

AWPP  
D57  
1970

A COMPARATIVE STUDY OF THE PHARMACIST AS PRECEPTOR  
IN WISCONSIN AND ONTARIO

by

BERNARD PAUL DES ROCHES

A thesis submitted in partial fulfillment of the  
requirements for the degree of

DOCTOR OF PHILOSOPHY

(Pharmacy)

at the

UNIVERSITY OF WISCONSIN

1970

"The key to the success of any practical pharmacy training program lies with the preceptor. He must be made to feel the dignity of this program and to understand that his efforts are a part of the total educational process of the trainee as do the members of the faculty of a college of pharmacy."

--Letter from H. C. McAllister  
to R. Salisbury, September 10,  
1960.

## ACKNOWLEDGEMENTS

The author expresses his gratitude to Dr. Glenn A. Sonnedecker, without whose vital participation in the institution of the Social Studies of Pharmacy program, guidance, encouragement and countless hours spent in discussion, this work scarcely could have been completed.

From the University of Wisconsin, Drs. Robert W. Hammel, Ernst W. Stieb (now at the Faculty of Pharmacy, University of Toronto) and Richard A. Ohvall of the School of Pharmacy, William F. Thomas of the Student Counseling Center and Jack C. Gilchrist of the Department of Psychology also gave invaluable help.

The author thanks the Wisconsin State Board of Pharmacy, the University of Wisconsin School of Pharmacy, the Ontario College of Pharmacy and the University of Toronto Faculty of Pharmacy for supplying names and addresses for the universe of this study.

The author wishes he could give adequate recognition to the anonymous pharmacy preceptors and past interns whose patient, instructive participation made this study possible.

---

Supported in part by the Research Committee of the Graduate School from special funds voted by the State Legislature.

## INTRODUCTORY REMARKS

A period of practical<sup>1</sup> training in the pharmacy always has been a significant part of pharmaceutical education--and always open to discussion. With a massive shift of emphasis to academic education during the present century, in American licensure requirements, the old apprenticeship atrophied, in most states dwindling to a year of relatively uncontrolled experience. So uncontrolled was it, that general conclusions of The Pharmaceutical Survey, 1946-49 were "that, on the whole, the practical experience requirement is loosely administered, supervised in a superficial manner, and is productive of a minimum benefit to the prospective licensee for the practice of pharmacy. The fundamental responsibilities of the pharmacist to the apprentice have yet to be realized and fulfilled."<sup>2</sup>

Lacking substantial support for the proposed alternative of abolishing the requirement of supervised

- 
1. For our purpose, throughout this report, we mean by "practical training": an imparting or application of knowledge in which the work experience and setting is an integral part. The term practical in other contexts of this study has a similar sense to that here expressed.
  2. Edward C. Elliott, General Report of the Pharmaceutical Survey, 1946-49, American Council on Education, Washington, D.C. (1950), 224f.

experience, the profession has responded to the implied challenge meanwhile, by a recurring concern at both the national and state levels with standards of practical training. This concern was especially visible through efforts of the individual state boards of pharmacy after World War II to give reality, in the teaching pharmacies, to "Minimum Standards" of the National Association of Boards of Pharmacy (which had been developed as early as 1940). More recently, the concern has matured in the form of a "controlled internship."<sup>3</sup>

Adoption of the term "internship" during the past quarter century may have been partly motivated by a feeling that "apprenticeship" inadequately expressed the culminating educational experience after a university curriculum lasting for four and (uniformly after 1960) for at least five years; but the term "internship" also

- 
3. Although the term "internship" often is used in American pharmacy to mean the entire legally required period of in-service training, in Wisconsin it legally designates only that portion of the training served after graduation and comprises the last six months of the one-year requirement; and it is in this restricted sense that the term is used throughout the present report. In Ontario, under the uncontrolled program studied, the entire period of training was termed "apprenticeship," but the term "internship" is used here to designate the final portion of the required period, which corresponds to that of Wisconsin and which comprises the portion studied in this project.

reflected a new concept, at least in states that took the conclusion of The Pharmaceutical Survey seriously.<sup>4</sup>

"Intern" (from the French, meaning "resident within") implies in pharmacy, as in medicine, a period of residence under the tutelage of highly qualified practitioners, to learn to apply with discrimination and assurance in practice what has been learned academically of the profession and its underlying science. When most successful, a competent intern has as counterpart a competent preceptor; and it is to gain some insight into how one might characterize and differentiate superior preceptorship that this study was initiated.

- 
4. George Osborne wrote that "...in some localities the term apprentice and apprenticeship developed a stigma and have been replaced by intern and internship in an attempt to restore some degree of respectability to this very important phase of the preparation of the young practitioner." George E. Osborne, "Toward a More Meaningful Experience Requirement," Proceedings, National Association of Boards of Pharmacy and American Association of Colleges of Pharmacy District No. 1, Rhode Island (February 17-18, 1958), 32.

TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGEMENTS .....	iii
INTRODUCTORY REMARKS .....	iv
TABLE OF CONTENTS .....	vii
LIST OF TABLES .....	xi
LIST OF MAPS, GRAPHS, DIAGRAMS AND ILLUSTRATIONS.....	xvi
CHAPTER I: HISTORICAL BACKGROUND .....	1
Traditional Importance of the Preceptor in Pharmacy .....	1
The Preceptor as Sole Educator--The European Experience .....	2
The Preceptor Becomes an Independent Adjunct to Formal Education--The American Experience .....	8
The Preceptor as Certified Adjunct-Teacher with Legally Controlled Standards .....	15
The Development of the Program in Wisconsin.....	23
The Development of the Program in Ontario.....	30
CHAPTER II: CONCEPTUAL AND METHODOLOGIC BACKGROUND .....	43
Some Prior Findings .....	50
Reasons for Research .....	52
Purposes and Scope .....	53
Collecting Information .....	55
The Wisconsin Study .....	55
The Ontario Study .....	60
Processing Information .....	63
Limitations Encountered .....	64

TABLE OF CONTENTS - Cont.

	<u>Page</u>
CHAPTER III: RATED EFFECTIVENESS OF PRECEPTORIAL TEACHING IN TWO DIFFERENT SETTINGS .....	68
The Intern's View in Relation to the Preceptor's View .....	68
The Variability of Ratings .....	68
Comparison of Overall (Median) Ratings .....	70
Individual Rated Characteristics .....	81
Wisconsin Group .....	87
Ontario Group .....	89
Comparison of Wisconsin and Ontario Groups....	91
Effectiveness in Imparting Management Techniques .....	94
Effectiveness in Imparting Professional Information .....	100
Effectiveness in Transmitting Standards of Ethics, Professional Attitude and Conduct....	107
Proficiency in Stimulating Devotion to the Profession .....	113
Sympathetic Understanding of, and Attitude Toward, Intern's Needs .....	113
Devoting Adequate Time to Intern's Training Needs .....	119
General Comments .....	133
CHAPTER IV: SOME PERSONAL CHARACTERISTICS OF PRECEPTORS IN TWO DIFFERENT SETTINGS....	136
Personal Qualities .....	136
Academic Achievement .....	136
Professional Experience .....	139
Survey of Temperament .....	148
Personality, Temperament and Character .....	148
The Guilford-Zimmerman Temperament Survey....	150
Import of the Survey to Preceptorship .....	151
Interpretation of "Profile Charts" .....	154
General Comments .....	179

TABLE OF CONTENTS - Cont.

	<u>Page</u>
CHAPTER V: THE INSTRUCTIONAL ENVIRONMENT OF THE PRECEPTOR IN TWO DIFFERENT SETTINGS.....	182
Type of Pharmacy .....	182
Sales Volume .....	186
Daily Prescription Volume .....	189
Number of Pharmacists Per Unit .....	192
Type of Ownership .....	194
Appearance of the Pharmacy Exterior .....	197
Rating on a Pictorial Scale .....	197
Identifying Signs .....	202
Window Displays .....	203
Appearance of Advertising .....	205
Appearance of the Pharmacy Interior .....	207
Rating on a Pictorial Scale .....	207
The Pharmacy's Front Area .....	209
The Prescription Dispensing Area .....	214
The Pharmacy's Library .....	216
General Comments .....	226
CHAPTER VI: ATTITUDES TOWARD CERTAIN ASPECTS OF PRECEPTORSHIP IN TWO DIFFERENT SETTINGS .....	229
Preceptor's Role as a Practical Teacher .....	229
Hospital Pharmacy Experience .....	241
Attitudes Toward Suggested Changes To Be Made In the Program .....	244
Dealing With Intern's Problems, Ethics and Professional Conduct .....	253
Benefits from Experience in Internship Program .....	261
Criticisms of the Internship Program .....	265
General Comments .....	270

LIST OF TABLES

<u>Table</u>	<u>Page</u>
I. RESULTS OF SAMPLING TECHNIQUES: FORMER TRAINEES .....	56
II. PRECEPTOR'S MEDIAN SELF-RATING COMPARED TO MEDIAN RATING ASSIGNED BY HIS INTERNS (SIX-FACTOR SCALE): WISCONSIN GROUP .....	75
III. PRECEPTOR'S MEDIAN SELF-RATING COMPARED TO MEDIAN RATING ASSIGNED BY HIS INTERNS (SIX-FACTOR SCALE): ONTARIO GROUP .....	77
IV. DISTRIBUTION OF PRECEPTORS' SELF-RATINGS OF SIX CHARACTERISTICS: WISCONSIN GROUP .....	83
V. DISTRIBUTION OF INTERNS' RATINGS OF THEIR PRECEPTORS ON SIX CHARACTERISTICS: WISCONSIN GROUP .....	84
VI. DISTRIBUTION OF PRECEPTORS' SELF-RATINGS ON SIX CHARACTERISTICS: ONTARIO GROUP .....	85
VII. DISTRIBUTION OF INTERNS' RATINGS OF THEIR PRECEPTORS ON SIX CHARACTERISTICS: ONTARIO GROUP .....	86
VIII. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-EFFECTIVENESS IN IMPARTING MANAGEMENT TECHNIQUES: WISCONSIN GROUP .....	95
IX. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-EFFECTIVENESS IN IMPARTING MANAGEMENT TECHNIQUES: ONTARIO GROUP .....	97
X. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-EFFECTIVENESS IN IMPARTING PROFESSIONAL INFORMATION: WISCONSIN GROUP .....	102
XI. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-EFFECTIVENESS IN IMPARTING PROFESSIONAL INFORMATION: ONTARIO GROUP .....	104

LIST OF TABLES - Cont.

<u>Table</u>	<u>Page</u>
XII. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-EFFECTIVENESS IN TRANSMITTING STANDARDS OF ETHICS, PROFESSIONAL ATTITUDE AND CONDUCT: WISCONSIN GROUP .....	108
XIII. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-EFFECTIVENESS IN TRANSMITTING STANDARDS OF ETHICS, PROFESSIONAL ATTITUDE AND CONDUCT: ONTARIO GROUP .....	110
XIV. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-PROFICIENCY IN STIMULATING DEVOTION TO THE PROFESSION: WISCONSIN GROUP .....	114
XV. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-PROFICIENCY IN STIMULATING DEVOTION TO THE PROFESSION: ONTARIO GROUP .....	116
XVI. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR'S SYMPATHETIC UNDERSTANDING AND ATTITUDE TOWARD TRAINEE'S NEEDS: WISCONSIN GROUP .....	120
XVII. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR'S SYMPATHETIC UNDERSTANDING AND ATTITUDE TOWARD TRAINEE'S NEEDS: ONTARIO GROUP .....	122
XVIII. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR'S WILLINGNESS TO DEVOTE ADEQUATE TIME TO INTERN'S TRAINING NEEDS: WISCONSIN GROUP .....	126
XIX. COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR'S WILLINGNESS TO DEVOTE ADEQUATE TIME TO INTERN'S TRAINING NEEDS: ONTARIO GROUP .....	128
XX. AGE DISTRIBUTION OF PRECEPTORS RATED SUPERIOR AND NOT-SUPERIOR IN TWO DIFFERENT SETTINGS .....	140
XXI. NUMBER OF INTERNS TRAINED BY PRECEPTORS IN GROUP A-B AND GROUP C-F DURING THE PERIOD 1959-1963 - WISCONSIN SAMPLE AND 1952-1966 - ONTARIO SAMPLE .....	143

TABLE OF CONTENTS - Cont.

	<u>Page</u>
CHAPTER VII: SUGGESTIONS FROM THE FIELD FOR IMPROVING THE EDUCATIONAL VALUE OF PRECEPTORSHIP .....	273
The Preceptors' Training Conference .....	273
The Intern's Preparation .....	277
Suggestions To Increase Effectiveness .....	289
SUMMARY REMARKS .....	309
APPENDICES .....	315
A: FORMS, QUESTIONNAIRES, AND INTERVIEW GUIDES .....	316
B: DETERMINATION OF THE SAMPLE .....	349
C: HYPOTHESES .....	355
D: PHOTOGRAPHS .....	358
E: THE GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY .....	365
F: PERIOD OF PRACTICAL TRAINING AS PART OF QUALIFYING AS A PHARMACIST IN SOME REPRESENTATIVE EUROPEAN COUNTRIES AS OF 1963 .....	376

LIST OF TABLES - Cont.

<u>Table</u>	<u>Page</u>
XXII. MOST COMMON QUALITIES INTERNS WOULD LOOK FOR IN AN IDEAL PRECEPTOR .....	146
XXIII. RAW SCORES FROM "PROFILE CHARTS": WISCONSIN GROUP .....	156
XXIV. RAW SCORES FROM "PROFILE CHARTS": ONTARIO GROUP .....	158
XXV. MEDIAN OF NEAREST T-SCORES ON EACH TRAIT IN THE GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY FOR PRECEPTORS IN TWO DIFFERENT SETTINGS .....	160
XXVI. MEDIAN OF ALL T-SCORES FROM GUILFORD-ZIMMERMAN "PROFILE CHART" FOR EACH PRECEPTOR: WISCONSIN GROUP .....	162
XXVII. MEDIAN OF ALL T-SCORES FROM GUILFORD-ZIMMERMAN "PROFILE CHART" FOR EACH PRECEPTOR: ONTARIO GROUP .....	163
XXVIII. RANGES OF MOST AND LEAST FAVORABLE C-SCORES IN TERMS OF SUPERVISORY PROMISE, BASED UPON USE OF THE INVENTORIES WITH SUPERVISORY AND ADMINISTRATIVE PERSONNEL .....	171
XXIX. NUMBER OF TRAITS ON WHICH PRECEPTORS OBTAINED MOST FAVORABLE, LEAST FAVORABLE AND OTHER C-SCORES IN TERMS OF SUPERVISORY PROMISE: WISCONSIN GROUP .....	173
XXX. NUMBER OF TRAITS ON WHICH PRECEPTORS OBTAINED MOST FAVORABLE, LEAST FAVORABLE AND OTHER C-SCORES IN TERMS OF SUPERVISORY PROMISE: ONTARIO GROUP .....	174
XXXI. NUMBER OF PRECEPTORS IN TWO DIFFERENT SETTINGS WHO SCORED MOST FAVORABLY AND LEAST FAVORABLY IN TERMS OF SUPERVISORY PROMISE ON EACH OF THE TEN TRAITS .....	177
XXXII. TYPE OF PHARMACY IN RELATION TO PRECEPTOR'S MEDIAN RATING .....	183

LIST OF TABLES - Cont.

<u>Table</u>	<u>Page</u>
XXXIII. DISTRIBUTION OF PRECEPTORS IN RELATION TO SALES VOLUME OF TEACHING PHARMACIES IN TWO DIFFERENT SETTINGS .....	188
XXXIV. DAILY NEW PRESCRIPTIONS IN TWO DIFFERENT SETTINGS IN RELATION TO PRECEPTOR'S MEDIAN RATING .....	191
XXXV. NUMBER OF PHARMACISTS IN RELATION TO PRECEPTOR'S MEDIAN RATING .....	193
XXXVI. TYPE OF PHARMACY OWNERSHIP IN RELATION TO PRECEPTOR'S MEDIAN RATING .....	196
XXXVII. APPEARANCE OF COMMUNITY PHARMACY'S EXTERIOR ON A SEVEN-POINT PICTORIAL SCALE IN RELATION TO THE NUMBER OF PHARMACIES SERVING PRECEPTORS RATED AS SUPERIOR AND NOT-SUPERIOR IN TWO DIFFERENT SETTINGS .....	200
XXXVIII. APPEARANCE OF COMMUNITY PHARMACY'S WINDOW DISPLAYS IN RELATION TO THE NUMBER OF PHARMACIES SERVING PRECEPTORS RATED AS SUPERIOR AND NOT-SUPERIOR IN TWO DIFFERENT SETTINGS .....	204
XXXIX. APPEARANCE OF COMMUNITY PHARMACY'S INTERIOR RATED ON A SEVEN-POINT PICTORIAL SCALE IN RELATION TO THE NUMBER OF PHARMACIES SERVING PRECEPTORS RATED AS SUPERIOR AND NOT-SUPERIOR IN TWO DIFFERENT SETTINGS .....	208
XL. PERCENTAGE OF PRECEPTORS RATED AS SUPERIOR AND NOT-SUPERIOR IN TWO DIFFERENT SETTINGS WHO SHELVED THE BOOKS LISTED .....	219
XLI. PERCENTAGE OF PRECEPTORS RATED AS SUPERIOR AND NOT-SUPERIOR WHO RECEIVED, SCANNED AND SAVED THE JOURNALS LISTED: WISCONSIN GROUP .....	222
XLII. NUMBER OF PRECEPTORS SUGGESTING AREAS IN WHICH INTERN COULD BE BETTER PREPARED BY THE SCHOOL OF PHARMACY PRIOR TO THE INTERN'S PRACTICAL EXPERIENCE IN TWO DIFFERENT SETTINGS .....	280

LIST OF TABLES - Cont.

