oldest media, frequently change hands and their content today is surely very different from what it was a hundred years ago. In the newspaper industry, a hundred years has seen the growth of newspaper chains, the increasing prevalence of one-paper-towns, and the rise of suburban newspapers. Magazines that once reached a single, largely undifferentiated, mass audience are now increasingly targeted at small, special interest audiences. In the relatively short history of radio, we have seen the creation and dissolution

of monolithic networks, the eclipsing of the once preeminent AM clear channels, the flowering of FM, the packaging of "formats," and recently, the advent of low cost ad hoc networking via satellite. T.V. burst upon the post-war scene and with remarkable speed became America's ubiquitous and dominant provider of entertainment and news. Black and white quickly gave way to color, and kinescope to videotape as the content of the medium changed from low-budget, live, local productions and old films to slickly produced, national drama, comedy, and news.

In contrast to these other media, the Yellow Pages would appear practically immutable. But, appearances can be deceiving and we have seen that in important, if sometimes superficially latent, respects the Yellow Pages has been remarkably dynamic. The Yellow Pages has always been a form of data base publishing, but with the introduction of computer-based compilation and photocomposition, it became a form of electronic data base publishing, as far as I am aware, the first and most pervasive instance of mass market electronic data base publishing. In its integration of sales, design, and manufacturing through electronic process engineering, the Yellow Pages is a thoroughly modern industry. The Yellow Pages is, in many respects, a

new-products business that has clearly learned the lessons of sophisticated market segmentation.

One major transformation is in strategic orientation: the shift from "selling" to "marketing" is consonant with the proliferation of new-products, the sensitivity to audience segments, and the growing importance of research in the industry. This shift is also characteristic of modern dynamic industries. While the Yellow Pages has always been a local medium, national advertising has become increasingly prevalent over the past two decades. National has grown from under 1% of total revenues to about 12% in a period in which the base has been growing at better than 14% compound per annum. The growth of national advertising has been accompanied by the elaboration and evolution of a series of intermediary institutions. If, as I believe, the information business is largely the business of intermediation, then the national Yellow Pages suggests a paradigm of an up-to-date, dynamic, and evolving information business.

The growth of the entire Yellow Pages industry -- more publishers, more units, more directories, and above all, more revenues -- gives the lie to any notion we might have of the industry as old-fashion and unchanging. The Yellow Pages became the focus of such sustained and heated (if not always enlightened or enlightening) public policy debate

because the medium was seen as evolving into a key component, perhaps the key component, of an entirely new communications medium.

I believe that the same kind of admixture of continuity and change that has characterized the development of the Yellow Pages in its first century will characterize its development in the future. In the sections that follow I reprise some of the issues raised in earlier chapters with an eye to their implications for the future of the Yellow Pages.

9.2. THE MEDIUM

The paper classified directory has been around for more than one hundred years and I expect it to persist for at least the next 30 or 40. It is relatively inexpensive to produce and from the user's point of view it is convenient and highly informative. It is, above all, ubiquitous. An electronic alternative could truly replace a paper Yellow Pages if, and only if, everyone had ready access to the electronic alternative and all businesses were listed in it. I am not suggesting that the "critical mass" for a successful videotex system is 100% penetration, a much lower degree of connectivity will suffice to make videotex a going concern. What I am arguing is that only a fully ubiquitous medium can replace another ubiquitous medium. The two kinds of "comprehensiveness" discussed by the California Public Utilities Commission (1982) -- comprehensive inclusion of listings and comprehensive coverage of telephone subscribers -- will not be realized in videotex, even in a successful videotex system for many years to come.

Not only are on-line information services unlikely to have the comprehensiveness necessary to replace the paper directory, but it is a general historical rule that new media very rarely replace old ones. McLuhan argues that

the old medium frequently becomes the content of the new one, so that oral tales become the content of written narratives, novels become the content of films, films become the content of T.V., T.V. becomes the content of CATV, etc. In this vein it follows that Yellow Pages might become the content of videotex. But, new media do not merely swallow old ones, rather, the old medium redefines itself in light of the new one. Radio did not replace newspapers and T.V. did not replace radio, but radio, with its electronic immediacy, did replace the "Extra" edition for late-breaking news and T.V. networks replaced radio networks as the staple source of electronic news.

When (and if) videotex becomes as available and routinely used as telephones and T.V. -- and I expect that to be at least 20 years away -- paper directories will still have a role. A videotex system needs its own paper directory to help people locate certain kinds of information in the data base. Prestel puts out such a directory now, providing quick access to information about the information in the system -- a kind of "metadirectory." Moreover, the video display, even a large, high resolution display of the future, does not lend itself to the kind of side-by-side comparisons, the scanning in a glance of the entire universe of interest, that is typical of the Yellow Pages. To

borrow a concept from Innes, videotex presents its information serially in the domain of time while Yellow Pages presents its simultaneously in the domain of space.