<u>Table</u>	<u>Page</u>
XLIII. NUMBER OF INTERNS SUGGESTING AREAS IN WHICH THEY COULD BE BETTER PREPARED PRIOR TO COMPLETION OF INTERNSHIP IN TWO DIFFERENT SETTINGS .....	286
XLIV. MAJOR CHANGES PROPOSED BY PRECEPTORS AND INTERNS FOR INTERNSHIP PROGRAM: WISCONSIN .....	297
XLV. MAJOR CHANGES PROPOSED BY PRECEPTORS AND INTERNS FOR INTERNSHIP PROGRAM: ONTARIO .....	299

LIST OF MAPS, GRAPHS, DIAGRAMS AND ILLUSTRATIONS

<u>Map</u>	<u>Page</u>
1. GEOGRAPHIC DISTRIBUTION OF ALL PRECEPTORS WHO WERE RATED BY THEIR INTERNS: WISCONSIN GROUP .....	58
2. GEOGRAPHIC DISTRIBUTION OF ALL PRECEPTORS WHO WERE RATED BY THEIR INTERNS: ONTARIO GROUP .....	62
<u>Graph</u>	<u>Page</u>
1. DISTRIBUTION OF MEDIAN RATINGS ASSIGNED BY INTERNS TO THE 41 PRECEPTORS IN FINAL SAMPLE: WISCONSIN GROUP .....	71
2. DISTRIBUTION OF MEDIAN RATINGS ASSIGNED BY INTERNS TO THE 60 PRECEPTORS IN FINAL SAMPLE: ONTARIO GROUP .....	72
3. PERCENTAGE DISTRIBUTION OF MEDIAN RATINGS ASSIGNED BY INTERNS AND PRECEPTORS: WISCONSIN GROUP .....	73
4. PERCENTAGE DISTRIBUTION OF MEDIAN RATINGS ASSIGNED BY INTERNS AND PRECEPTORS: ONTARIO GROUP .....	74
5. PERCENTAGE DISTRIBUTION OF "NEAREST T-SCORES" FROM THE GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY ATTAINED BY PRECEPTORS IN GROUP A-B AND GROUP C-F: WISCONSIN GROUP .....	168
6. PERCENTAGE DISTRIBUTION OF "NEAREST T-SCORES" FROM THE GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY ATTAINED BY PRECEPTORS IN GROUP A-B AND GROUP C-F: ONTARIO GROUP .....	169
<u>Diagram</u>	<u>Page</u>
1. SEVEN-POINT RATING SCALE USED WITH SIX PHOTOGRAPHS OF PHARMACY EXTERIORS AND INTERIORS .....	199
<u>Illustration</u>	<u>Page</u>
1. INDENTURE OF FIRST APPRENTICE EMPLOYED BY THE PENNSYLVANIA HOSPITAL .....	11

CHAPTER I  
HISTORICAL BACKGROUND

Traditional Importance of the Preceptor  
in Pharmacy

From the time that pharmacy was recognized as a profession distinct from any other in the health field, apprenticeship has been part of the education of the pharmacist. Beginning as the sole form of education, the apprenticeship system evolved within pharmaceutical education, first conceding a role to formal academic study for "rounding off" a pharmacist's education, then eventually considered supplemental (although in an important sense) to a university degree program. While the administration of this practical learning experience has changed with time and place, the responsibility for its instructional content remains as always the competent master of pharmacy, who, within the walls of his pharmacy, tries to turn to a neophyte's benefit the experienced practitioner's professional attitudes, discriminating judgments, workways, and knowledge. The importance so persistently attributed to this pharmacist-teacher has prompted the present examination of his role. If such a preceptor is to continue functioning as an effective teacher in a system of health care that places greater demands on his knowledge, it is important that we

be able to assess factors that will assist us in the selection and training of this essential person. A brief examination of the system of education through which the pharmacist-preceptor has evolved may place in better perspective his present functions and their content--the subject of the study here reported.

The Preceptor As Sole Educator--The European  
Experience

The distinction between an apprentice and an intern is significant. Traditionally, an "apprentice" mainly receives his training "on the job," a practical emulation of a skilled master that overshadows any academic or theoretic instruction in the calling. Conversely, an intern finds himself in transition between formal education and independent practice, learning "on the job" what cannot be better learned in academia. The complication is that while the main body of knowledge can be learned in school, however far that may be pushed there is other knowledge that can be learned or understood properly only under some form of tutelage in conditions of actual practice. The internship appears to become at once a more efficient procedure than the apprenticeship, particularly in a calling "more heavily rooted in knowledge than in motor skills,"<sup>1</sup> a trend that has come to embrace

---

1. Howard Wakefield, "The Preceptor-Intern Relationship," The American Journal of Pharmaceutical Education, 25, no.2 (Spring 1961), 228.

pharmacy during the past century especially. The purpose, meaning and scope of the requirement of practical experience have undergone profound changes from what it was originally. Though the internship may be a more effective procedure, the extent to which the practical training programs have kept pace with the advances in pharmacy is an important question, one that helped stimulate and focus this project.

In earlier centuries, almost the entire spectrum of occupations was accessible through individual initiative and acquisition or pretension of the necessary skills. Thus, the "art and mystery of the apothecary" was passed on within the classical system of apprenticeship of father or teacher working with son or student, side by side. With the organization of various arts and handicrafts into formalized bodies having power to stipulate requirements and restrictions concerning the right to practice, the term "apprenticeship" acquired legal significance. In many European countries, these organized bodies were the guilds, many of which had grown out of the merchant troupes of the tenth century (and later) who travelled as "armed bands held together by a spirit of close solidarity."

To compare briefly the development of pharmaceutical guilds and the apprenticeship requirements in Italy, France, and Germany is to sense the prime importance of

the apprenticeship system to the educational development. In Italy, the pharmaceutical guilds formed an important part of the government in the city republics,<sup>2</sup> and as members of the Guild of Physicians and Apothecaries, the pharmacists enjoyed a high reputation.<sup>3</sup> It was not atypical for a student of pharmacy to serve an apprenticeship of five years and a clerkship of three before attempting his examinations as a pharmacist. One noteworthy beginning of the trend toward transfer of pharmaceutical education from the guilds to the universities began with the Austrian legislation (1778) regulating pharmacy in Northern Italy, which made academic study and examination a requirement. By 1805, this was extended to the whole of Italy.<sup>4</sup>

In France as well, pharmacy found its place during the middle ages in the guilds, which were based (unlike

- 
2. Edward Kremers and George Urdang, History of Pharmacy, Revised by Glenn Sonnedeker, 3rd ed., J. B. Lippincott Co., Philadelphia (1963), 55.
  3. J. W. Thompson, Economic and Social History of Europe in the Later Middle Ages, vol. 2, F. Ungar Publishing Co., New York (1965), 227; and Edgecumbe Staley, The Guilds of Florence, A. C. McClung and Co., Chicago (1906), 273.
  4. Kremers and Urdang's History, p. 58. For excellent discussion on the pharmaceutical guilds of Italy, particularly Florence which was so influential, see Edgecumbe Staley, op. cit., particularly the chapter, "The Guild of Doctors and Apothecaries," 236-273, and Sister Mary Francis Xavier (Welhoefer), "Statutes of the Guild of Physicians, Apothecaries and Merchants in Florence (1313-1316)," unpublished Ph.D. thesis, University of Wisconsin (1935), 385 pp.

Italy) on the decree of royal, parliamentary or local authorities.<sup>5</sup> Generally, the guilds enjoyed a wide measure of self-regulation, and controlled the education and examination of their apprentices.<sup>6</sup> Usually, the novice served a period as an apprentice and clerk (compagnon), which could vary from two to eight years as apprentice to a total of four to ten years as apprentice and clerk.<sup>7</sup> The master who took an apprentice was paid a substantial fee in return for providing the food, shelter and education of the future pharmacist.<sup>8</sup>

Gradually some academic preparation became a requisite for practice. The university at Montpellier had brought the more theoretic part of training out of the pharmacy into the university in 1550,<sup>9</sup> beginning the shift of the educational center for the French apprentice, which became more widespread with the establishment of the Collège de Pharmacie by Royal Declaration in 1777.<sup>10</sup>

- 
5. Maurice Bouvet, Histoire de la Pharmacie en France des Origines à Nos Jours, Editions Occitania, Paris (1937), 226.
  6. Ibid., pp. 227, 257.
  7. Ibid., pp. 71-79. For example in Lyon (1588), the total period was four years; in Amiens (1576), Beaveau (1628) and Paris (1638), it was ten.
  8. Edward Kremers and George Urdang, History of Pharmacy, 2nd ed., J. B. Lippincott Co., Philadelphia (1951), 82.
  9. Bouvet, Histoire, p. 95.
  10. Kremers and Urdang's History, 3rd ed., p. 95.

In Germany, pharmacists were generally members of government-regulated, highly esteemed guilds which received their rights through a privilegium bestowed on them "by an individual ruler or an aristocratic governing body of a principality of the Holy Roman Empire."<sup>11</sup> An apprenticeship of six years (frequently under a physician) was customary. By the latter part of the eighteenth century, pharmacists became dissatisfied with the educational system and began to form private institutions of pharmaceutical studies, typically in a laboratory associated with an outstanding pharmacy. Thus the school of J. B. Trommsdorf in his pharmacy at Erfurt marked the beginning of a higher education by pharmacists and for pharmacists in Germany as early as the 1750's.<sup>12</sup>

As the guild structure was replaced by modern professional societies during the ensuing decades, it is noteworthy that the preceptor-apprentice relationship remained largely untouched in various European countries. Even at the turn of the present century, for example, the period of apprenticeship in Austria was still three years under rules set down by the apothecaries' society. After successful completion of the examinations (frequently conducted in the presence of royal health officers), the

---

11. Ibid., p. 76.

12. For a description of early apprenticeship requirements in Germany, see H. L. Taylor, The Practice of Pharmacology in Europe (collated reprint from The Midland Druggist and Pharmaceutical Review) [n.p., ca. 1910], 35-36, and Kremers and Urdang's History, 3rd ed., pp. 82-84.

student could then proceed in the next school year to the two-year course of study at a university; likewise in France, the requirement was three years of apprenticeship, followed by a "probationary examination," after which the student could register for the three-year professional course;<sup>13</sup> and in Germany, after a three-year apprenticeship with a licensed pharmacist (during which the student kept a notebook of the tasks he performed), the German apprentice attempted his pharmaceutical preliminary examination (Vorprüfung) and worked for one year as an assistant (Gehilfe). The candidate then attended four semesters at a university, and, after passing an examination, then worked two years as a professionally qualified assistant (Provisor) in a pharmacy.<sup>14</sup> In Great Britain an apprenticeship period lasting three years was followed by "minor" examinations set by the Pharmaceutical Society. Success on the examinations entitled one to be registered as a "chemist and druggist" (pharmacist). There was no requirement for formal academic training at this time, but it was recommended as additional preparation.<sup>15</sup>

The required period of practical training (including any probationary period) reportedly varied in the 1950's--

---

13. Taylor, Pharmacology, pp. 16-18 and 32-33.

14. Ibid., pp. 35-37.

15. Ibid., pp. 26-27.

like pharmaceutical education requirements in general-- from as little as one month in Poland all the way to two and one-half to four years in Finland.<sup>16</sup> Evidence abounds to suggest that even today there is little agreement internationally as to what constitutes the optimum practical experience, although governmental decision usually has been influenced by such factors as the relationship to the kind, length and sequence of academic education.<sup>17</sup>

The Preceptor Becomes an Independent Adjunct to Formal Education--The American Experience

The apprenticeship was introduced into America from Europe as the sole means of pharmaceutical education at a time when the old system there was already moribund. Here, lacking the old guild controls and standards, what the preceptor achieved depended more heavily upon his own conscience and ability.<sup>18</sup> In this context, the meaning of such a "practical education" proved to be highly unpredictable, since the quality of the education received was dependent upon the apprentice's willingness

- 
16. Hans Dieckmann, "Geschichte und Probleme der Apothekerausbildung," International Society for the History of Pharmacy, 5 (1954), 188.
  17. For current requirements in a few European countries, see Appendix F, p. 376.
  18. Glenn A. Sonnedeker, "American Pharmaceutical Education Before 1900," unpublished Ph.D. thesis, University of Wisconsin (1952), 19.

to learn and the preceptor's own knowledge and willingness to teach, as well as the opportunity for practice that was available in any particular locality.<sup>19</sup> The early preceptor in America has been characterized as "...the physician-pharmacist [who] dominated the medical scene, ordinarily a self-made man of little or no academic education in either profession."<sup>20</sup> These early American preceptors constituted and determined the character of pharmaceutical education before there were either pharmacy laws or schools.

With the development of larger urban areas and a culture that was distinctly American, the pharmaceutical and medical duties were split, so that two professions developed separately. By the nineteenth century, "druggists" had arisen, mainly in eastern centers of the United States. Some of these druggists and apothecaries were instrumental in the development of the first American school of pharmacy at Philadelphia in 1821.<sup>21</sup>

- 
19. Robert P. Fischelis, "Education in Pharmacy," American Druggist, 88, no. 4 (October 1933), 72-73.
  20. Glenn Sonnedecker and George Urdang, "Pharmaceutical Education," Higher Education, 9, no. 12 (February 15, 1953), 133. For a description of medical apprenticeship in the American colonies, see Genevieve Miller, "Medical Apprenticeship in the American Colonies," Ciba Symposia, 8, no. 10 (January 1947), 502-510. She mentions a diary kept by Alexander Anderson, which is one of the few known documents describing day-by-day activities of a medical apprentice in these times. Also worth reading are the comments of Rufus A. Lyman in "The Aims of Pharmaceutical Education," The Pharmaceutical Era, 44 (December 1911), 542.
  21. Ibid., pp. 133-134.

After opening of the early schools of pharmacy (six by 1865) the preceptors continued to dominate pharmaceutical education--indeed, with the exception of one school, these practitioners were responsible for founding and operating the schools until the Civil War (and some schools long afterward). The philosophy behind this early system was not so much to give a thorough training in the fundamental sciences or theoretical underpinnings of pharmacy (as taught in the schools today), as to supplement by a course of evening lectures the unsystematic training provided by apprenticeship in the drugstores. "The course or courses of lectures simply served as a kind of superstructure, their prime object being to bring into some system the information and experience irregularly acquired during an apprenticeship and assistanceship of four or more years."<sup>22</sup>

Apprentices often were indentured to a pharmacist when they were approximately seventeen years old, presumably for a period of time stipulated in the contract of apprenticeship, although in the absence of effective standards the length of apprenticeship remained highly variable in most states until late in the nineteenth century.

---

22. Edward Kremers, "The State Universities and Pharmaceutical Education," Proceedings, American Conference of Pharmaceutical Faculties, 4th annual meeting (1903), 4-5.

Contract of Apprenticeship of Thomas Boulter, First  
Apprentice Employed by the Pennsylvania Hospital in  
1776.

--Reproduction taken from Thomas G. Morton and  
Frank Woodbury, History of the Pennsylvania  
Hospital, 1751-1895, Times Printing House,  
Philadelphia (1897), opposite p. 481.

BLANKS of all sorts, Printed by ANDREW STUART, in Second street

# This Indenture

Witneffeth, That *Thomas Boulter* Son of *Hannah*

*Boulter* of the City of Philadelphia

Doth hereby himself, and by these Presents with the Consent of his Mother  
Doth, voluntarily, and of his own free Will and  
Accord, put himself APPRENTICE to *The Managers of the Pennsylvania Hospital*

to learn the Art, Trade and Mystery, and (after the Manner of an  
APPRENTICE) to serve *the said Managers or their Heiress* for the term here  
from this Day of the Date hereof, for, and during, and to the  
full End and Term of *Seven Years* next ensuing. During all  
which Term, the said APPRENTICE, his MASTER faithfully shall serve, his Secrets keep,  
his lawful Commands every where readily obey. He shall do no Damage to his said MASTER,  
nor see it done by others, without leaving or giving Notice to his said MASTER; he shall  
not waste his said MASTER's Goods, nor lend them unlawfully to any. He shall not commit  
Fornication, nor contract Matrimony, within the said Term: At Cards, Dice or any other  
unlawful Games, he shall not play, whereby his said MASTER may have Damage. With  
his own Goods, nor the Goods of others, without Licence of his said MASTER he shall  
neither buy nor sell. He shall not absent himself Day for Night from his said MASTER's  
Service, without his Leave: Nor haunt Ale-houses, Taverns, or Play-houses, but in all  
Things behave himself as a faithful APPRENTICE, ought to do, during the said Term. And  
the said MASTER shall use the utmost of his Endeavour to teach and instruct, or cause to be  
taught and instructed, the said APPRENTICE, in the Trade or Mystery of an *apothecary*

and procure and provide him sufficient Meat  
Drink, Apparel *Washing* Lodgings  
fit for an APPRENTICE, during the said Term of *Seven Years* & six months  
*He shall likewise teach him or cause him to be taught to read write*  
*English* & shall also allow him a *yearly* stipend of *£10*  
*one* *Year* end of Apparel besides his common Apparel

AND for the true Performance of all and singular the Contents and Agreements aforesaid,  
the said Parties bind themselves each unto the other firmly by these Presents. IN WITNESS  
whereof, the said Parties have interchangeably set their Hands and Seals hereunto. Dated  
the *Twenty fourth* Day of *February* in the *Sixth* Year  
of the Reign of our Lord GEORGE the Third, King of Great-Britain, &c. and  
in the Year of our LORD One Thousand, Seven Hundred, and Sixty-*six*

*Hannah Boulter*  
*Hugh Roberts*

*James Pemberton* on  
behalf & by order of the managers  
of the Pennsylvania Hospital



The dominance of the preceptorship (modeled after a system imported from England), sometimes "rounded off" by voluntary formal education (often night schools of one to two years), was not effectively challenged until state universities established courses in pharmacy. The traditional apprenticeship, which was one of the requirements for a diploma from most independent schools, was ignored in the curriculum of study offered by the University of Michigan in 1868. This course, "infused with laboratory work," marked the advent of university education in pharmacy.<sup>23</sup> The state boards, mostly founded during the last quarter of the century, also constituted a new agency for assuring some standard of competence through setting a minimum length of apprenticeship and licensing examination. This was still far from the requirements for uniformity in practical training that the National Association of Boards of Pharmacy has striven toward; especially after World War II<sup>24</sup>; but it began a century-long struggle to improve the period of practical training as a learning experience. Despite attempts to improve American pharmaceutical education, advanced significantly by the

---

23. Sonnedecker and Urdang, *Pharmaceutical Education*, p. 135. See Albert B. Prescott, "Pharmaceutical Education," *Proceedings, American Pharmaceutical Association*, 19 (1871), 425-429 in which Prescott sets forth the proposal.

24. See, for example, "By-Laws," *Proceedings, National Association of Boards of Pharmacy* (1967), 577-578.

state universities that arose after 1880,<sup>25</sup> periodic discontent with the educational system has been even more marked during the twentieth century, during which one state after another made at least some academic education compulsory. This stimulated improvements in the courses given in schools, and as the formal education period lengthened (four years compulsory in 1932), the preceptorship period correspondingly dwindled. With this change, the period of practical training gradually became standardized at about one year. Variations have persisted however; for example, Indiana, New York and Puerto Rico now require only six months of practical experience, and there is no required internship in Alaska, Mississippi and Rhode Island.<sup>26</sup> The stipulation of a time requirement is only one aspect of a practical training program, at best a minimum stipulation upon which a successful program can be built. The efforts of the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy (hereafter

---

25. Sonnedecker and Urdang, Pharmaceutical Education, p. 134.

26. "Requirements for Initial State Licensure of Pharmacists," NABP Indicator, 1, no. 1 (June 1969), 3. This is the first issue of a newsletter designed to increase communication between the National Association of Boards of Pharmacy and pharmacy students. Contrary to the indication that Mississippi requires 12 months practical experience (Table 70, p. 3, NABP Indicator), this is not a legal requirement for registration in Mississippi. However, most students complete 12 months of internship in order to obtain reciprocity. (Communication from N.A.B.P., August 7, 1969)

referred to respectively as N.A.B.P. and A.A.C.P.) aim beyond this minimum requirement, to achieve a uniform internship program in all member states by 1972,<sup>27</sup> which would profoundly affect the nature of future practical training in this country and its critical component, the competent preceptor.

The Preceptor As Certified Adjunct-Teacher  
with Legally Controlled Standards

As the state universities were founded and greater responsibility for pharmaceutical education was turned over to such institutions, the internship emerged more distinctly as a separate component of pharmaceutical training, requiring specialized teachers functioning within a system more tightly controlled and wisely directed. Little attention was paid in these initial stages to the pharmacist as a teacher, as effort was concentrated on improving the system and requirements of the practical training period itself. As early as 1909, F. B. Lillie, president of the N.A.B.P. pointed to the need for improvement in the rules for practical experience.<sup>28</sup> For the next 30 years, however, little was accomplished, although the N.A.B.P. periodically

---

27. Ibid., p. 4.

28. "President's Annual Address," Proceedings, N.A.B.P. (1909), 11.

considered the matter of practical experience.<sup>29</sup> It was not until 1940 that the Association developed and adopted the "Minimum Standards for Evaluating Practical Experience" to become effective in 1943. The war caused delay, however, and it was not until 1947 that eight amended standards<sup>30</sup> were adopted by the Association "to be put into effect by the respective Boards at the earliest time feasible."<sup>31</sup> After 40 years, during which the Association had accomplished little in this direction, the publication of the findings of The Pharmaceutical Survey 1946-1949 stirred earnest discussion and effort on

- 
29. From a compilation by the N.A.B.P. of experience requirement resolutions from N.A.B.P. annual meetings, between 1900 and 1940, 15 resolutions were adopted, in 1921 there were eight. This is in marked contrast to the development in the 1960's, where every year, there is at least one resolution dealing with the practical experience requirement.
30. Standards included 1) definition of the term "year," 2) notification of board by supervisory pharmacist and 3) notification by the student to the state board of the beginning and end of the applicant's service, 4) corroboration of service, 5) experience credited only if in a pharmacy approved by the state board, 6) definition of supervision, 7) definition of "acceptable pharmacy," 8) certification of records of details of experience. "Minimum Standards for Evaluating Practical Experience," Proceedings, N.A.B.P. (1947), 234-236.
31. John F. Rabe, "Report of Committee on Practical Experience Requirements," Proceedings, N.A.B.P. (1950), 149.

the part of men in pharmacy throughout the United States.<sup>32</sup>

The Pharmaceutical Survey 1946-1949

One of the most forceful influences that led to the "controlled" type of internship studied in the present project was this national survey of pharmacy. Conducted by the American Council on Education and directed by Edward C. Elliott, the Survey's General Report expressed serious doubts as to the value of the then existing requirements concerning practical experience, and recommended "that the present requirements for practical experience as to a prerequisite for licensure be modified to be of more practical value or else abolished."<sup>33</sup> The recommendation did not go unheeded.

Earlier, New Jersey had implemented a program designed to enhance the value of the period of practical

---

32. The survey's recommendations that the practical experience requirement be improved or abolished has been referred to repeatedly by many commentators, e.g., Albert Edlin, "Preceptorship--Your Responsibility," Ohio Pharmacist (September 1956), 15, 20-21; William S. Apple, "In-Service Training for Pharmacists, An Analysis of the Survey's Recommendations for," Amer. J. Pharm. Ed., 19, no. 2 (Spring 1955), 327-340; Jack E. Orr, "Uniform Internship Requirements," Proceedings, N.A.B.P. and A.A.C.P. Joint Meeting of Districts No. 7 and No. 8, Nevada (November 6-8, 1960), 116-124. The tone of these comments indicate that the Survey statements greatly stimulated their thinking.

33. Edward C. Elliott, General Report of the Pharmaceutical Survey 1946-1949, American Council on Education, Washington, D.C. (1950), 225.

training required to supplement academic education. Effective July 1, 1936, internship in New Jersey could be served only in pharmacies approved by the state board of pharmacy. The minimum time requirement was 52 weeks (48 hours per week), one-half of which could be served in a hospital pharmacy. Twelve requirements were stipulated; for example, the student was required to compound at least 600 prescriptions or galenical preparations and to submit monthly reports on his internship experience.<sup>34</sup> Another harbinger of a trend away from viewing the requirement as a largely unguided work experience and toward a selectively located internship with standards appeared in Oregon, when from June 1933 provision was made for certified preceptors, with whom students associated themselves during the summer months away from their university studies.<sup>35</sup>

The period of practical training and the minimum standards for the training became topics of prime importance at meetings and conventions on both a national and district level. The number of articles, commentaries, panel discussions, resolutions,

---

34. Robert P. Fischelis, "Regulations Regarding Practical Experience in New Jersey," The New Jersey Journal of Pharmacy, 9, no. 8 (August 1936), 9-12.

35. Communication from A. G. McLean, Secretary-Treasurer, Oregon Board of Pharmacy, March 26, 1965.

recommendations and studies generated on the topic after Elliott's report in 1950 is remarkable.<sup>36</sup>

The N.A.B.P.'s minimum standards were adopted only slowly by the various states,<sup>37</sup> due chiefly to the inability of the states to agree on basic principles. Vigorous debate ranged through fundamental questions as the actual need for a period of practical training,<sup>38</sup> how long it should be,<sup>39</sup> when it should be served,<sup>40</sup>

- 
36. For those interested in the history of the internship program in the United States, the present writer would be pleased to supply an extensive bibliography accumulated in the course of this research.
37. John F. Rabe, "Report of Committee on Study and Correlation of Practical Experience Requirements," Proceedings, N.A.B.P. (1948), 41; and John F. Rabe, "Report of Committee on Practical Experience," Proceedings, N.A.B.P. (1952), 105.
38. Melvin W. Green, "Pharmaceutical Education Faces the Future," Journal of the American Pharmaceutical Association, NS5, no. 4 (April 1965), 208-210; Lloyd M. Parks, "Address of the President," Amer. J. Pharm. Ed., 26, no. 3 (Summer 1962), 279-285; R. A. Lyman, Jr., "What's Dangerous to Pharmaceutical Education," Amer. J. Pharm. Ed., 21, no. 1 (Winter 1957), 4-5.
39. C. E. Miller, "The Preceptorship Training Program--When--How Long?," Proceedings, N.A.B.P. and A.A.C.P. District 5, Nebraska (September 30 and October 1, 1962), 22-25; Alvah Hall (Moderator), "Panel Discussion: The Duration and Integration of an Optimal Pharmacy Intern Program," Proceedings, N.A.B.P. and A.A.C.P., District 8, Colorado (October 29-31, 1961), 61-76.
40. N. H. Meyer, "Pharmacy and Pharmaceutical Education," Amer. J. Pharm. Ed., 21, no. 1 (Winter 1957), 6-8; Tom D. Rowe (Chairman), "Report of the Committee on Relation of Boards and Colleges of Pharmacy," Amer. J. Pharm. Ed., 17, no. 4 (October 1953), 592-596.

where,<sup>41</sup> what the student must do during this time,<sup>42</sup> who should supervise the program,<sup>43</sup> and what standards should be demanded of the preceptor.<sup>44</sup> The work of the various N.A.B.P. committees on this matter was prodigious, yet produced no recommendations acceptable to all as a

- 
41. Alexander J. Ogrinz, Jr. (Moderator), "Pharmacy Apprenticeship--Is Community Pharmacy Experience the Only Suitable Form of Internship for Licensure? (Panel Discussion)," Proceedings, N.A.B.P. and A.A.C.P. District No. 2, New York (October 15-17, 1964), 68-93; Tom D. Rowe (Chairman), "Report of the Committee on Relation of Boards and Colleges," Amer. J. Pharm. Ed., 16, no. 4 (October 1952), 618-623; J. Robert Jensen, "Is Retail Pharmacy the Only Suitable Form of Apprenticeship Experience?," Proceedings, N.A.B.P. and A.A.C.P. District No. 8, Arizona (November 15-17, 1964), 37-38.
42. Nicholas W. Fenney, "The Obligations of the Pharmacy Intern," Proceedings, N.A.B.P. and A.A.C.P. District No. 1, Connecticut (October 12-13, 1968), 59-64; Linwood F. Tice, "Specialization in Pharmaceutical Education," Amer. J. Pharm. Ed., 24, no. 4 (Fall 1960), 427-430; Kenneth Waters (Moderator), "Panel Discussion: The Pharmacy Internship Notebook," Proceedings, N.A.B.P. and A.A.C.P. District No. 3, Georgia (August 23-25, 1964), 23-29.
43. Heber W. Youngken, Jr., "Student Internships in Pharmacy," Proceedings, N.A.B.P. and A.A.C.P. District No. 1, Connecticut (October 24-26, 1965), 48-54; Louis E. Kazin, "Pharmacy Internship Must Be a Post-Graduate Program," Amer. J. Pharm. Ed., 17, no. 3 (July 1953), 424-430; Rob S. McCutcheon, "Dynamic Curriculum," J.A.Ph.A., Practical Pharmacy Edition, 20, no. 6 (June 1959), 322-323; Robert P. Fischelis, "Pharmacy Internship Control," J.A.Ph.A., Practical Pharmacy Edition, 17, no. 7 (July 1956), 432.
44. C. B. Caldwell, "Requirements for Pharmacy Intern-Trainee and Preceptors," Proceedings, N.A.B.P. and A.A.C.P. District No. 5, Nebraska (September 30-October 1, 1962), 19-22; L. L. Eisenbrandt, "Evaluation of Selection of Preceptors for Pharmacy Internships," Proceedings, N.A.B.P. and A.A.C.P. District No. 6, Texas (November 17-19, 1963), 57-58.

satisfactory program of practical training.<sup>45</sup>

Guidelines amplifying the minimum standards of 1947 were prepared in 1959.<sup>46</sup> These six guidelines recommended to the individual states conditions under which internship time should be credited toward licensure requirements, the standards for a preceptor and his teaching-pharmacy, and the nature of the report to be submitted by the student on his practical experience. These guides, intended for use by the various states in formulating their practical experience programs, were then expanded to serve better as guides for states where no internship programs existed.<sup>47</sup> One of the most influential supportive projects has been the Preceptor's Guide, prepared by a joint committee of the N.A.B.P. and A.A.C.P. Work began on the manual in 1962<sup>48</sup> and culminated in the first distribution in 1964.<sup>49</sup> The content, need and use

- 
45. A similar assessment was expressed by Rupert Salisbury (Chairman), "Report of Committee on Internship Requirements," Proceedings, N.A.B.P. (1962), 79-81.
46. Arthur C. Moin (Chairman), "Report of Committee on Internship Requirements," Proceedings, N.A.B.P. (1959), 228-231.
47. See for example, Arthur C. Moin (Chairman), "Report of Committee on Internship Requirements," Proceedings, N.A.B.P. (1960), 214-217; Rupert Salisbury (Chairman), "Report of Committee on Internship Requirements," Proceedings, N.A.B.P. (1962), 77-86.
48. Rupert Salisbury (Chairman), "Report of the Internship Requirements Committee," Proceedings, N.A.B.P. (1963), 217.
49. Rupert Salisbury (Chairman), "Report of the Committee on Internship Requirements," Proceedings, N.A.B.P. (1964), 178.

of the manual generated many debates,<sup>50</sup> as had the internship program itself. The Preceptor's Guide provided a useful tool, but could not achieve a uniform minimum standard in all states. As late as 1967, H. C. McAllister, Chairman of the N.A.B.P. committee on internship could say, "The suggestions have been made. The leadership has been offered, but both have been ignored."<sup>51</sup>

In 1968, the N.A.B.P. Committee on Internship Training proposed that the internship program in each state should be under the direction of a Tripartite Committee, composed of representatives from the state board, college and state pharmaceutical association.<sup>52</sup> Such a committee, it was felt, could give better guidance to the preceptor and formulate improved programs. Wisconsin had tested and reportedly found effective such a system, having instituted a tripartite directing

---

50. Richard J. Hampton, et al., "Panel Discussion: The Pharmacy Preceptor's Guide," Proceedings, N.A.B.P. and A.A.C.P. District No. 3, Mississippi (August 29-31, 1965), 36-49; Peter J. Hauper, "The Role of the Preceptor and the Use of the Preceptor's Manual in the Internship Training," Proceedings, N.A.B.P. and A.A.C.P. District No. 5, Nebraska (September 30-October 1, 1962), 36-39; Francis T. O'Brien, "Implementation of the Pharmacist's Preceptors' Guide; Panel Discussion," Proceedings, N.A.B.P. and A.A.C.P. District No. 2, Maryland (October 21-23, 1965), 133-141.

51. H. C. McAllister (Chairman), "Preliminary Report of Committee on Internship," Proceedings, N.A.B.P. (1967), 266.

52. H. C. McAllister (Chairman), "Report of the Committee on Internship Training," Proceedings, N.A.B.P. (1968), 406-435.

committee in 1965.<sup>53</sup> The tangled web of events that led to formation of the Wisconsin committee is too complex to analyze here, but a brief glimpse at the major steps involved may give further insight into some factors that influenced the thinking of preceptors included in the study reported in following chapters.