Videotex is diffusing much more slowly than some had originally imagined and its diffusion is, as was always predicted, to certain but by no means all segments of the population. In Abell & Hammond's terms, while the new HOW will be able to satisfy some of the WHO, it will not meet all the WHAT NEEDS. Videotex will provide a variety of functions not available from the paper Yellow Pages, but that does not mean that it will satisfy all the needs of current users of the paper book. The paper Yellow Pages will persist for some time in the future, but not without changes.

Producing a Yellow Pages directory, already largely an electronic process, can be expected to become increasingly so. Hybrid operations, like New England Telephone's "YP III" with its use of paper and microfilm documentation for data input, will be replaced by more fully electronic systems. Sales will become increasingly telephone-based and sales personnel will input data directly to desk-top terminals during the course of the sales interaction such that the data base is updated immediately. Art and copy, which, in most of today's systems, are handled through a separate

parallel paper-based processing stream, will become increasingly integrated with the main electronic data base. First, hand drawn art will be scanned and stored in the data base so that pagination systems produce fully finished pages. As computer graphic systems increase in function and go down in cost, directory salespeople will be able to create the art for simple display ads as the order is being taken. Remote terminals will be used by the premise's sales force and it is entirely conceivable that where complex graphic treatments are required, a graphic artist will join in the advertiser-salesperson interaction via telephone and computer terminal.

I expect to see the underlying cost structure in the paper directory industry change very little in the foreseeable future. Sales will continue overwhelmingly to dominate other cost categories, especially as sales personnel perform functions of data input and ad creation that were formerly handled by separate clerical and graphics functions. As it increases in absolute terms, paper cost may become more important than it currently is, but as I have repeatedly pointed out, the costs of paper do not "drive" the Yellow Pages cost structure as they do the newspaper cost structure.

Market segmentation via directory scoping will continue as an increasing number of special interest neighborhood and umbrella directories are published. Spanish language directories have been introduced in the Chicago, Los Angeles, Miami and New York areas. There is a Chinese language Yellow Pages in San Francisco. The number of directories and the number of truly utility-enhancing "units" (e.g., Guide Sections, map locator programs) will continue to grow.

The physical properties of paper, and physical act of leafing through paper, put an effective cap on the scope of any directory. Each paper directory is a discrete subset of a master data base maintained by the publisher. If the information of interest is not available in the directory at hand, the user is obliged to find another directory (probably from the same publisher) whose scope includes the data sought. In an electronic environment, scoping does not speak to how big the data base will be, but rather how it will be organized and accessed. Scoping in an Electronic Yellow Pages is fundamentally an issue of how the user searches through what could conceivably be a single national Yellow Pages data base. Some of the currently available computer-based phone-in alternatives to Yellow Pages implicitly recognize that scoping is a function not

of the data base itself, but of the user's relation to that data base, for the references given to the user are based on his location as given by his telephone (or other identification) number. That is, when queried, the system does not provide the user with "AAAA Pizza," but rather with a pizza parlor that is located near the caller. Not only could different headings have different default scope parameters (e.g., "Pizza Parlors" within a narrow geographic area and "Pizza Ovens" state- or nationwide), but users could indicate at the outset of their search the scope of data to be included by geography or by product market specialization (e.g., wholesalers only or retailers only). In this idealized world, the user scopes his own directory, and may rescope it at will, by answering a few simple questions. If the questions are too long, complex or time consuming, the user is likely to abandon his search so the tradeoff is no longer comprehensiveness versus ease of use, but instead, richness of alternatives versus convenience and ease of use.

National advertising has been one of the fastest growing and changing aspects of the Yellow Pages business, but, in spite of its obvious success, neither advertisers nor publishers appear to like it very much. The National Yellow Pages Service Association's (NYPSA) definition of what

constitutes "national" advertising is designed to minimize the amount of non-local placements that will be handled by the national system on theory, I suppose, that publishers realize greater profits when there are no intermediaries to receive commissions. Advertisers continue to use national Yellow Pages advertising but they, too, appear unhappy about it.

"'Advertising in the national yellow pages is like being married. You can't live with it and you can't live without it.'

"That attitude, expressed by Sid Sax, director of advertising and corporate communications at Ryder Truck Rental, sums up the opinion held by many large national advertisers using yellow pages...."

(Marketing & Media Decisions, December 1980, p. 68)

The unhappiness stems from, inter alia, a perceived lack of graphic standards, arbitrary regulation of copy, and, what is to many, an incomprehensible array of prices. Seen as a necessary evil by publisher and advertiser alike, I think it is reasonable to assume that national advertising's growth rate will moderate so that national, in the future, will account for a steady 10-15% of a growing base. Even so, the institutions and procedures of national advertising will continue to evolve. One important motor of such evolution is the inherent instability of the current Authorized Selling Representative/Agency combination.