#### The Development of the Program in Wisconsin

Responding in part to the recommendations of the General Report, the urgings of the N.A.B.P. and its own felt needs, Wisconsin began work on a controlled internship program in 1955 when a subcommittee of the Wisconsin Pharmaceutical Association was activated to study the program then in effect.<sup>54</sup> Louis W. Busse of the School of Pharmacy faculty at the University of Wisconsin became actively involved in the development of a program, and in 1956-57 published his papers on "A Philosophy of Internship Programming,"<sup>55</sup> and "Guideposts for Internship

- 
53. "Chapter 351, Laws of 1965, An Act," The Wisconsin Pharmacist, 34, no. 12 (December 1965), 503, 513.
54. Robert Steele, "The Wisconsin Internship Program," The Wisconsin Pharmacist, 32, no. 5 (May 1964), 158.
55. Louis W. Busse, "A Philosophy of Internship Programming," J.A.Ph.A., Practical Pharmacy Edition, 17, no. 7 (July 1956), 459-461.

Training Programs in Pharmacy."<sup>56</sup> During these years Dr. Busse often spoke before pharmacists around the state, promoting his concept of an effective period of practical training. A student would train under a qualified preceptor in the "most qualified" of the profession's facilities, under a regularly evaluated program directed by a "Director of Internship Training" and supervised by the School of Pharmacy.<sup>57</sup> Dr. Busse's suggestions were adopted by the Wisconsin Pharmaceutical Association's subcommittee in 1967; and this committee recommended to the State Board of Pharmacy that they set up an Advisory Commission on Internship Training, which was done in August, 1957.<sup>58</sup>

In 1959, this Commission and Paul Pumpian, then Secretary of the State Board of Pharmacy, developed an experimental program, which was to be directed by Mr. Pumpian and evaluated at the end of two years.<sup>59</sup> The internship program thus came under the control of the State Board, which was not in accord with the approach advocated by Dr. Busse. For the next several years, the

---

56. Louis W. Busse, "Pharmacy Internship Training," J.A.Ph.A., Pract. Pharm. Ed., 18, no. 10 (October 1957), 612-613.

57. Interview with Dr. Busse, August 18, 1966.

58. Steele, Wisconsin Pharmacist, p. 158.

59. Ibid., p. 158.

program was conducted according to decisions of the State Board of Pharmacy. Through requirements laid down in the regulations, the student was required to submit quarterly reports which were evaluated by the State Board.

Direction of the program was extended to the preceptorial level by means of a preceptor's manual and preceptor conferences which were held annually in various parts of the state.<sup>60</sup> Little change in the format of the program was instituted after its formulation in 1959, apparently attributable in part to the dissolution of the Commission on Internship Training shortly thereafter. For several years there were flurries of interest in evaluating the program, but no concerted effort until 1963 when a newly-created Committee on Education of the Wisconsin Pharmaceutical Association (hereafter referred to as W.Ph.A.) made recommendations on the appointment of a

---

60. Since 1960, separate preceptor conferences have been held in the following communities (attendance figures shown in parentheses): May 1960 - Madison (150), May 1961 - Eau Claire (71), April 1962 - Milwaukee (180), April 1963 - Wausau (110), May 1964 - Milwaukee (91), May 1965 - Wisconsin Dells (127), September 1967 - Eau Claire (35), October 1967 - Green Bay (63), November 1967 - Milwaukee (149), September 1968 - Oshkosh (52), October 1968 - Wausau (19), November 1968 - Madison (161). Data drawn from Paul A. Pumpian, "Report of the Wisconsin State Board of Pharmacy," Wisconsin Pharmacist, 34, no. 10 (October 1965), 439; Max A. Lemberger, "Internship Board Report," Wisconsin Pharmacist, 37, no. 9 (September 1968), 339; and Internship Commission Office, August 1, 1969.

full-time Director of Internship, on funding of the program, and activation of a five-man Advisory Commission on Internship.<sup>61</sup>

These recommendations were discussed at a meeting of the Board of Pharmacy with representatives from the University's School of Pharmacy and the W.Ph.A.<sup>62</sup> Before the year was out, the W.Ph.A. was firmly committed to a funded program employing a full-time director responsible directly to the State Board of Pharmacy.<sup>63</sup>

After having met and agreed supposedly, with the State Board of Pharmacy on the formation of an Internship Commission to direct the program, it was arranged to have a bill introduced in the Wisconsin Legislature (1965) seeking formation of a commission composed of representatives of the State Board of Pharmacy, School of Pharmacy and W.Ph.A.<sup>64</sup> After the bill had been introduced,

---

61. Steele, Wisconsin Pharmacist, p. 158.

62. At this time, the president of the Association, Richard Streu, activated the Advisory Commission on Internship, appointing the following members: Chairman Jack Myers, Arthur Moin, Dale Wurster, Winston Durant and Robert Steele. Two subcommittees were named. The Subcommittee on the Director of Internship was to develop a job description for the position of Director. The Subcommittee on Internship was to review and evaluate the entire internship program and to make recommendations for its improvement.

63. "Resolutions. Adopted at the 83rd Annual W.Ph.A. Convention," Wisconsin Pharmacist, 31, no. 10 (October 1963), 350-352.

64. Robert Steele, "The Report of President Robert E. Steele at the 1965 W.Ph.A. State Convention," Wisconsin Pharmacist, 34, no. 9 (September 1965), 370, 372.

a difference of opinion emerged between leaders of the Association and members of the State Board of Pharmacy. In effect, the Board and the Association had put forth two different proposals!<sup>65</sup> Finally, the State Board agreed to some changes in the bill, although it continued to fight a bill that proponents thought the Board had approved. After legislative controversy involving considerable political maneuvering,<sup>66</sup> the Wisconsin Internship Commission was given legal status on October 28, 1965.<sup>67</sup>

Three days after the legislation became legally effective, the Commission held its organizational meeting at the University of Wisconsin Madison campus November 17, 1965. A vice chairman and a secretary were elected, major committees were appointed and the groundwork was laid for selecting a Director.<sup>68</sup>

- 
65. Apparently the State Board of Pharmacy was belatedly reluctant to give up its control of the program to a tripartite committee. (Interview with L. W. Busse, August 18, 1966).
66. See "Report of Robert E. Steele," Wisconsin Pharmacist, p. 372.
67. "Roll Call Vote of Wisconsin Legislature on Bill 314-S," Wisconsin Pharmacist, 34, no. 11 (November 1965), 452.
68. The commission itself has been composed since its establishment of five members of the State Board of Pharmacy, four representatives of the University of Wisconsin School of Pharmacy and four from the W.Ph.A. "Commission is Quickly, Smoothly Activated," Wisconsin Pharmacist, 34, no. 11 (November 1965), 453.

At its February 16, 1966 meeting, the Wisconsin Internship Commission formally adopted rules and regulations under which the intern training program would be conducted.<sup>69</sup> Under the new program it is significant for improvement and uniformity of the preceptorship as a teaching function that the preceptor is not merely certified, but must meet specific certification requirements. These were (until amended):

1. Completion of 36 months practice as a registered pharmacist engaged in the compounding and dispensing of pharmaceutical preparations and physicians' prescriptions and the supplying of drugs and drug containing preparations in a registered pharmacy in the state of Wisconsin.
2. Current full time practice as a registered pharmacist in a licensed pharmacy in the state of Wisconsin in which no less than 6,000 prescriptions are filled annually and which is operated in a professional manner and in the library of which there is, in addition to other required texts and materials, a copy of a recent edition of the United States Dispensatory.
3. Membership in the Wisconsin Pharmaceutical Association or the Wisconsin Society of Hospital Pharmacists.

---

69. For complete text of rules and regulations, see "Wisconsin Pharmacy Internship Commission," Wisconsin Pharmacist, 35, no. 3 (March 1966), 82-83.

4. Attendance at an annual meeting of a professional pharmaceutical organization within the three years immediately preceding the date of application for certification as a preceptor.
5. Attendance at a preceptor training conference within the three years immediately preceding the date of application for certification as a preceptor.
6. Attendance at a seminar on pharmacy of at least one day's duration during the three years prior to the date of application for certification as a preceptor.
7. Compliance with all the provisions of this rule.<sup>70</sup>

The rules adopted by the Wisconsin Internship Commission on February 16, 1966 differ from the abovementioned only in the greater flexibility provided: The Commission or Director of Internship has more leeway in specifying the number, frequency and type of meetings that a pharmacist must attend to maintain his certification as a preceptor. Also in lieu of membership in a state association, a preceptor may maintain membership in a national association.

In 1966, the Commission appointed its Director of Internship, Max A. Lemberger of Milwaukee.<sup>71</sup> His efforts

70. Wisconsin Administrative Code, Rules of Wisconsin State Board of Pharmacy, 3.06 (March 1964), 15.

71. "Max Lemberger Appointed Director of Internship," Wisconsin Pharmacist, 35, no. 7 (July 1966), 278.

have been concentrated on establishing close contact with the state's preceptors and pharmacy students, increasing the number of preceptor conferences<sup>72</sup> and providing guidelines for the preceptors to establish their individual training programs for the trainees.<sup>73</sup>

It is difficult to assess the effect of the hurried, controversial development of the internship program on the preceptor's attitude, just as it is impossible to predict the attitude with which future developments will be received. The direction that pharmacy internship in Wisconsin will take depends largely on the Internship Commission and the Director. The development of the program, overshadowing that in any other state, rests now on a significantly different system of practical training as a prerequisite to licensure.

#### The Development of the Program in Ontario

The dissatisfaction, discussion, and delay that characterized the development of minimum standards for practical training was not limited on the North American

- 
72. Separate annual preceptor conferences have been held since 1960 (except 1966). These have, since 1967, been increased to three annually in various parts of the state.
73. The philosophy is evidenced by Mr. Lemberger's monthly report in the Wisconsin Pharmacist. See particularly 37, no. 9 (September 1968), 337-339, 361.

continent to the United States. In Canada, pharmaceutical education in general, although tied closely to the British tradition, has remarkably paralleled the course of development in the United States.

The pioneering pharmacists in Canada felt the same early need to divorce themselves from the control of the physicians, and develop their own educational system,<sup>74</sup> but for several reasons were unable to proceed at the same pace as their colleagues in the United States.<sup>75</sup>

Partially as a result of its own resources and initiative, though more frequently following evaluation and debate of American innovations, the profession progressed to its present level in Canada from beginnings in Quebec and Ontario (Upper and Lower Canada, respectively); and a brief look at the development in Ontario specifically will give perspective to the present report.

- 
74. W. Saunders, "Pharmacy in Canada," Proceedings, A.Ph.A., 19 (1872), 430.
75. In a land area larger than the United States, the difficulty of communicating on a national and, in the early days, even on a provincial scale was intensified by the great distances and lack of efficient means of communication. Secondly, a national organization to speak for pharmacy had never developed to the level of sophistication and efficiency of its American counterpart. The Canadian Pharmaceutical Association (hereafter referred to as C.Ph.A.) grew slowly from its 1907 beginning [Joy McAllister, "Canadian Pharmaceutical Journal Completes 100 Years of Publication," Canadian Pharmaceutical Journal, 101, no. 1 (January 1968), 13] and has never acquired the manpower or financial resources of the American Pharmaceutical Association.

The early pharmacist of Lower Canada was usually a self-educated man. Although no apprenticeship was required prior to passage of the Pharmacy Act in 1871,<sup>76</sup> most young men desirous of becoming pharmacists did pursue a period of indenture, obtaining knowledge by experience and possibly assisted by a textbook of chemistry and botany to which he perchance had access.

The Canadian Pharmaceutical Society, for its part, attempted to inaugurate lectures in chemistry in 1867, but was hampered by insufficient funds.<sup>77</sup> In the following year, pharmacy apprentices attended twice-weekly lectures on chemistry at the Mechanics Institute in Toronto for a five-month period, followed by two sets of examinations. Financial difficulties and lack of interest reduced even this modest undertaking to twice-weekly lectures to nine students by the editor of The Canadian Pharmaceutical Journal in his home (1870).<sup>78</sup>

From 1871 registration as "Chemist and Druggist" was granted to those who were in business at the time of

---

76. The Canadian Pharmaceutical Journal, 4, no. 34 (1871), 19.

77. "Canadian Pharmaceutical Society of Toronto," C.Ph.J., 1, no. 3 (July 1868), 41.

78. "Canadian Pharmaceutical Society of Toronto," C.Ph.J., 2 (1869), 52-53.

passage of the Pharmacy Act, or had served a three-year term of apprenticeship and one year as assistant prior to the measure. All others were required to pass an examination set by The Ontario College of Pharmacy (f. 1869).<sup>79</sup>

The College, after some difficulty was able to set up its own teaching faculty and course of study, open to all who had served an apprenticeship of not less than two years.<sup>80</sup> This was later modified so that an applicant for examination by the College had to submit proof of three-year apprenticeship, or, if under three years, a standing of at least seventy percent in practical dispensing, reading and translating prescriptions.<sup>81</sup>

A more rigid standard of apprenticeship was established by a new Pharmacy Act passed in 1884. It declared that a candidate for examination was required to have served three years in a pharmacy, such indenture being pursuant to a written contract. Furthermore, the apprentice, before such a contract was signed, was required to pass a preliminary examination equivalent to

---

79. "Canadian Pharmaceutical Society of Toronto," C.Ph.J., 3 (1870), 9.

80. "The Pharmacy Act of 1871," C.Ph.J., 4, no. 33 (1871), 19.

81. Henry J. Rose, "Annual Report of the President of the Council of the Ontario College of Pharmacy, July 1872," C.Ph.J., 6, no. 2 (September 1872), 47.

that required for admission to a high school, a collegiate institute, or to the fourth form of an Ontario public school.<sup>82</sup>

In spite of considerable protest from apprentices, in 1889 attendance at the lectures of the Ontario College of Pharmacy became compulsory,<sup>83</sup> provision being made for Junior and Senior courses, preceded by a matriculation examination.<sup>84</sup>

Four years of apprenticeship, instead of the former three, were also required. Thus, two sets of regulations governing apprentices were in force. Those who were registered with the College as apprentices prior to March 23, 1889 were required to serve a three-year term of indenture under contract. Upon its completion, it was then necessary to write the Council's examination to obtain a license to practice pharmacy. Attendance at the Ontario College of Pharmacy lectures was voluntary, and time spent there was not considered to be part of the apprenticeship. After March 23, 1889, it was necessary

---

82. E. B. Shuttleworth, "Ontario College of Pharmacy," C.Ph.J., 15, no. 8 (March 1882), 266.

83. "Changes in the College Curriculum," C.Ph.J., 21, no. 4 (November 1887), 41-42.

84. The two courses included instruction in pharmacy, chemistry, prescription reading and dispensing, materia medica and botany. "The Pharmacy Act Amendments," C.Ph.J., 22, no. 9 (April 1889), 123-124.

to furnish evidence of having successfully completed the Matriculation Examination before embarking upon a four-year term of apprenticeship, during or after which, the apprentice was required to attend a course of lectures as part of the apprenticeship term.

In 1892, the Ontario College of Pharmacy affiliated with the University of Toronto,<sup>85</sup> which culminated in 1953 with the College transferring its teaching function entirely to the University.

Between 1892 and 1953, the course of study was extended from one to two years in 1927<sup>86</sup> to four years in 1948,<sup>87</sup> and the period of apprenticeship was progressively reduced from three to two years in 1927 and to 18 months with the establishment of the four-year course. In the 1930's, R. D. Hurst developed three books on apprenticeship, and annual examinations based on these books were introduced to make the apprenticeship more of an educational experience.<sup>88</sup>

---

85. "The Pharmacy Act Amendments," C.Ph.J., 26, no. 10 (May 1893), 155-156.

86. G. R. Paterson, "The History of Pharmacy in Ontario," C.Ph.J., 100, no. 2 (February 1967), 48.

87. Ibid.

88. Ibid. It is not known when the use of these books was discontinued.

In 1963, the period of apprenticeship was reduced to twelve months and remained under the supervision of the Ontario College of Pharmacy. Between the 1930's and 1950's, the period of practical training may have lost some of its value, for use of the Hurst apprenticeship manuals had been discontinued, as was the examination following the practical training. The main standard was a time requirement only. Standards required of the training pharmacy were simply those legally required of all pharmacies in the province (which seem to have been only the minimum needed for safety). There were no restrictions on who could act as a preceptor and no direction provided to either teacher or student. The sole restriction applied to the training was the rule of one student to one preceptor.

It is at this point in the evolution of Ontario's practical training program that our research is focussed. However, the steps that meanwhile brought the program its present and different character should be recounted here briefly as background information.

In 1959, G. W. Fairley, then Field Extension Officer for the Ontario College of Pharmacy, attended a conference in New Jersey and heard Louis W. Busse of the University of Wisconsin School of Pharmacy speak on the controlled internship program operating in his state. Mr. Fairley soon set the wheels in motion for the adoption of a

program of practical training based on what he had learned in Wisconsin. By November 1960, the Registrar and the Field Extension Officer were directed to prepare a plan for an internship program. The following important recommendations were put forth:

- ...the pharmacy graduate shall receive before licensing:
- a) 18 months of practical training (approx. 3000 hours) in a training pharmacy under a certified preceptor, of which six months shall be continuous and shall be served after graduation.
  - b) Minimum standards for a teaching pharmacy shall include those for shop licenses, plus some additional equipment, a minimum of 2000 prescriptions per year or other satisfactory qualification, textbooks and periodicals in the recommended list.
  - c) Requirements for certification as a preceptor shall be set forth by the Committee on Education.
  - d) A trainee may be registered as an interne on meeting the educational requirements for entrance to the Faculty of Pharmacy of the University of Toronto.
  - e) Rules for preceptors shall be set forth by the Committee on Education.
  - f. An examination for licensing shall be included in the programme which will be supervised during the entire eighteen months.<sup>89</sup>

---

89. George G. Caldwell, "Report of the Special Committee on Minimum Standards," Minutes of the Meeting of the Council: The Ontario College of Pharmacy, (November 7-11, 1960), 1724.