The national business now confronts issues that will require rapid and decisive action. In the pre-divestiture era, AT&T headquarters provided a number of centralized services for Bell System publishers and, by extension, for the entire industry. AT&T sponsored a heading selection committee which introduced a modicum of standardization to the process of heading creation and deletion. AT&T has coordinated the placement of "Foreign Listings," i.e., out-of-town White Pages listings. For a number of years, there was an AT&T sales promotion committee that included representatives from Berry and Donnelley as well as from the operating telephone companies. Consumer research and advertising of the Yellow Pages to the consumer were planned and largely paid for by AT&T at a national level. Financial performance and reporting systems were created by AT&T and Bell Labs had a hand in the creation and maintenance of sophisticated directory scoping and pricing software packages.

In the post-divestiture era, a natural candidate to carry out many of these tasks of coordination on a national basis is NYPSA, the publishers' trade association. NYPSA members have determined that the organization will coordinate headings and foreign listings, but they demurred at the prospect of NYPSA taking on a greater role in advertising

and consumer research. NYPSA already advertises to the trade, e.g., in Advertising Age and Marketing & Media Decisions, but the membership decided that direct consumer advertising would be handled independently by individual publishers.

NYPSA's current information transmission system has changed little in the more than 20 years since the initiation of National Yellow Pages Service. The primitive teletype-based network for transmitting, clearing, and confirming ad placements was installed in 1965. It was not very reliable then and it has not improved with age. Voluminous paperwork is required to back-up all order placements. An Authorized Selling Representative may place several hundred ads and listings for a given national client in the directories of a given publisher. In the current system, if a single one of those listings or ad placements is modified, the entire package of NYPSA paperwork must be redone and retransmitted and an ASR might have to spend \$20 in express mail fees to place a single \$6 listing. Transaction costs are outrageously high and transmission times slow under the current system.

National advertising is an intermediation and data processing task, but in the current antiquated system, data already on-line in the ASR's computer must be taken out and

put into hard copy form for re-entry in the publisher's data base. Such a system is clearly irrational in the "information age." Realizing all this, NYPSA recently commissioned a study of its data transmission network and procedures. The consultants, Deloit, Haskins & Sells, recommended the creation of a single, unified, on-line, time-sharing system for communicating and confirming (and probably also for billing) all national advertising. Cost control is the primary motivation for the new system as it would greatly reduce the very high costs of mailing and multi-part business forms as well as the enormous current costs of clerical time for manual data handling. A major bonus of an on-line system would be improved accuracy and reduced turn-around times.

The impetus for an on-line system may be the desire to control costs and increase speed and accuracy through more rational computer/communications technology, but the consequences of such a system are much more far-reaching, for the creation of an on-line national advertising placement system also entails the creation of a national on-line advertising data base of many of the U.S. largest national advertisers along with information on a network of local dealers and distributors. Such a data base presents

enormous opportunities as well as serious problems. Characteristically, NYPSA has focussed on the problems and they are not inconsiderable.

How will valuable proprietary data be secured? After all, an advertiser's national Yellow Pages placements are, at a minimum, a blueprint of his national Yellow Pages advertising strategy and, if read correctly, perhaps a blueprint of his entire annual advertising plan. A competitor with knowledge of these placement plans could quickly counter with its own advertising scheme. A high level of security makes it more difficult to update and correct the data base but this is a technical problem amenable to a technical solution. Solving it by establishing a high level of security for both writing in and reading of the data base may obviate the central value of a national on-line system.

The national advertising data base might be the nucleus of a national electronic mail system through which manufacturers and wholesalers could communicate with a national network of dealers, authorized service agents, etc. Alternatively, or at the same time, the data base could be the foundation of a national electronic wholesale marketplace. Companies could instantly access each other via the national advertiser data base and transact business with each

other using the national Yellow Pages data base as a directory and the time-sharing system as a communications network. I am proposing that a universal national Yellow Pages network could serve as one critical piece, the gateway, of a national business-to-business communications and transaction network. This network would be based not on consumer-oriented videotex systems that might take decades to develop, but rather on readily available time-sharing technology. Unlike other proposed and available national Yellow Pages systems, e.g., the Market Data Retrieval System's National Yellow Pages which is merely a copy of existing directories in electronic form, the NYPSA system would be explicitly designed as a communications and transaction system and not as a read-only data base.

The organizational problems of inter-company networking are significant and not easily amenable to a technical fix. Moreover, NYPSA is hardly the most appropriate institutional base for the kind of network I am discussing. In fact, I think it highly unlikely that the NYPSA transaction network will ever be more than a tightly controlled, limited access, transmission system for Yellow Pages placements. I am suggesting that it could be much more and that the future of Electronic Yellow Pages needs to be seen not merely in terms of displaying the current content via

videotex, but as a critical component, both a data base and a gateway, for future electronic communications networks.

9.3. THE EVOLUTION OF STRATEGY: AN EMERGING INDUSTRY STRUCTURE

I have treated strategy as largely static and unchanging over time, but this is not strictly true. One way to glimpse the nature of the industry's strategic evolution is to trace the changes in communications and control, strategy and structure in some of the major players.^[2]

AT&T has been the dominant player and has always decentralized control of directory operations, allowing the operating telephone companies' wide operational discretion. Dave Wibbelsman, Vice President for Directory at New York and New England Telephone, has emphasized that AT&T's directory strategy is unique in this respect. While decentralization has remained AT&T's organizational norm, there have been subtle but pervasive and important changes in the locus of strategic control over time. The shift from a "selling" to a "marketing" orientation was apparently initiated from above. This change came at about the same time and as part of the same strategic initiative as the introduction of electronic compilation technology. Beginning in the early 1970s, the new technology along with an interest in developing utility-enhancing products and features spawned a plethora of new-products. That same period saw a rapid acceleration in the rate of directory revenue and profitability growth. In the mid-1970s, directory became a

separate profit center with its own income statement and, according to AT&T's Hancharik, a "fine new financial measurement system." Such a system speaks directly to issues of communication and control.

AT&T's headquarters directory staff grew rapidly in the 1970s as some 150 of the brightest directory people from the operating companies were brought together to plan and implement a market-oriented growth strategy. Directory scoping and pricing software packages, both developed by Bell Labs, were introduced at this time. The data on new-products and revenue growth are clear, but showing that these were based on a fundamental but subtle strategic shift requires some inferential leaps. Sometimes, though, very clear evidence is available. In response to the question, "Are you changing your posture here at AT&T headquarters?," Hancharik said:

"Yes, there is a change. We'll be taking a more directive role! We'll be taking a stronger Systems posture. For example: we'll be recommending a similar Business-to-Business cover for all business directories. We'll insist that the Bell companies use the same cover design. On the important issues, we'll be a little more forceful than we've been -- because there's a need to be more uniform -- not to reinvent the wheel."

(Telephony, February 11, 1980, p. 69)

Now, it is possible to read too much into a short quotation, but I find it an interesting datum on AT&T corporate

culture, standard operating procedures, and locus of power and control that Hancharik says "we'll be recommending" and "we'll insist" in the same breath, as if they were synonymous locutions. It appears from other anecdotal information that Hancharik understates management's perceived "need to be more uniform."

The centralization of strategic direction of the Yellow Pages stemmed in part from its increasing visibility as a profit center, but also from the electronic future just over the horizon. The paper directory was seen as intimately associated with electronic information systems, the development of which was to have been a major strategic thrust of the Bell System in the 1980s and beyond. In the late 1970s and early 1980s, AT&T planned a series of pilot electronic directory projects. It was clearly part of AT&T's strategy, in spite of intense pressure from the newspaper publishers lobby, to retain control of directory and to employ new electronic display technologies.^[3] Information services were a business AT&T wanted to enter and directory was a natural point of entry.

I believe that the increased attention paid to directory and the growth of centralized planning and control of what had traditionally been a rather uninteresting backwater of the telephone industry was the result of three

things. First, top management became increasingly aware of the profitability and growth potential of the old-fashioned paper directory. Second, these people also believed that to remain profitable, it would be essential to follow "our technology in mechanizing the yellow pages."^[4] Finally, AT&T wanted to enter the information industry and the Yellow Pages offered a valuable jumping off point for such an entry.

Under the original divestiture agreement, worked out by AT&T and the Department of Justice, directory as a competitive product was to be removed from the operating companies -- who were to be reimbursed through the sales of the service orders information -- and centralized at AT&T. Judge Greene's final order changed all that. The headquarters' staff assembled at AT&T was distributed back to the operating companies which began to reorganize as larger regions. In the wake of the divestiture decision, R.H. Donnelley reorganized its operations from a series of units defined to match the Bell Operating Companies Donnelley served, to a smaller set of larger geographic units conterminous with the new Regional Operating Companies.

This rearrangement into geographically larger units is only the first and most obvious strategic realignment in

the directory industry. For the two related causal dynamics that are changing the nature of the telecommunications industry are also at work in the Yellow Pages. Technological developments are making new products and services feasible and cost competitive while at the same time lowering barriers to new entrants. Concurrently, a prevailing ideology favoring competition and deregulation has occasioned the restructuring of AT&T. Some indications of an emerging (and much changed) industry structure are becoming apparent.

We can dismiss the argument that "lazy monopolies" should not be Yellow Pages publishers. But, the National Association of Regulatory Utility Commissioners' (NARUC) argument that Yellow Pages rents have helped subsidize the local rate payer takes on additional strength in the face of escalating local rates in the wake of the divestiture. Using Yellow Pages revenues to help offset Non-Traffic Sensitive Costs is a modest but not insignificant way to help maintain universal service. On the other hand, using the rate payer to subsidize a utility's losses in a competitive fight flies in the face of the Second Computer Inquiry, the divestiture decision, and, I think, the intent of Congress.

As we saw in our brief examination of publishing a "non-utility" directory, the question of ownership of

listing information, derived from service orders, is of more than academic interest. To the extent that local telephone companies have exclusive access to this information and can, through copyright, keep others from publishing it, the local telephone companies have bottleneck control of a key resource and can effectively control competition. To the extent that they have privileged access to the information, obtained as a by-product of local service, and to the extent that the costs of compiling and maintaining the data base are shared, the local telephone company enjoys economies of scope and can accomplish in the publishing arena just what the Second Computer Inquiry sought to avoid: the loading of costs onto the regulated side of the business which permits unfair competition on the unregulated, quasicompetitive side.