From the time of these recommendations to the passing of legislation governing the present practical training program, a long arduous period of debate, suggestion, revision and explanation ensued, marked both by praise and criticism, frustration and reward.

At the June 1961 session of Council, the Committee on Education recommended that "the period of internship training be a total of twelve months, of which six months must be continuous and served after graduation."<sup>90</sup>

To obtain the reaction of practicing pharmacists in Ontario to these proposed new regulations governing the practical training program, a questionnaire was sent to registered owners and managers of pharmacies. The results of this survey provided both support and criticism of the proposed program and aided greatly in the formulation of the regulations that would govern it. Provision was made to provide for the internship training program in the draft regulations then being prepared for submission to the Minister of Health.

By mid-1962, those interested in the practical training program in the province had a fairly good idea of the regulations needed for its implementation, and so it was time to bring them to the attention of those most important to the program's success--the prospective

---

90. George G. Caldwell (Chairman), "Report of Committee on Education," O.C.P. Council Minutes (June 19-21, 1961), 1825.

preceptors. At a meeting in London, Ontario in August 1962, the Proposed Rules and Regulations for Internship Programme were put forth. These were approved by those present and printed,<sup>91</sup> then revised in October 1963.<sup>92</sup>

It was hoped to have the new program put into effect by the time the Faculty of Pharmacy transferred to its new building in 1963, despite realization that legislation was still some time away. When the Committee on Education, the Registrar and the Director of Extension Services (a new title bestowed on Mr. Fairley in 1963 as a result of his expanded activities) met and discussed the internship program on March 24, 1964, an important recommendation was forthcoming:

That all students in the Faculty of Pharmacy of the University of Toronto who receive the degree of Bachelor of Science in Pharmacy in 1967 and thereafter be required to complete six consecutive months of

- 
91. "Proposed Rules and Regulations for Internship Programme," O.C.P. Council Minutes (October 15-17, 1962), 2010-2016. The Registrar and Field Extension Officer were directed to appear at meetings throughout the province to explain details of the proposed plan and to seek the opinions of the members of the College with respect to it. These meetings were commenced on October 24, 1962 and continued well into 1963. As a result, several local associations submitted petitions for revision of the internship program.
92. Ken J. Wiley (Chairman), "Report of Committee on Education," O.C.P. Council Minutes (October 21-23, 1963), 2199-2201.

internship as part of the twelve month period of practical training required for the licence.<sup>93</sup>

On July 9, 1966, The Ontario Gazette carried the amendments to Regulation 480 (The Pharmacy Act) that would give legal status to the new internship program. The Act provides for a Director of Intern Training, sets forth the requirements for registration as an apprentice and intern, stipulates the length of the training program and states rather liberally the requirements the trainee must fulfill in the training period:

Every apprentice shall complete as a condition of apprenticeship such course of training as the Council may require and shall file reports of such training in a form satisfactory to the Director of Intern Training.<sup>94</sup>

This has permitted changes as a need is determined, without having to wait for legislation to alter the requirements. Requirements for certification as a preceptor, such as notebook requirements and affidavits of training are spelled out in the Rules for the

- 
93. Ken J. Wiley (Chairman), "Report of Committee on Education," O.C.P. Council Minutes (April 13-15, 1964), 2277. Though the necessary legislation had not yet been passed, a beginning was made in the practical training in May 1965 when some 50 students were registered as apprentices in community pharmacy and hospital pharmacy.
94. Regulation 480, The Pharmacy Act, as amended to August 31, 1968, 32-33.

Internship Programme. Some of the stipulations of these rules as originally stated have not yet been implemented, particularly with respect to certification of preceptors. When these have been given thorough study, they can be either implemented or deleted, without requiring revision of the Pharmacy Act.

The program is currently divided into three parts: the Preliminary Training Period of 3 months, generally served during the summer between the second and third years in the University's Faculty of Pharmacy; the Intermediate Training Period of 3 months, generally served between third and fourth year; and the Advanced Training Period of 6 months always served consecutively after graduation from the Faculty with the B.Sc.Pharm. degree. During the first six months of the training period, the student is referred to as an "apprentice." During the final six months he is an "interne" and is accorded several privileges.

It will have become obvious that the subject of the study reported in following chapters (the preceptor) has never been a teacher trained primarily to instruct the novice in the art and science of pharmacy. His role as a preceptor is just one of many that demand his time and devotion. Yet a preceptor must find the time to act as a teacher--a special type of teacher who can link theory with practice, who can transform principles taught in a

laboratory or classroom into the practical tools with which to render a reliable professional service to the public. Over the years, the time in which the preceptor and student are together has been reduced. Today, in the two political units to be examined, the certified preceptor alone holds responsibility for giving practical training to pharmacy trainees, rooted in a belief that the novice's tutelage under conditions of practice thus can be enhanced. To foster a better fulfilling of this role, we have undertaken in the study reported below to add to our knowledge about the relationships between the preceptor and intern.

## CHAPTER II

### CONCEPTUAL AND METHODOLOGIC BACKGROUND

Despite the changing character and status of the preceptorship through the centuries in pharmaceutical education, it can be seen that the relationships between master and neophyte have persistently been recognized for their central value in socializing the prospective pharmacist to the occupational role expected of him. In the present study, however, effort has been directed more specifically toward better understanding of the dyadic interplay that distinguishes and makes so meaningful the transitory roles played by the pharmacist-preceptor and a given intern. To give a conceptual foundation and perspective to an analysis of this pharmaceutical "rite of passage," elements of role theory will be alluded to as far as they are relevant to the present purpose.

Briefly, "role theory may be said to deal with patterns of behavior or other characteristics which are common to persons and with a variety of cognitions held about these patterns by social participants. The conceptual distinctions of role theory center around a description of the patterns or of the cognitions. The propositions of role theory are concerned with the effects of the patterns upon the cognitions or the latter upon the

former."<sup>1</sup> Thus a study of the effectiveness of the pharmacist as a practical teacher necessarily is concerned with his behavior in the role of preceptor, his personal conception of this role, some of the characteristics that influence both his conception of and action in this role, such as his temperament and attitudes. As will be seen later, the preceptor's cognitions and patterns of behavior are not the only sources of information considered in the study of his role, but also external factors that impinge on his conception and performance.

The social science literature is replete with definitions of the term role, "representing different disciplines, different points of view within a single discipline, and in some cases, different formulations of an individual author."<sup>2</sup> None of these definitions is wrong; they are simply different representations of the role concept, or representations of different aspects of role. The present purpose seems particularly well illuminated by Michael Banton, who observed:

Every member of a social unit, be it a ship, a football team, or a nation, has one or more parts to play. He has tasks to perform, and is entitled to receive

1. Bruce J. Biddle, The Present Status of Role Theory, Social Psychology Laboratory, University of Missouri, Columbia, Mo. (August 1961), 2.
2. Neal Gross, Ward S. Mason and Alexander W. McEachern, Explorations in Role Analysis: Studies of the School Superintendency Role, John Wiley & Sons, Inc., New York (1958), 11.

service from other people in recognition of his contributions. These clusters of rights and obligations constitute roles.... By 'right' is here understood a socially sanctioned claim either upon other persons or upon society in general. By 'obligation' is meant a socially sanctioned expectation binding a person to meet certain legitimate claims.<sup>3</sup>

This reminds us of an important factor that bears heavily upon a sensitive perception of the pharmacist in his role as preceptor: That it is a small component, however significant of a much larger and segmented occupational role. Within Banton's concept of role, attention here is focussed primarily on the preceptor's obligations, as opposed to his rights. In this context, it may seem a little far-fetched to claim that the preceptor's responsibilities as a teacher are "socially sanctioned expectations binding him to meet certain legitimate claims." "Binding" and "legitimate" at least cannot be used here in the legal sense. Although in both Wisconsin and Ontario, the relationship between preceptor and apprentice is formalized by a contract, and guidelines are provided to assist the preceptor in the training of his student, failure to fulfill satisfactorily this role brings no legal action upon the preceptor. More important in the relationship is

---

3. Michael P. Banton, Roles; an Introduction to the Study of Social Relations, Basic Books, Inc., New York (1965), 2.

the moral obligation, the obligation of conscience and tradition that the preceptor feels toward his charge. "Legitimate claims" then become the rational, reasonable demands the student can make upon his preceptor, more specifically--"a set of norms and expectations applied to the incumbent of a particular position,"<sup>4</sup> in our study, the preceptor. What then, are these norms and expectations imposed on the preceptor? Who determines them?

There are three groups who may determine the role of the preceptor, and in describing them we are in effect defining role in three different ways prominent in the literature concerned.

In the first, role "represents the dynamic aspect of status.... When [the individual] puts the rights and duties which constitute the status into effect, he is performing a role."<sup>5</sup> It consists of "...attitudes, values and behavior ascribed by the society to any and all persons occupying that status."<sup>6</sup> In this sense, role would not refer to the actual behavior of an occupant of a position, but rather to ascribed behavioral standards. The preceptor's role would be

---

4. Ibid., p. 29.

5. Ralph Linton, The Study of Man, D. Appleton-Century Co., New York (1936), 114.

6. Ralph Linton, The Cultural Background of Personality, D. Appleton-Century Co., New York (1945), 77.

defined then by the statements of the members of the Internship Commission as official representatives of "society."<sup>7</sup>

A role can also be "treated as an individual's definition of his situation with reference to his and other's social positions."<sup>8</sup> An example of such a definition is Sargent's: "A person's role is a pattern or type of social behavior which seems situationally appropriate to him in terms of the demands and expectations of those in his group."<sup>9</sup> Parsons, Shils and Olds utilize this approach as well.<sup>10</sup> In this sense

- 
7. The definitions of a number of authors would also fall in the same "normative culture pattern" category, for example, Theodore M. Newcomb, Social Psychology, The Dryden Press, New York (1951), 280; Florian Znaniecki, The Social Role of the Man of Knowledge, Columbia University Press, New York (1940), 19; John W. Bennett and Melvin M. Tumin, Social Life, Structure and Function, Alfred M. Knopf, New York (1948), 96; Talcott Parsons, "Age and Sex in the Social Structure of the United States," American Sociological Review, 7 (1942), 604-616; Arnold M. Rose, "The Adequacy of Women's Expectations for Adult Role," Social Forces, 30 (1951), 69-77; Mirra Komarowsky, "Cultural Contradictions and Sex Roles," American Journal of Sociology, 52 (1946), 184-189.
  8. Gross, Explorations, p. 13.
  9. S. Stansfeld Sargent, "Concepts of Role and Ego in Contemporary Psychology," in Social Psychology at the Crossroads (John H. Rohrer and Muzaffer Sherif, eds.), Harper and Brothers, New York (1951), 360.
  10. Talcott Parsons, Edward A. Shils and James Olds, "Values, Motives, and Systems of Action," in Toward a General Theory of Action (Talcott Parsons and Edward A. Shils, eds.), Harvard University Press, Cambridge (1951), 53.

then, the pharmacy preceptors as a group would depend upon their sense of what is "right and proper" for the older generation of practitioners to pass on to the new, and if this is to be a stable construct among preceptors at large, it presupposes a concretely structured common understanding of what preceptorship "should" consist in pharmacy.

The study of role can be approached in yet another manner--as "the behavior of actors occupying social positions."<sup>11</sup> An example of such an approach is provided by Davis' concept of role as "how an individual actually performs in a given position, as distinct from how he is supposed to perform.... The role then, is the manner in which a person actually carries out the requirements of his position. It is the dynamic aspect of status or office and as such is always influenced by factors other than the stipulation of the position itself."<sup>12</sup> The pharmacy preceptor is in this sense defining his role by

- 
11. Gross, Explorations, p. 14.
  12. Kingsley Davis, Human Society, The Macmillan Company, New York (1950), 90. Other formulations which fall into this behavioral category are those of K. D. Benne and P. Sheats, "Functional Roles of Group Members," Journal of Social Issues, 4, no.2 (1948), 41-49; Philip E. Slater, "Role Differentiation in Small Groups," in Small Groups (A. Paul Hare, Edgar F. Borgatta, Robert F. Bales, eds.), Alfred A. Knopf, New York (1955), 498; Talcott Parsons, The Social System, The Free Press, Glencoe (1951), 25; Theodore R. Sarbin, "Role Theory" in Handbook of Social Psychology, vol. 1 (Gardner Lindzey, ed.), Addison-Wesley Publishing Co., Cambridge (1954), 225.

the manner in which he actually performs his function as a practical teacher.

In studying the preceptorship in two different settings, which can only be considered a preliminary investigation, we do not confine ourselves solely to one of the three approaches mentioned above. The preceptor's role can be meaningfully and differently illuminated from all three angles of vision: the way his role is defined by a state board, an advisory committee or an internship commission; the way it is defined by an intern or the preceptor himself and the expectations each holds; and the way it emerges through the preceptor's actual behavior in his teaching role. Having separated preceptors into two groups, one rated superior and one not, we want to see if there is any difference in the perception and fulfillment of the role by the master in two different settings. Although the role played by the preceptor will be analyzed, it is not the central purpose of this research to work toward a complete definition of his role. Instead we use the concept of role as a tool to assist in gaining further insight into practical training in two different settings with the hope that the findings will provide a deeper understanding of this relationship between master and neophyte among all concerned with such programs and hint at avenues of constructive change and experiment within pharmacy.

## SOME PRIOR FINDINGS

During the past decade there has been little investigative study of the controlled<sup>13</sup> internship program in pharmacy previously, and none on the controlled practical-training program.<sup>14</sup> The most extensive project was that undertaken by William T. Sharp, while a graduate student at the University of Wisconsin, to evaluate the revised Pharmacy Training Program in Wisconsin about four years after its activation (adopted July 1959). His report is based mainly on the replies to mailed questionnaires (1963) from 164 trainees and 152 preceptors. From 16 questions asked of the trainees (five asking for suggestions to improve the training), and 17 questions asked of preceptors (seven asking for suggestions, for example, to improve the intern's notebook and increase the effectiveness of preceptor-intern relations), Sharp summarized the views of both preceptors and interns on aspects of the program as it

- 
13. Controlled is used here to indicate a program where preceptors are certified, the requirements for training are stipulated and the program is supervised.
  14. The following publications were systematically searched for reports of earlier work: Dissertation Abstracts from 1952, Index Medicus from 1952, International Pharmaceutical Abstracts from 1950, Sociological Abstracts from 1950. In addition, several pertinent journals were scanned thoroughly.

then existed, such as the intern's interviews with medical personnel and the training conferences for preceptors.<sup>15</sup>

Questionnaire surveys of more limited scope have been used to assess attitudes and impressions concerning the type of program among Kentucky pharmacists (1962)<sup>16</sup> and among North Carolina students of pharmacy (1964).<sup>17</sup> In addition, boards of pharmacy in various states and the N.A.B.P. have occasionally conducted questionnaire surveys of their members to obtain their views on certain aspects of the practical experience requirement.<sup>18</sup>

- 
15. William T. Sharp, "An Analysis of the Pharmacy Trainee Program in Wisconsin," unpublished master's thesis (Pharmacy Administration), Wisconsin (1964), 113 pp.
  16. Harry A. Smith and Irvin J. Steinberg, "Views on Internship," Kentucky Pharmacist, 25, no. 2 (February 1962), 16-17.
  17. M. A. Chambers, "Is Practical Experience an Education?," Carolina Journal of Pharmacy, 45, no. 2 (1964), 7-9.
  18. Bernard L. Gerson (Chairman), "Report of Committee on Practical Experience Requirements," Proceedings, N.A.B.P. (1956), 154-159; J. Leon Litchin, "Pharmaceutical Apprenticeship: the State Boards' Views and Regulations," Amer. J. Pharm. Ed., 20, no. 2 (Spring 1956), 200-205; Guy Luongo (Chairman), "Report of Committee on Internship Requirements," Proceedings, N.A.B.P. (1957), 83-88; C. N. Nielsen, "Report of Committee on Practical Experience Requirements," Proceedings, N.A.B.P. (1954), 190-198.

While these samplings of attitudes and reactions concerning the period of on-the-job training are interesting, the majority are too remote from the outlook and findings of the study here reported to be brought into comparative discussion. Indeed, it might be said that for a field commanding such chronic discussion and widespread concern in pharmacy there has been remarkably little study rising above the level, for example, of collecting opinions and statistics on the regulations in effect.