The White Pages carry a copyright notice, and, according to Oberman, "Copyright Protection for Computer-Produced Directories" (1973), they are eligible for copyright protection. But that protection is and should be "thin."^[5]

"Only the plan of ordering facts and the graphic arrangement for the facts should be protected. Others should be free to reorder the facts and to redesign the directory in order to prepare non-infringing work; even more, others should be allowed to feed the facts into computer storage banks."

(Oberman, p. 805)

Utilities are able to protect their White Pages directories from direct reproduction, but may they refuse to sell the listing data to potential competitors? The resolution of this question will have significant implications for the future of industry competition.

After the divestiture, cost sharing is likely to be severely curtailed. The staff at New England Telephone is already working on plans to bill advertising separately from other local services because they think the courts will force them to do so. Several of the new Regional Holding Companies have already announced that Yellow Pages publishing will be organized in an arm's length, unregulated subsidiary. If such a subsidiary is truly to be at arm's length, then it will have to buy the service order information and the local exchange company will have to offer it for sale on the same terms to all comers.

The natural monopoly character of a single comprehensive directory will remain unchanged, but it will not necessarily be the telephone company that publishes it. Large companies, with access to the service orders and the necessary resources and skills, may be willing to pay the high costs of sales to enter the Yellow Pages business. The implications of divestiture will not be equally felt by all telephone company publishers. As far as I can see, major

independent players -- especially GTE and Southern New England Telephone -- will not be constrained to set up separate subsidiaries or to make their service order information more generally available. They may be able to continue to share costs among regulated and non-regulated aspects of the business and to maintain exclusive access to the vital service order information.

With the breakup of the Bell System, the primary Yellow Pages providers will be large Regional Holding Companies with no allegiance to a central authority and no special relationship to one another. The territory of adjacent Holding Companies would be fair game for competitive entry and each ROC will have the resources and know-how to accomplish such entry. The first manifestation of inter-regional competition is likely to be the aggressive "selling into" out-of-town books. Non-utility publishers are already becoming more aggressive and it is likely that large directory service companies (including compilation and pagination as well as selling companies) that had heretofore acted solely on behalf of a local operating company will enter with competitive non-utility directories. While the Bell System qua system could constrain and control potential competitive moves by major suppliers -- e.g., L.M. Berry and R.H. Donnelley -- the local operating companies

will no longer maintain such leverage. Donnelley, Berry, or even GTE Directories may serve a particular local telephone company as its sales agent and compete against an adjacent Holding Company either with a non-utility directory or with a substitute "electronic" directory.

Perhaps the liveliest competitive arena in the post-divestiture era will be for the provision of sales and compilation services to local telephone companies. Relations of supply among the BOCs have remained highly stable over the last 15 or so years, but the status quo is likely to be shattered after divestiture. Telephone companies that had heretofore chosen to buy selling services might now decide to internalize the operation in a large publishing subsidiary. Likewise, unionized selling operations may be terminated in favor of a non-union, outside selling company. The implicit competition between the in-house sales departments of large integrated publishers and the selling companies attempting to woo top management to buy their services is certain to heat up. The large telephone company and its seller have acted as partners, but partners can have fallings-out, especially over highly lucrative multi-million dollar businesses. This is what happened in the United Kingdom and the same kind of thing can be expected in the United States, especially as the relative power

shifts from the Bell System, which qua system could control any and all sellers, to the sellers of which there are only three major ones -- GTE Directories, R.H. Donnelley, and L.M. Berry -- any of which is larger than the directory operations of any single telephone operating company.

In December 1983, R.H. Donnelley and Ameritech (Illinois Bell's parent organization) were in court fighting over who will provide directory service on what terms in Illinois. Donnelley has insisted that it be given more than the 24 or so percent commission that it currently receives and if Ameritech will not renegotiate the contract with a substantially different split in profits, Donnelley has threatened to go it alone. Ameritech will then have to choose whether to attempt to bring in another selling company or to create its own directory sales and compilation department for Illinois. Directory advertising in Illinois is a very large business (about \$120 million by my estimate) and setting up a sales and compilation operation of that scale may not be possible in a single year. Donnelley appears confident that the federal courts will not allow the telephone company to refuse to sell its service order information. But, Judge Greene changed the original Modification of Final Judgment in part in response to arguments

by the National Association of Regulatory Utility Commissioners and the local Public Utilities Commissions that directory revenues help to subsidize local rates. So, even though the competitive market may allow entry and eventual dominance by a non-utility publisher, the political process may not.