#### REASONS FOR RESEARCH

The present investigation not only extends the work of Sharp in Wisconsin, but breaks new ground in its approach to assaying the ingredients of interaction between interns and a preceptor that they consider superior. The investigation was undertaken for several reasons: because of the fragmentary concrete knowledge from the field concerning the controlled pharmaceutical internship, which is now remediable as accumulated experience permits meaningful assessment; because of keen interest among members of state boards of pharmacy, pharmacy faculties, preceptors and interns in maximizing the value of the internship program; because of the necessity to know the extent to which the new controlled program has provided a more meaningful practical experience

than provided by the old system where apprenticeship and internship formally specified little more than the length of experience; and because going beyond the conceptual scope of work known to us in this area (whether in pharmacy or related professions) fosters new avenues of future study.<sup>19</sup>

#### PURPOSES AND SCOPE

The present study focusses sharply on the preceptor in relation to his function as a practical teacher, and attempts to characterize the circumstances of superior preceptorship, as far as the given methods and time for the study permitted. We have uncovered and tried to interrelate certain information about the temperament of these preceptors, the environment in which they teach their trainees, some features that differentiate preceptors, and the views of preceptors and interns on the controlled internship program. In juxtaposition to this, we have placed preceptors and trainees in Ontario who completed a period of practical training under an uncontrolled system akin to what existed in Wisconsin (and still in many states) prior to the introduction of

---

19. Personal communications from the American Bar Association (March 4, 1965), the American Medical Association (March 9, 1965) and the American Optometric Association (March 11, 1965) show that in law (five states only) and medicine, where some form of practical training is required, no study of the effectiveness of this training has been undertaken as far as is known.

the new program that entails more explicit and detailed standards. Our purpose here is not to point to shortcomings of one or the other program, but to test the usefulness of certain methods for expanding our resources for assessing the preceptor-intern relationship and to help locate areas susceptible to change in the direction of enhancing the quality of the internship.<sup>20</sup>

The sample is limited to a selected small percentage of the total number of Wisconsin preceptors at the time of the study (17%)<sup>21</sup> and to a similar small number of Ontario preceptors,<sup>22</sup> which permits (at the expense of obvious limitations) a type of study that otherwise could not have been conducted at present.

The nature of the method used in selecting the sample and analyzing the information obtained seemed

- 
20. By "enhancing the quality of the internship" we mean improving the agreement upon and understanding of the content of the professional role that the internship is designed to transmit and improving the degree to which the preceptor is able to transmit or intensify that content in the individual neophyte's action patterns as "pharmacist."
  21. Paul A. Pumpian, "Report of the Wisconsin State Board of Pharmacy," Wisconsin Pharmacist, 32, no. 2 (February 1964), 40.
  22. For Ontario it is difficult to determine a percentage for comparative purposes because virtually any registered pharmacist in Ontario was a potential preceptor, limited only by place of employment and economic viability. In 1968, there were 4461 registered pharmacists in Ontario, according to the records of the Ontario College of Pharmacy.

to preclude statistical validation of most of the hypotheses. Though this could be considered a limitation of the study, it does not detract from its broad purpose as a preliminary investigation of a viable program.

#### COLLECTING INFORMATION

##### The Wisconsin Study

Interns rated their preceptors on a questionnaire (see Appendix A, p. 319) which had been pretested on 18 senior students at the School of Pharmacy, University of Wisconsin. Ratings were requested for all preceptors known by us to have had two or more interns under the controlled internship program in Wisconsin from 1959 (the beginning of the controlled internship) through 1963 inclusive.<sup>23</sup> Of 287 pharmacists identified as having served all or part of their internship under such preceptors, 218 were sent the questionnaire.<sup>24</sup> Various factors eliminated the other 107, as shown in Table I, p. 56. Of 158 replies from the former interns, 100 were

---

23. The first interns to train under the new program began in 1959.

24. The State Board of Pharmacy of Wisconsin, Milwaukee, was generous in meeting our request for lists of names and addresses; and without the help of the Board (in particular Miss Vera Appleton, Administrative Assistant, as well as then Secretary Paul Pumpian and President Peter Hauper), this study would not have been possible. In a few instances of recent moves, addresses were also kindly supplied by the W.Ph.A. and the University of Wisconsin School of Pharmacy.

TABLE I

## RESULTS OF SAMPLING TECHNIQUES: FORMER TRAINEES

Wisconsin		Ontario
287	Trainees initially eligible	418
	Eliminated because trainee:	
58	had more than one preceptor*	36
11	no address available	5
218 (100%)	Questionnaires mailed	377 (100%)
132 (61%)	Returned from first mailing	243 (64%)
67 (31%)	Returned from second mailing	75 (19%)
199 (91%)	Total questionnaires returned	318 (84%)
	Eliminated because:	
38	paired trainee did not reply**	48
3	inadequately answered questionnaires	0
158 (72%)	Total usable questionnaires	270 (72%)
54	Questionnaires eliminated by methodological requirements (explained in Appendix B, p. 349)	115
104	Questionnaires available for use in final sample	155
4	Questionnaires eliminated by preceptor not cooperating***	6
100 (46%)	Questionnaires used in final sample	149 (40%)

\*Only those trainees who could be linked with the preceptor under whom they served last were kept in the sample. This almost always would be the longest and most mature part of the training period. To preserve the spontaneity of responses, no preceptor and former trainee were linked by asking either one directly to identify the other.

\*\*Cases where two trainees were linked with one preceptor, and one trainee did not reply. Then, the other was automatically eliminated as well, because at least two ratings for each preceptor were required by our methodologic plan.

\*\*\*In Wisconsin, one preceptor refused, one was deceased. In Ontario, six preceptors refused.

usable in the final sample.<sup>25</sup> Of the 79 preceptors who taught these interns, 41 were utilized in the sample. (The other 38 were not included because corresponding interns were eliminated for reasons shown in Table I, p. 56 and explained in Appendix B, p. 349). Hence, 41 preceptors rated by 100 interns constituted the final sample in Wisconsin. The geographic distribution of these preceptors is shown in Map I, p. 58 .

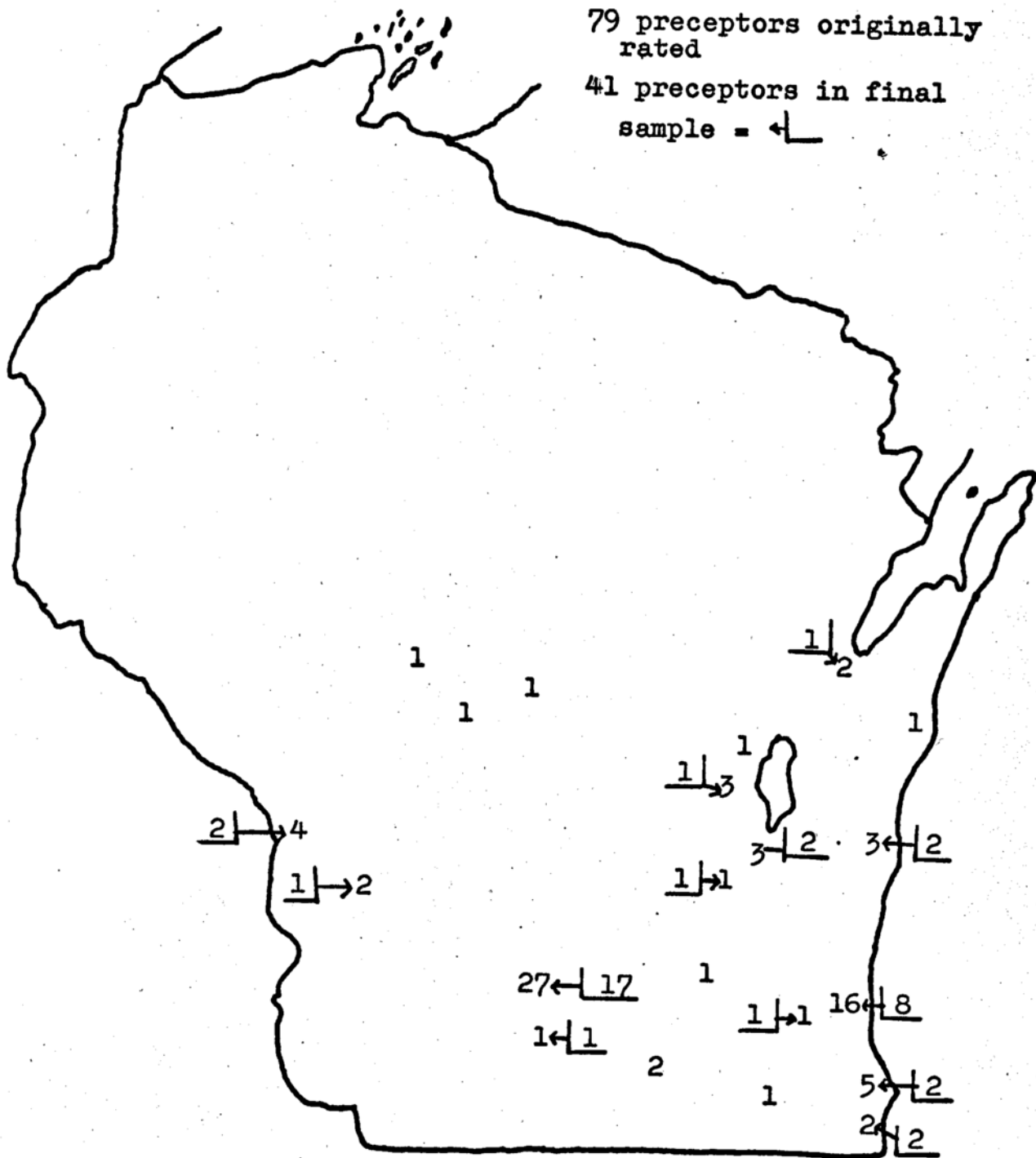
To obtain the interns' comments on their preceptors and the internship program, a covering letter and questionnaire were sent to the 100 interns (see Appendix A, p. 323 and pretested on 18 senior students at the School of Pharmacy; major alterations, then mailed January 12, 1965). After 43 (43%) were returned (February 9, 1965), a second mailing was sent to non-respondent interns (see Appendix A, p. 324). Nine more replies were received, totalling 52 questionnaires or 52% of the sample. Unfortunately, 48% of the interns did not return a questionnaire, thus the intern's views in relation to the preceptor's views could not be compared in these instances.

To obtain the preceptor's comments, an interview guide was used to interview the 41 preceptors in the sample (pretested on six local pharmacists; for the

---

25. For second covering letter, see Appendix A, p. 318.

MAP I. GEOGRAPHIC DISTRIBUTION OF ALL PRECEPTORS WHO WERE RATED BY THEIR INTERNS: WISCONSIN GROUP



interview guide, see Appendix A, p. 334). The preceptors also were asked during the interview to rate themselves as a preceptor on a form similar to the form on which they had been rated by their interns (see Appendix A, p. 342).

The pharmacies in which the preceptors taught their interns were examined, and information was recorded on four forms (pretested on six pharmacies; for the forms, see Appendix A, p. 328). To improvise a relatively objective (if crude) manner of designating the physical appearance of the teaching pharmacies, we selected three interior photographs and three exterior photographs of pharmacies having markedly different character, which could be arranged along a scale, as shown in Diagram 1, p. 199). Each pharmacy visited was assigned a number indicating what point on the visual scale its appearance most nearly approximated. (For photographs, see Appendix D, p. 358). When two independent observers pretested the consistency of ratings that could be attained with the scaled photographs, it was found in rating six pharmacies that they agreed within two units on the seven-unit scale except for one pharmacy.

The temperamental qualities of the preceptor were evaluated by the Guilford-Zimmerman Temperament Survey,

under the supervision of a psychologist.<sup>26</sup> (For the survey blank, see Appendix E, p. 373). Answer sheets (see Appendix E, p. 375) were personally collected from 36 cooperating preceptors, hand-scored, and the results transferred to a "profile sheet" to reveal the degree and pattern of ten temperamental qualities in relation to those of college men in general (see Appendix E, p. 374).

Information on the level of earlier academic achievement of the preceptors was obtained from their respective universities for 35 of the 41 preceptors in the sample.

The ten hypotheses that helped to frame the interview guides and the mail-questionnaires are mentioned individually in connection with the relevant findings (see also Appendix C, p. 358).

#### The Ontario Study

Information was collected in Ontario in the same manner as in Wisconsin. Some minor changes in the wording of the forms used was necessary due to differences in terminology and training that prevail in the two test settings. Pretesting was carried out with the same number of persons and in the same manner as in Wisconsin, and this indicated that the change in wording should cause no

---

26. Appreciation for generous help in the use of the Temperament Survey is extended to William F. Thomas, Associate Director of the Student Counseling Center, University of Wisconsin.

difference in the understanding of the forms on the part of the respondents.<sup>27</sup> As in Wisconsin, ratings were requested for all preceptors known to have had two or more trainees; however, in Ontario, the trainees were those who had graduated under the four-year program at the Faculty of Pharmacy, University of Toronto, between the years 1952 and 1966, which was the last year of training under the uncontrolled system. Of 418 pharmacists 377 were sent the questionnaires. Table I, p. 56 shows the various factors which eliminated all but 149 former trainees who constituted the final sample. Hence 60 preceptors rated by 149 former trainees were included in this portion of the study. The geographical distribution of the preceptors is shown in Map 2, p. 62. Of the 149 former interns, 89 returned questionnaires used to compare their views to those of their preceptors.<sup>28</sup>

---

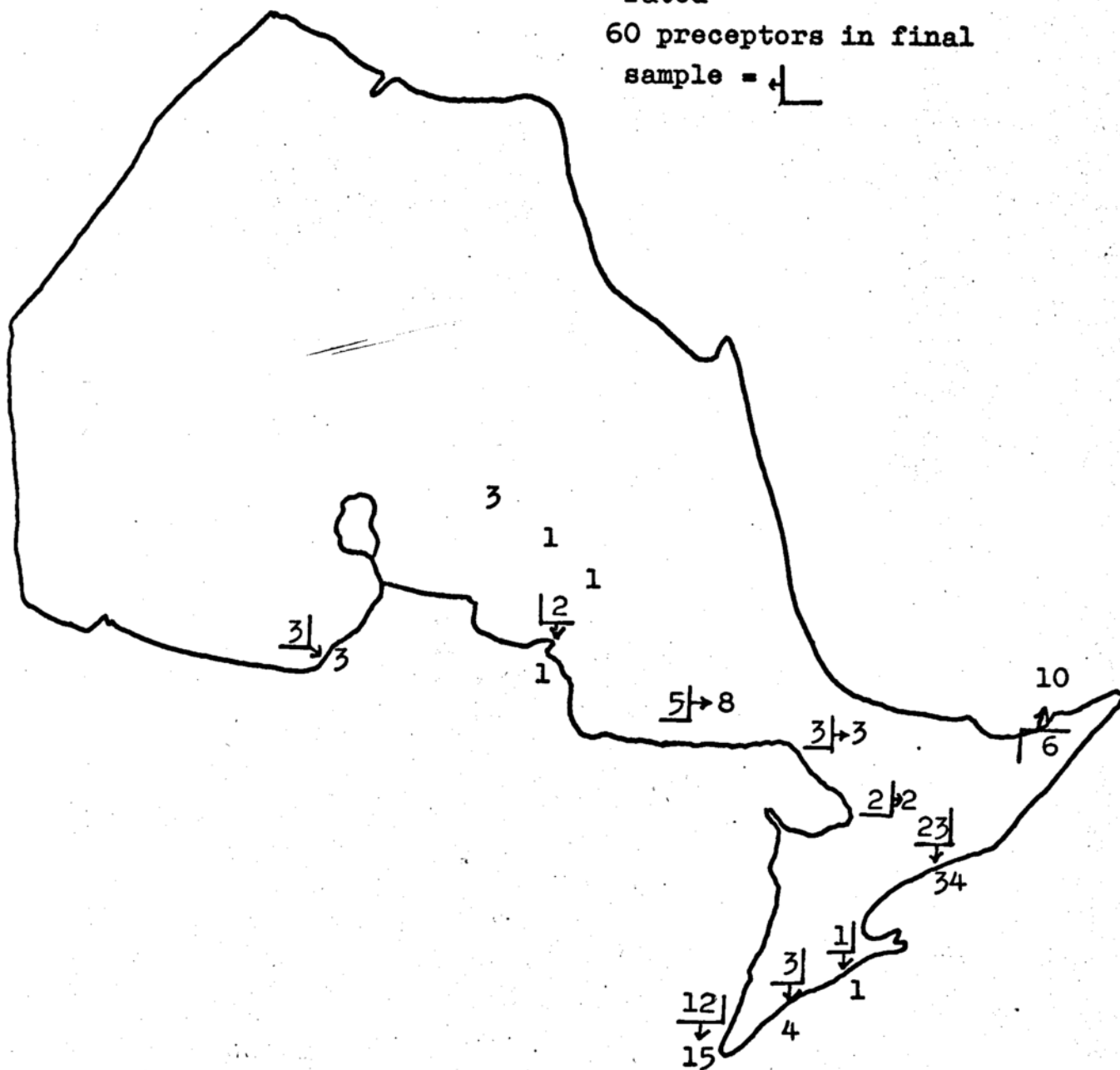
27. The forms used in the Ontario study are all included in Appendix A, p. 316. The Faculty of Pharmacy, University of Toronto made this portion of the study possible by permitting access to their records on former graduates. The Ontario College of Pharmacy supplied current addresses of the preceptors and interns for the mailings.