Substitutes for Yellow Pages are already available in some markets. A service called the Product Area Locator (PAL) was initiated in the San Diego area in early 1980. The user called into a computer, keyed in a four digit identification number and received a computer-generated voice giving the user information about a nearby merchant within the requested category (Cf., IRD Electronic Yellow Pages, pp. 155-156). It appears that this system has since gone bankrupt^[6] because few consumers would prefer to hear a computer talk than to use the old, reliable and significantly information richer Yellow Pages. Two other telephone-based classified advertising systems are up and running in the Washington, D.C. and Houston, Texas areas (Cf., Wall Street Journal, March 1, 1983, p. 37). The theory behind these services seems to be that many consumers would prefer to refer their query to another person than to look up the information for themselves. (According to reference librarians there is some fairly strong empirical support

for this theory.) The systems used by the two vendors employ a computer to store and retrieve the data and a human operator to mediate between the user and the data base. Both services appear to be performing well, and while they cannot be expected to replace the Yellow Pages, they and other telephone-based inquiry systems may become partial substitutes meeting the desires of particular audience segments and garnering the advertising budgets of local merchants disaffected with escalating Yellow Pages prices.

Of course, the most significant substitute for Yellow Pages is some form of electronic directory with which the user interacts directly via a terminal in the home or place of work. Electronic Yellow Pages is an opportunity and a threat to the current Yellow Pages providers. Whatever else its effect, its advent is likely to make the industry structure more fluid and competitive than has traditionally been the case.

With the merging of computing and telecommunications technologies, the information industries are experiencing increasing convergence. Market Data Retrieval, a mailing list vendor, is the first company to offer an on-line Electronic Yellow Pages service. The newspapers will certainly be offering some form of electronic classified ads and direct marketers of various stripes can be expected

to provide shopping services on consumer-oriented data bases. Videotex is likely to involve various kinds of data for information, entertainment, transactions, and reference.

New technologies and a reordered regulatory regime will make entry feasible for new competitors, especially as the boundaries between information and reference, reference and transaction, advertising and direct marketing blur in an increasingly electronic environment. But, if newcomers will be able to begin to encroach on the heretofore protected domain of the Yellow Pages, so, too, will Yellow Pages providers be able to expand into new and cognate areas. The new Regional Telephone Holding Companies will be under some constraints, but the selling and compilation companies who work for them will not. Recall that the major costs in the directory business relate to sales and information processing. Sales force costs can be shared so, traditionally, a salesman calling on a client to sell advertising in one directory has been able to pitch other directories at the same time. Indeed, "market plans" are discount price incentives for an advertiser to buy in a package of directories, large and small, more or less specialized, covering a given market. The directory company

that provides both large metropolitan and local area neighborhood Yellow Pages has a distinct advantage over the small, independent that can offer only a neighborhood book. This same kind of sharing of sales costs is entirely conceivable across media as well as across books. A salesman might even give away a free introductory videotex placement (a special kind of "directory development program") along with a purchase in a hard copy directory. Existing publishers and selling agents thus may experience important economies of scale in the electronic media because of their entrenched position in the printed media.

Pool has argued that the key entry barrier in the Yellow Pages industry inheres in the printing and distribution of large tomes. With the advent of electronic channels, this barrier would be overcome and a plethora of heretofore uneconomic (because of paper and delivery expenditures) directories would appear. While this argument is not entirely implausible, it is far from compelling when we consider the structure of costs and the nature of entry barriers in the directory business. Paper and delivery accounted for just over 14% of Yellow Pages costs^[7] for New York Telephone in 1980. This was a lot of money in absolute terms, and the cost is going up, and 14% is hardly a negligible

cost category in any case. But, the cost of paper and delivery is dwarfed by the costs of sales and information processing. To argue the counterfactual, if the cost of paper were the key barrier, would not it make sense for a competitor to swallow hard and absorb that cost, which is only 7% of revenues in the Yellow Pages, to enter an industry with between 45% and 55% return on sales? The only answer to this, I think, is that the specialized directories that Pool and others envision will not be as profitable as the current Yellow Pages because if they were as profitable (or even 50% as profitable), then they would already exist in paper format.

Since sales costs (and information processing expenses) dominate the cost of producing an advertiser-supported paper directory, then it is the current Yellow Pages selling companies that are particularly well positioned to produce new advertiser-supported (specialized) electronic directories. They will experience the same (relatively modest) cost reduction due to electronic publishing that their competitors experience, but they will have vast experience, long term customer relations, and an ability to share the cost burden in a way that strictly electronic publishers will not. Directory companies have already developed and marketed advertiser-supported paper directories

aimed at specialized (e.g., health care) markets. The transition to electronic display is not that radical for a company that has already moved into electronic compilation and sales management in the back office.

A very different situation may obtain with respect to user-supported directories. As Pool has pointed out, a Consumer Report-style directory with objective product testing information and third party evaluation is fundamentally inconsistent with advertiser support. Since such a service would be paid for by the user on a monthly subscription and/or per use basis, the large directory selling companies will enjoy no particular competitive edge in its provision. Electronics which will permit frequent information updates and direct user billing may be a sine qua non for this kind of a service. But, a user-supported directory is radically different from the Yellow Pages. It will serve as a suitable substitute only insofar as it is highly comprehensive and relatively inexpensive. I would venture that user-supported, explicitly evaluative directories are likely never to substitute for nor compete with Yellow Pages -- electronic or paper -- but rather to complement them. I would further speculate that the businesses offering user-supported directories will not also offer Yellow Pages directories.

9.4. REFERENCE BEHAVIOR

Lay reference is a category of my own device, so it is not surprising that little published data speaks to its incidence and frequency, let alone to changes in these over time. Nearly everyone looks something up at one time or another, but few people look things up frequently or spend a great deal of time at it. While the amount of money one spends on it is the best indicator of the importance or value of a product or service, lay people do not pay to look things up; they do, however, tend to judge reference as "important." There is a cost to reference, a cost in time and effort, so the reference user is arguably a "naive Bayesian" who will take the trouble to look something up if and only if the expected value of additional information is greater than the cost (in time and effort) of obtaining it. [8]

Businesses, for whom time is money and information a valued commodity, may be willing to pay for on-line reference information, but I have no reason to believe that lay people will be willing to spend much time, let alone any money, to use complicated technology to accomplish precisely what they can already get for free from the familiar, friendly Yellow Pages. A videotex system predicated on the

notion that users will pay to retrieve information, in my opinion, is bound to fail.

Yet, information retrieval, especially the retrieval of reference information, has been considered a vital element in videotex systems. Tydeman, et al. (1982), in their recent technology assessment of videotex and teletext, suggest five primary functions for future computer-based, consumer-oriented, information/communications systems: information retrieval, transactions, messaging, computing, and telemonitoring. Nearly three-quarters of the information retrieval applications proposed involve "reference" to a greater or lesser extent. Nearly one-third of these applications -- e.g., retrieval of college course listings, transit schedules, real estate availability -- are entirely taken up with the kind of instrumental information-seeking that I have characterized as "reference" (Cf., Tydeman, et al., Chapter 5, especially Table 5.6).

Richard Hooper, British Telecom's Chief Executive for Information Services with responsibility for both Prestel and Yellow Pages, has argued that videotex will be a viable transaction medium only when it offers an Integrated Purchasing Service (IPS) including in-depth data to inform decisions along with the functions required to accomplish transactions.^[9] We could imagine the following scenario:

A person in the market for a room air conditioner goes to his videotex terminal and calls up the Electronic Yellow Pages. After identifying the dealers of the brands he is interested in, he uses the Electronic Yellow Pages as a direct route into their on-line catalogs. He "comparison shops" in the catalogs and then orders an air conditioner to be drop shipped to his home. The transaction is paid for by electronic funds transfer.

In this story, reference is intimately bound up with a transaction, and we can imagine other stories in which it would be an essential aspect of messaging (looking up an electronic mail box address) and computing (checking the catalog of available software).

An electronic directory is likely to be a part of any successful videotex service. This directory may act as a phone book (with automatic dialing of calls), a routing device within the system operator's own data base and, above all, as a gateway into other data bases. The directory will facilitate "information retrieval" but information retrieval for its own sake is not likely to be a terribly significant use of videotex, rather, the information retrieval function of the directory will be ancillary to a

range of other activities from electronic mail to transaction processing. It may be that various entertainment and home monitoring services are the most popular and lucrative videotex offerings and that the services that an Electronic Yellow Pages might facilitate are quite insignificant. My argument is not that an Electronic Yellow Pages will be the most important element of a videotex system; rather, that if it is important, it will not be as a fee-for-service electronic version of the free (advertiser-supported) Yellow Pages.

In discussing the kind of research necessary to develop fundamentally new telecommunications services, Michael Tyler (1978) says:

"Where radical changes or the introduction of entirely new technologies, services or applications are involved, analysis must dig deeper into the broader and more fundamental regularities of human behavior if it is to find some bedrock on which to build generalisable findings and predictions about effectiveness, acceptability, benefits or demand."
(p. 5)

Our investigation of the Yellow Pages has told us a number of things about the "fundamental regularities of human behavior" that might inform our understanding of how people will use the new electronic technologies.

People use key words, not trees, to search through the Yellow Pages. A videotex system that does not permit key

word searching -- and as I understand it, the early Knight-Ridder plans make no provision for key words -- will be awkward to use. Not only do people use key words, they frequently use the "wrong" key word. The brand name, rather than the category, is often the key word chosen. While a paper Yellow Pages cannot make provision for direct access via brand name, a videotex data base can. Indeed, the French electronic directory system permits precisely this kind of search. Key word search capabilities (including by brand or company name) are necessary but not sufficient for ease of use; the videotex service must also provide some utility to make "muddling through" a viable search strategy. Since people often go to the "wrong" heading, cross-references are provided in the paper Yellow Pages.