28. Two mailings were sent three months apart to the 149 former trainees. Seventy responded to the first mailing.

MAP 2. GEOGRAPHIC DISTRIBUTION OF ALL PRECEPTORS WHO WERE RATED BY THEIR INTERNS: ONTARIO GROUP

86 preceptors originally rated

60 preceptors in final sample =  $\downarrow$



## PROCESSING INFORMATION

On the basis of the replies of former interns, preceptors in Wisconsin and Ontario were each divided into two groups, as described in Appendix B, p. 349. Information received from the interns and preceptors as a result of mailed questionnaires and personal interviews was tabulated where possible and the results compared and contrasted. For many facets of interpretation, information obtained from superior-rated preceptors was compared with the answers given by those rated as not-superior, and compared to the replies of their interns. In all cases, data collected from the Wisconsin study was compared to that supplied by the respondents in Ontario. For other facets of the study where it seemed more appropriate to do so, division of the preceptors into superior-rated and not-superior-rated groups was disregarded in comparing replies to certain questions.

The answer sheets from the Guilford-Zimmerman Temperament Survey were hand-scored, and analysis of the "profile sheets" was done with the assistance of a psychologist.<sup>29</sup>

---

29. Professor Jack C. Gilchrist of the Department of Psychology, University of Wisconsin, kindly offered suggestions that greatly helped in the analysis of the survey results, in addition to the previously mentioned guidance received from Dr. William F. Thomas.

## LIMITATIONS ENCOUNTERED

Probably the most serious problem of the project seemed inherent in the interviewing of preceptors in their pharmacies during regular working hours. The pressure for their services elsewhere, interruptions, and a hurried atmosphere lowered the quality of many interviews. Though some (11) interviews were conducted away from the pharmacies, it was felt that many of the other preceptors could have given better interviews if they too could have found it convenient to be interviewed away from the pharmacy.

Another problem emerged after interviewing in many pharmacies: a risk of negative bias induced by listening to lengthy comments that seemed to the interviewer either unproductive or commonplace. Therefore, an effort was made to prevent sporadic impatience (felt in conducting these later interviews) from affecting the transcript of findings. The problem was somewhat reduced in Ontario, because interviews were spaced over a period of nine months, whereas in Wisconsin, they were completed in two months. In evaluating the appearance of pharmacies, there may be some personal bias (usual in such ratings), although it cannot be quantified; but the general character of differences and similarities noted in the evaluations seem beyond question.

Finally, though the study conducted in Ontario involved preceptors and interns who had worked together only under an uncontrolled system of practical training, some undoubtedly had heard about the features of a controlled program of internship which at the time of the study was being put into operation in Ontario. This influenced some suggestions that they offered for improving the practical training period, which means that some ideas they expressed did not necessarily grow out of their own experience with the uncontrolled program. While this influence must be recognized, it does not significantly alter the usefulness of the responses.

Except for the annual "tax survey," few mailed questionnaires achieve 100% response from the sample involved, and our study was no exception. Though the return from the original questionnaire to the interns was unusually high in both settings, and the return of the longer questionnaire, giving the interns' views on certain questions was quite good, the influence that the non-respondents would have had on the results of the study remains open to speculation. Certainly the non-respondents to the first questionnaire, on which interns rated their preceptors, meant a smaller sample for our study. Whether the non-respondents as a group held views or were of a temperament that distinguished them from the respondents cannot be ascertained in the

present study. The literature on this point, with respect to other studies, is somewhat contradictory. Ralph Norman reviewed research on sample bias in mailed-questionnaire studies and concluded that research amply demonstrated the existence of sample-bias from nonresponse. His review indicated that responders tended to have higher intelligence curves, higher scholastic averages, more loyalty or ties to the questionnaire sponsor, a higher educational level, more interest in the topic under investigation, a more favorable report to make, a more successful present status, and a rural background.<sup>30</sup> Bennett and Hill later concluded, however, that "users of mailed questionnaires need not be concerned about possible personality bias due to nonresponse as implied in the literature."<sup>31</sup> These findings suggest at least that if

30. Ralph D. Norman, "A Review of Some Problems Related to the Mail Questionnaire Technique," Educational and Psychological Measurement, 8 (1948), 234-245. Similar conclusions are found in John W. M. Rothney and Robert L. Mooren, "Sampling Problems in Follow-up Research," Occupations, 30 (1952), 573-578.
31. Carson M. Bennett and Robert E. Hill, Jr., "A Comparison of Selected Personality Characteristics of Responders and Nonresponders to a Mailed Questionnaire Study," The Journal of Educational Research, 58, no. 4 (December 1964), 180. A similar conclusion was reached by Sister M. Jacinta Mann, "A Study in the Use of the Questionnaire," The Sixteenth Yearbook of the National Council on Measurements Used in Education, National Council on Measurements Used in Education, New York (1959), 171-179.

nonresponders would have made any difference in the results of this study, perhaps it would not have been in the direction of producing more preceptors rated as less than superior.

### CHAPTER III

## RATED EFFECTIVENESS OF PRECEPTORIAL TEACHING IN TWO DIFFERENT SETTINGS

### THE INTERN'S VIEW IN RELATION TO THE PRECEPTOR'S VIEW

#### The Variability of Ratings

Many factors might influence a trainee to rate his preceptor differently than does another. Interns often serve under the same preceptor at different times; and with more experience, the preceptor may have improved his ability to deal favorably with his charge. A trainee who is the first to serve under a preceptor may rank him low, and the preceptor's last intern may rank him high; both might be realistic evaluations of the same preceptor. The extent to which the intern has had experience with other preceptors can affect the standards by which he judges his last master. A student who has had only one preceptor may have to devise his own set of standards, or rely on what he hears about other preceptors from his colleagues. Moreover, the difference in character and personality among interns is an important variable that accounts for part of the difference among interns' ratings of a given preceptor. A student who is an excellent scholar may have a different standard or tendency of rating. Extrinsic factors such as the

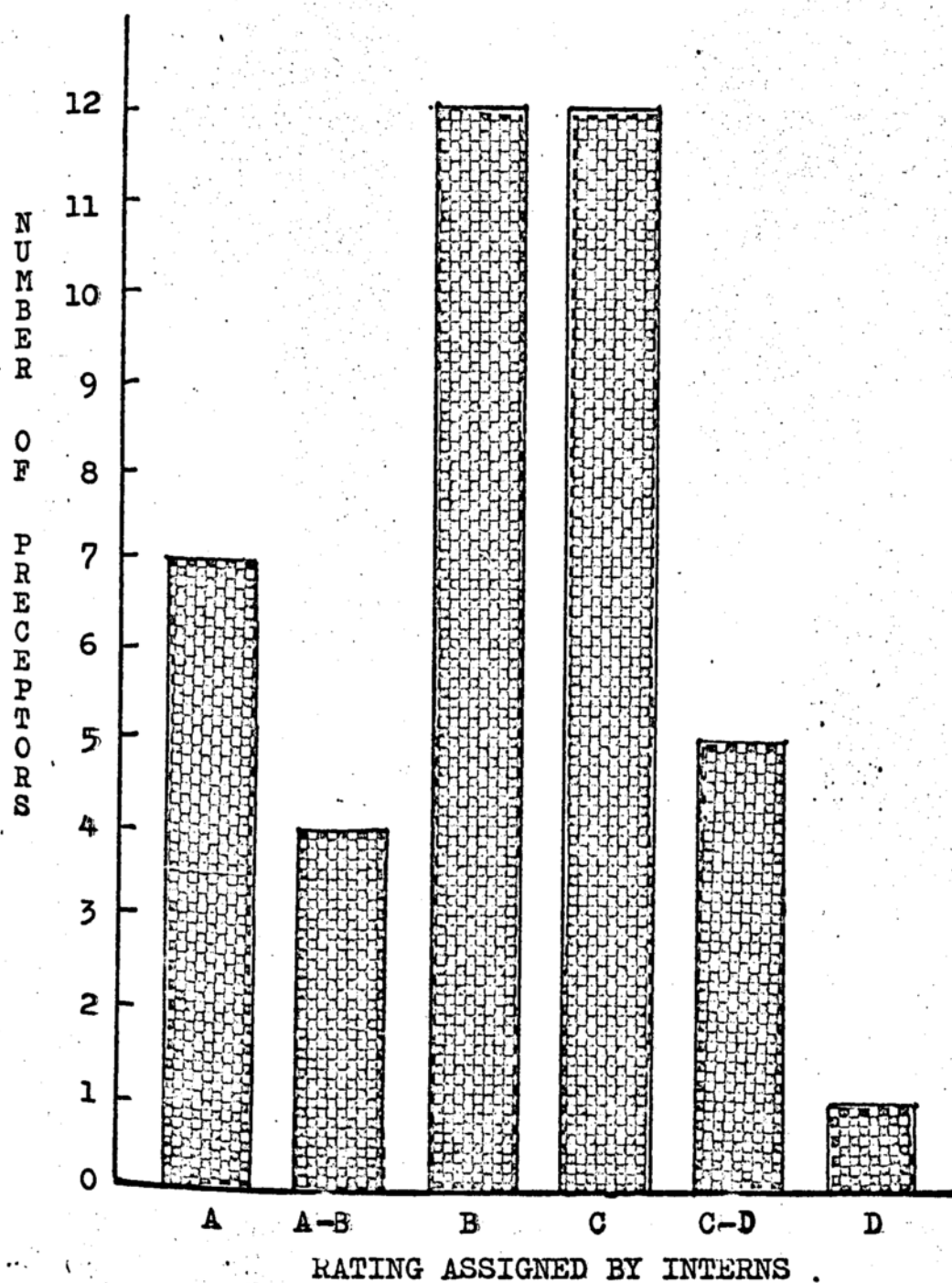
pharmacy's atmosphere, the intern's relationship with co-workers, his sensitivity to the preceptor's personality and the pharmacy's surroundings, his "mood" at the time of rating might also color occasionally an intern's rating of his preceptor. Similar influences, might affect a preceptor's self-evaluation. Besides these variables, the risk of their distorting effect in the present study would have been reduced if a seasoned methodology were available and more particularly if a larger number of former interns per preceptor were available.

The meaning attributed by the interns to the characteristics rated may have varied. Though the characteristics were expressed predominantly in qualitative rather than quantitative terms, it is likely the ideas of "amount" colored the replies of some interns. Interviews with the interns would help stabilize criteria or points of reference by which to judge preceptorial ability. Particularly among the preceptors who were omitted from the study because their interns' overall ratings varied too widely for our purposes, follow-up interviews could determine some reasons for such disparate ratings.

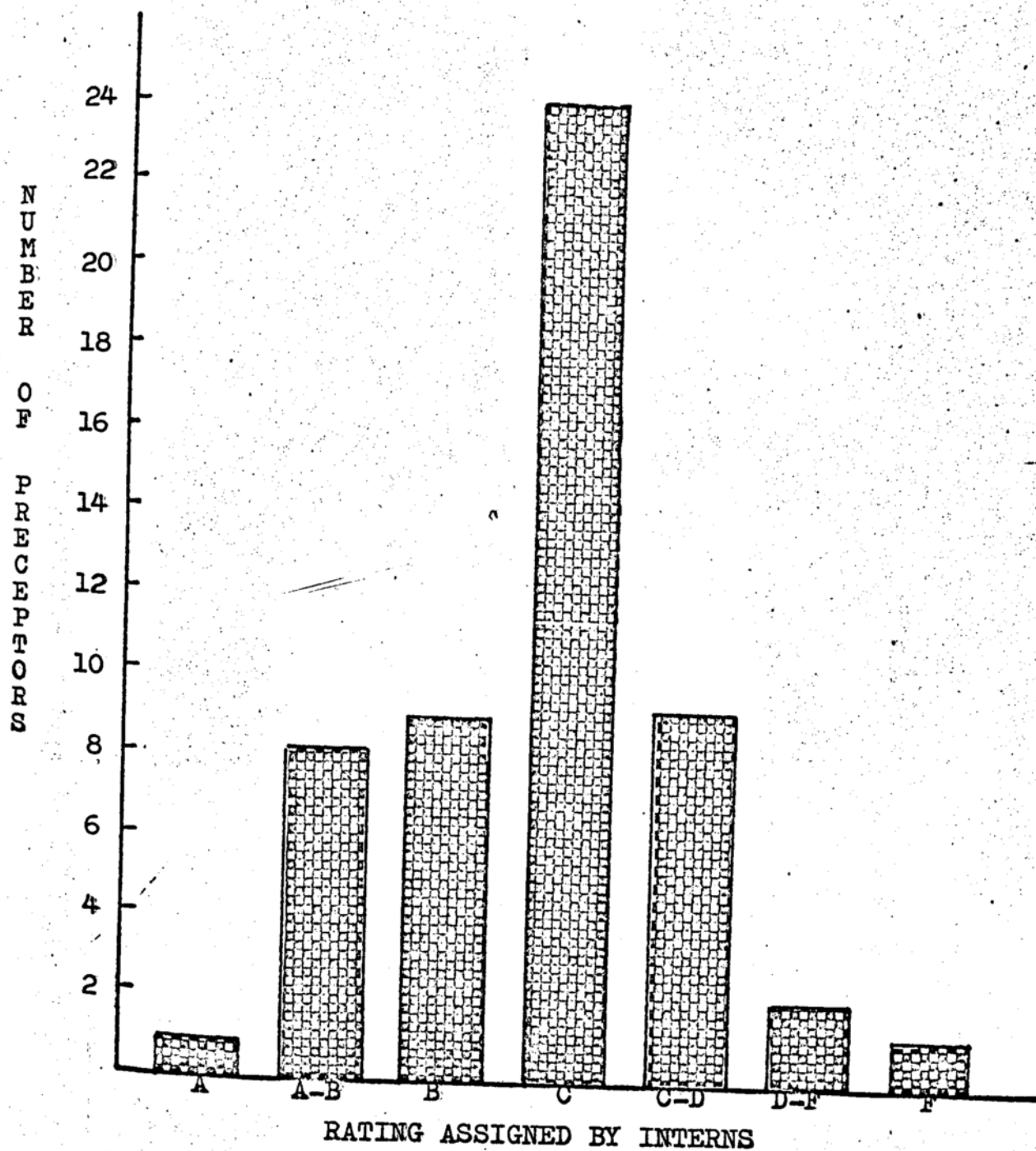
### Comparison of Overall (Median) Ratings

The 41 preceptors from Wisconsin and 60 from Ontario participating in the study were evaluated by 100 and 149 of their former trainees, respectively. Here are no randomly selected groups of interns (explained in Appendix B, p. 349) so we are not surprised that the statistical distributions of the ratings they gave (100 and 149, respectively) to their preceptors do not correspond with the ratings of the larger groups who originally rated their preceptors (158 and 270, respectively) or with each other. For the Wisconsin group, the greatest disparity is at the extremes (i.e., "A" and "F," see Graph 3, p. 73) whereas for the Ontario group, the greatest difference in overall median ratings is in the mid-range (i.e., "B," "C" and "D," see Graph 4, p. 74). The distribution of ratings for the Ontario group (Table III, p. 77) more closely approximates a normal distribution curve, due most likely to the larger number of respondents than in Wisconsin. However, this question of distribution is put aside to assure a sample of interns with the following characteristics: Every intern is paired with at least one other intern who, in the most advanced stage of internship, served under the same preceptor and who agrees, at least roughly, on the level of effectiveness of the preceptor they had in common.