A much richer and less intrusive cross-referencing scheme will have to be embodied in an electronic directory. Some form of artificial intelligence will probably be in order to help the user find what he wants rather than what he asks for. Ideally, the system would "learn" just how people go about searches and construct shortcuts based on frequent "errors." In any case, Yellow Pages users usually eventually find what they are looking for, otherwise they would not be repeat users. The kind of messages that one

receives from existing computer systems -- "syntax error," "not found," "illegal command," etc. -- are likely to put off the lay user. To be successful, a videotex service will have to be as easy to use and as failsafe as the good old Yellow Pages. In the transition period, that is, until videotex is as familiar as the T.V. set, I think it will make sense to structure data base access and searching in a way that is familiar to the user.

If the Yellow Pages user is a "naive Bayesian," then the videotex reference user can be expected to be one as well. The kind of goods likely to be sought are those worth the trouble to take the trouble to seek. People for whom grocery shopping is a valued social activity are unlikely to do it from home (also, how do you electronically squeeze an avacado?), but if some people prefer to grocery shop at home, they will only do so if the data base is comprehensive with respect to price and availability.

International Resource Development Inc. argued, in its 1980 report on Electronic Yellow Pages, that the essential distinction between Yellow Pages and classified ads was that the latter contained information on availability and price which, because of its long publishing cycle, the former could not offer.

"Until now, yellow pages and newspapers have happily co-existed side by side. After all,

the yellow pages are only updated once a year while newspapers have much more flexibility with daily or weekly updating (depending on the type of newspaper). The electronic media will change all of that. With daily, hourly or even minute-by-minute updating possible, yellow pages and newspaper classified ads will essentially become the same service competing for the same advertising dollars."

[Emphasis in original]

(VideoPrint, July 8, 1980, p. 2)

A great deal has been made of the functional interchangeability of classified advertising and Yellow Pages in an electronic (videotex) environment. Because of the newspaper industry's considerable political power, its fear of losing classified advertising revenues to Electronic Yellow Pages publishers has been (unfortunately, I think) one of the most important forces shaping American communications policy in the 1980s.

Electronic classifieds and Yellow Pages may be functionally identical, but the behavior of the Yellow Pages user is far different from that of the classified user. The classifieds are routinely browsed, the newspaper reader looks at them because he has his paper in hand. Yellow Pages are never browsed. Use of electronic classifieds is much more like use of the paper Yellow Pages than of the paper classified ads. In an electronic medium even display advertising (unless it is randomly distributed through the data base and appears unbidden on the display screen) is,

in a sense, "classified" and must be called up and referred to. The people who routinely peruse the classifieds are precisely those not likely to be early videotex subscribers. But, heavy Yellow Pages users are.

We have seen that Yellow Pages users are early adopters of home computer technology. Home computers are already the primary terminals for current (1983) on-line information systems and they are a prime candidate for eventual videotex receivers. Yellow Pages users are disproportionately likely to buy via catalog and mail order; remote transactions are likely to be an integral part of future videotex services and individuals who are accustomed to and comfortable with mail order are likely to take advantage of the electronic shopping. I have highlighted the continuity of the Yellow Pages user profile over two decades of available data. What I am suggesting here is that a similar continuity can be expected in the face of a radically new medium, a continuity that will inhere in the similarity between the demographic profile of the current, frequent Yellow Pages user and the future (early adopter) videotex user. Well-educated, affluent, urban, reader of Ms. and Gourmet and Barron's and Sunset Magazine, having acquired the intellectual skills to search a data base and the disposable income to act upon that search, the frequent

Yellow Pages user of today, will be the videotex subscriber of tomorrow. Moreover, the Yellow Pages user of today is likely to be a Yellow Pages user in the future. Even as various telephonic and screen-based alternatives become available and popular, the paper directory will continue to provide an inexpensive and convenient overview of the entire universe of outlets for products and, increasingly, for services. Functioning in the domain of space, it will coexist with and complement the electronic displays which function in the domain of time.

FOOTNOTES
(CHAPTER 9)

- [1] The members of the Association of North American Directory Publishers, the non-utility publishers trade association, are largely erstwhile city directory publishers. The ANADP dates from the end of the 19th Century.
- [2] This approach is due to A.D. Chandler's Strategy and Structure: Chapters in the History of Industrial Enterprise, M.I.T. Press, 1962.
- [3] Cf., Testimony of Charles L. Brown, Chairman of the Board, American Telephone & Telegraph Co., Senate Hearings on the Telecommunications Competition and Deregulation Act of 1981, June 16, 1981.
- [4] Charles Brown, Senate Testimony, p. 409.
- [5] Under this policy prescription, Market Data Retrieval, which has created a national Electronic Yellow Pages by entering all the Yellow Pages listings into an on-line data base, is not infringing copyright.
- [6] San Diego Directory Assistance had no listing for it in January 1984.
- [7] Based on Table 2.1, even less based on the revised and more realistic cost estimates of Table 2.3.
- [8] Atkins (1973) suggests a similar formulation.
- [9] "Prestel, Escher, Bach" Seminar, Harvard Program on Information Resources Policy, October 17, 1983.

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