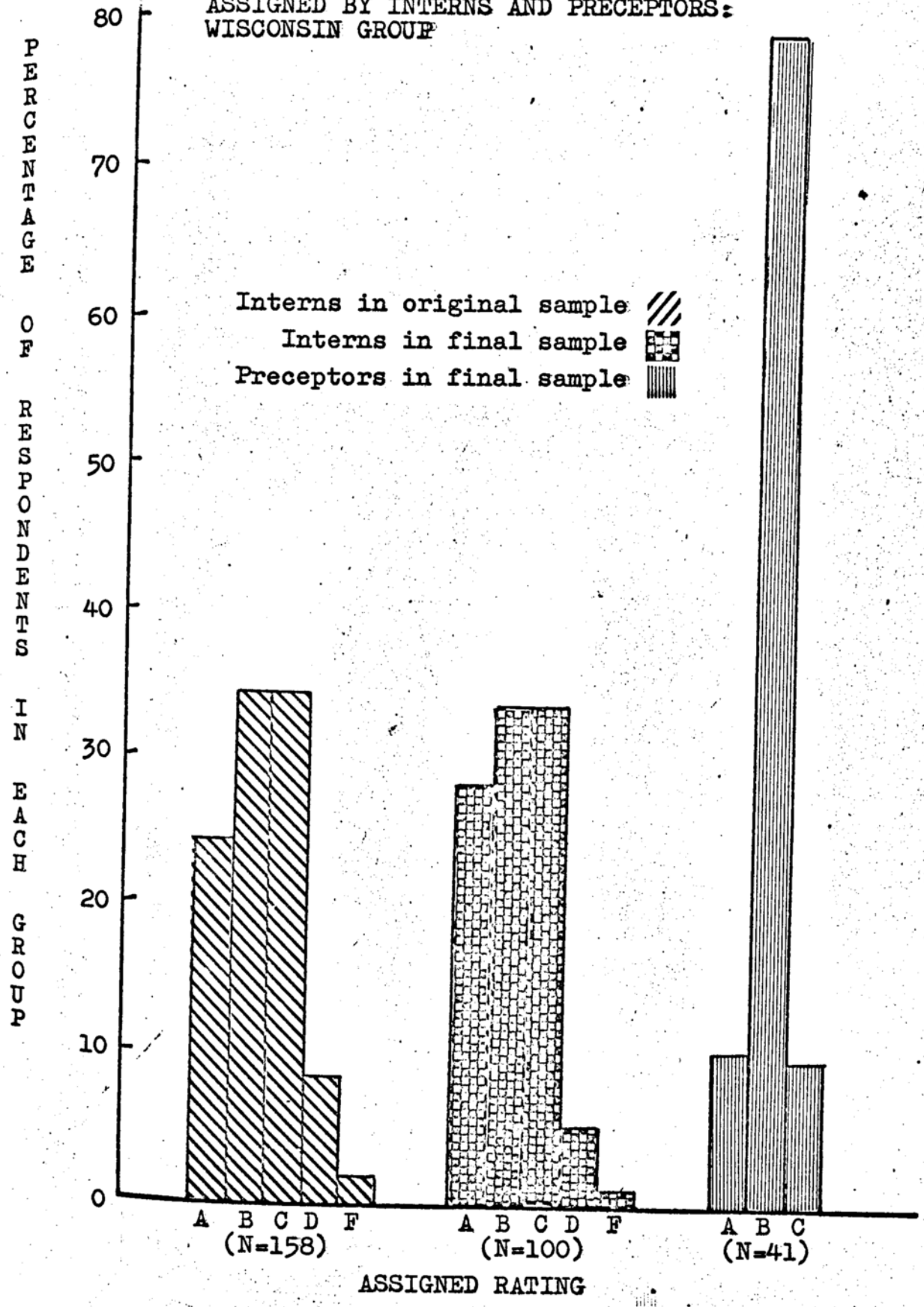
GRAPH 1. DISTRIBUTION OF MEDIAN RATINGS ASSIGNED BY INTERNS TO THE 41 PRECEPTORS IN FINAL SAMPLE: WISCONSIN GROUP



GRAPH 2. DISTRIBUTION OF MEDIAN RATINGS ASSIGNED BY INTERNS TO THE 60 PRECEPTORS IN FINAL SAMPLE: ONTARIO GROUP



GRAPH 3. PERCENTAGE DISTRIBUTION OF MEDIAN RATINGS ASSIGNED BY INTERNS AND PRECEPTORS: WISCONSIN GROUP



GRAPH 4. PERCENTAGE DISTRIBUTION OF MEDIAN RATINGS ASSIGNED BY INTERNS AND PRECEPTORS: ONTARIO GROUP

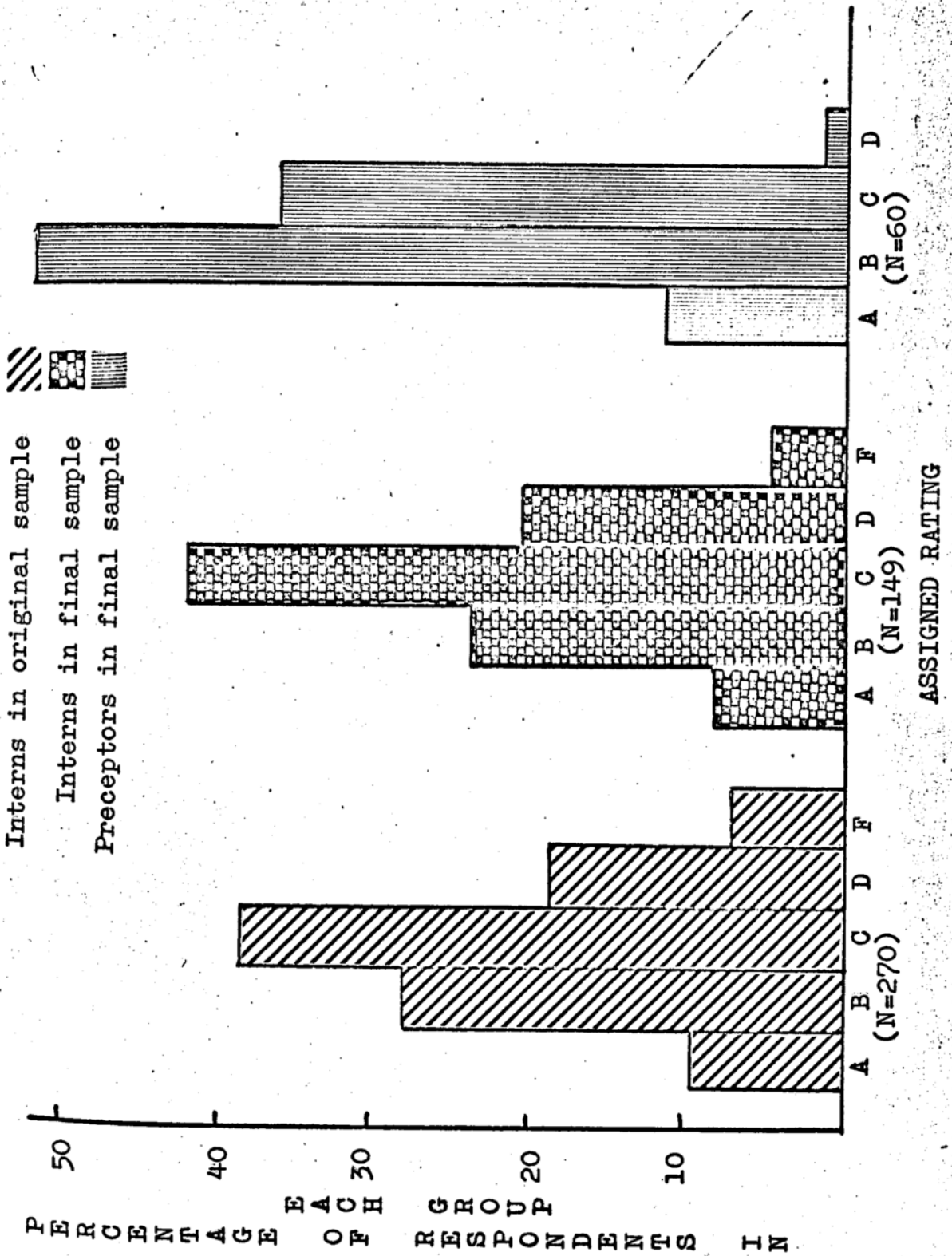


TABLE II

PRECEPTOR'S MEDIAN SELF-RATING COMPARED TO MEDIAN RATING  
ASSIGNED BY HIS INTERNS (SIX-FACTOR SCALE, APPENDIX A,  
p. 316): WISCONSIN GROUP

Preceptor's Serial Number	Median Rating of Preceptor by His Interns	Preceptor's Median Self-rating
28	A	B
34	A	B
43	A	B
44	A	B
60	A	B
83	A	B
88	A	B
23	A-B	B
32	A-B	A
38	A-B	B
61	A-B	B
3	B	B
11	B	B
12	B	B
13	B	A
14	B	B
20	B	B
24	B	B
59	B	B
68	B	A
79	B	B
33	B	A
64	B	B
1	C	B
18	C	B
26	C	B
36	C	B
37	C	C
47	C	B
50	C	B
52	C	B
53	C	B
54	C	B
66	C	B
73	C	B

TABLE II - Cont.

<u>Preceptor's Serial Number</u>	<u>Median Rating of Preceptor by His Interns</u>	<u>Preceptor's Median Self-rating</u>
55	C-D	C
69	C-D	B
71	C-D	C
72	C-D	C
83	C-D	B
10	D	B

TABLE III

PRECEPTOR'S MEDIAN SELF-RATING COMPARED TO MEDIAN RATING  
ASSIGNED BY HIS INTERNS (SIX-FACTOR SCALE): ONTARIO GROUP

Preceptor's Serial Number	Median Rating of Preceptor by His Interns	Preceptor's Median Self-rating
6	A	B
1	A-B	B
2	A-B	B
3	A-B	A
4	A-B	B
9	A-B	C
10	A-B	B
11	A-B	C
14	A-B	B
5	B	B
8	B	B
12	B	B
13	B	A
15	B	B
16	B	B
17	B	C
18	B	B
20	B	B
7	C	B
19	C	B
22	C	C
23	C	B
24	C	B
27	C	C
28	C	C
30	C	C
31	C	C
33	C	C
35	C	B
36	C	C
37	C	B
38	C	A
40	C	C
42	C	C
43	C	C
44	C	C
46	C	B
51	C	C
53	C	A
54	C	B
55	C	C
56	C	A

Preceptor's Serial Number	Median Rating of Preceptor by His Interns	Preceptor's Median Self-rating
25	C-D	A
32	C-D	B
34	C-D	C
39	C-D	C
48	C-D	C
49	C-D	C
50	C-D	C
52	C-D	B
57	C-D	C
		B
21	D	A
26	D	B
29	D	D
58	D	C
59	D	B
60	D	B
		B
41	D-F	B
47	D-F	B
48	F	B

How interns rate preceptors and how preceptors rate themselves makes an interesting comparison (see Tables II and III, pp. 75 and 77 ). In Wisconsin, of the 23 preceptors ranked "A" or "B" by their interns, only four ranked themselves as "A"; all others ranked themselves as "B". No preceptor ranked by his interns as "A" gives himself such a high overall rating. Of the 18 preceptors in group C-F, only four rank themselves as "C"; all others rank themselves as "B".

In the Ontario group, despite the larger sample, only 30% of the preceptors were ranked as "A" or "B" by their interns, as compared to 56% of group A-B in Wisconsin. It is interesting to note that the preceptor's median self-rating differs markedly from that of the Wisconsin group as well. In group A-B, one preceptor ranked himself higher and four ranked themselves lower than their interns' overall median rating (considering a self-rating of "B" by a preceptor in group A-B as being equivalent to their interns' rating). Whereas only four (22%) of the preceptors in group C-F in Wisconsin assigned themselves a rating of "C" (and none lower), 20 (48%) of the group C-F preceptors in Ontario assigned themselves a rating of "C" or lower.

This finding tends to confirm the hypothesis that a majority of preceptors who are rated as superior by interns will independently recognize a presumed

superiority by self-rating on the same scale. The findings suggest further that preceptors rated as less-than-superior by their interns tend to consider themselves to be better preceptors than their interns do. Another interpretation would be to say that the whole group of preceptors tends to prefer a gentlemanly "B" or "good" self-image, admitting to neither the marked excellence nor marked deficiencies recalled by their former interns. Clearly, however, the evidence supporting this hypothesis is stronger in Wisconsin than Ontario.

Though the evidence is far from being conclusive, these data coupled with information received from the former interns (discussed below) suggests that the nature of the programs in the two settings bears some relationship, on the average, to the way preceptors and their interns view the preceptor's effectiveness as a practical teacher. One possible explanation for the difference in self-rating by the preceptors centers around the nature of the requirements in Wisconsin and Ontario: In Wisconsin, preceptors must at least convey an image of competency and interest in the student's training, since students are somewhat selective in their choice of preceptor. With state board examinations awaiting them on completion of their training period, interns are concerned with acquiring the best possible

training. In Ontario there was no such motivation for the student, let alone for the preceptor. Since practical training was at the whim of the preceptor (and the influence of prospective monetary return not so likely to be out of bounds) there probably was not the same degree of felt need for the preceptor to convey the image of a dedicated practical teacher.

However, detailed examination of differences between ratings, particularly on individual characteristics discussed below, suggests that the preceptors who are rated as superior by their former interns do stand out clearly from the other preceptors. Preceptors rated as less-than-superior are not so clearly or sharply identified as being less-than-superior by their former interns. Further discussion of this point, and the questions it raises, are presented below.

#### INDIVIDUAL RATED CHARACTERISTICS

The interns' image and the self-image of the preceptors' effectiveness were recorded for six characteristics that seemed of some importance. This reveals comparative differences and perhaps tendencies, as shown by Tables IV, V, VI and VII (pp. 82-86) that would merit further investigation.

It should be kept in mind, however, that the differences are group differences for our particular

## KEY TO CHARACTERISTICS

## TABLES IV-VII

- I: Effectiveness in Imparting Management Techniques
- II: Effectiveness in Imparting Professional Information
- III: Effectiveness in Transmitting Standards of Ethics, Professional Attitude and Conduct
- IV: Proficiency in Stimulating Devotion to the Profession
- V: Sympathetic Attitude Toward Intern's Needs
- VI: Devoting Adequate Time to Training Needs

TABLE IV

DISTRIBUTION OF PRECEPTORS' SELF-RATINGS ON SIX CHARACTERISTICS: WISCONSIN GROUP (COMPARE TABLES V-VII)

CHARACTERISTIC I		
Rating	Group A-B	Group C-F
A	5 (22%)	3 (17%)
B	11 (48%)	11 (61%)
C	7 (30%)	3 (17%)
D		
F		1 (5%)

CHARACTERISTIC II		
Rating	Group A-B	Group C-F
A	6 (26%)	1 (5%)
B	14 (61%)	13 (73%)
C	3 (13%)	4 (22%)
D		
F		

CHARACTERISTIC III		
Rating	Group A-B	Group C-F
A	10 (43%)	4 (22%)
B	12 (52%)	11 (61%)
C	1 (5%)	3 (17%)
D		

CHARACTERISTIC IV		
Rating	Group A-B	Group C-F
A	10 (43%)	2 (11%)
B	9 (39%)	10 (56%)
C	4 (18%)	5 (28%)
D		1 (5%)

CHARACTERISTIC V		
Rating	Group A-B	Group C-F
A	9 (39%)	1 (5%)
B	13 (56%)	12 (67%)
C	1 (5%)	5 (28%)

CHARACTERISTIC VI		
Rating	Group A-B	Group C-F
A	4 (18%)	2 (11%)
B	15 (64%)	7 (39%)
C	4 (18%)	9 (50%)

For 'Key to Characteristics' see page 82.

TABLE V

DISTRIBUTION OF INTERNS' RATINGS OF THEIR PRECEPTORS ON SIX CHARACTERISTICS:  
 WISCONSIN GROUP (COMPARE TABLES IV, VI and VII)

CHARACTERISTIC I		
Rating	Group A-B	Group C-F
A	20 {34%}	6 {14%}
B	16 {27%}	7 {17%}
C	15 {25%}	11 {27%}
D	7 {12%}	13 {32%}
F	1 {2%}	4 {10%}

CHARACTERISTIC II		
Rating	Group A-B	Group C-F
A	29 {49%}	2 {5%}
B	27 {46%}	11 {27%}
C	2 {3%}	20 {49%}
D	1 {2%}	7 {17%}
F		1 {2%}

CHARACTERISTIC III		
Rating	Group A-B	Group C-F
A	41 {70%}	8 {19%}
B	16 {27%}	10 {24%}
C	2 {3%}	11 {27%}
D		8 {19%}
F		4 {10%}

CHARACTERISTIC IV		
Rating	Group A-B	Group C-F
A	33 {56%}	4 {10%}
B	18 {30%}	6 {14%}
C	8 {14%}	29 {72%}
D		1 {2%}
F		1 {2%}

CHARACTERISTIC V		
Rating	Group A-B	Group C-F
A	36 {61%}	10 {24%}
B	16 {27%}	18 {44%}
C	6 {10%}	10 {24%}
D	1 {2%}	1 {2%}
F		2 {5%}

CHARACTERISTIC VI		
Rating	Group A-B	Group C-F
A	25 {43%}	5 {12%}
B	24 {40%}	13 {32%}
C	9 {15%}	18 {44%}
D	1 {2%}	3 {7%}
F		2 {5%}

For 'Key to Characteristics' see page 82.

TABLE VI

DISTRIBUTION OF PRECEPTORS' SELF-RATINGS ON SIX CHARACTERISTICS: ONTARIO  
GROUP (COMPARE TABLES IV, V, VII)

CHARACTERISTIC I			
Rating	Group A-B	Group C-F	
A	7 {39%}	13 {31%}	
B	11 {61%}	13 {31%}	
C		11 {26%}	
D		5 {12%}	

CHARACTERISTIC II			
Rating	Group A-B	Group C-F	
A	5 {28%}	9 {21%}	
B	7 {39%}	11 {26%}	
C	6 {33%}	20 {48%}	
D		2 {5%}	

CHARACTERISTIC III			
Rating	Group A-B	Group C-F	
A	4 {22%}	18 {43%}	
B	7 {39%}	12 {29%}	
C	6 {33%}	6 {14%}	
D	1 {6%}	6 {14%}	

CHARACTERISTIC IV			
Rating	Group A-B	Group C-F	
A	2 {12%}	9 {21%}	
B	8 {44%}	26 {48%}	
C	8 {44%}	10 {24%}	
D		3 {7%}	

CHARACTERISTIC V			
Rating	Group A-B	Group C-F	
A	7 {39%}	11 {26%}	
B	8 {44%}	14 {33%}	
C	3 {17%}	16 {38%}	
D		1 {3%}	

CHARACTERISTIC VI			
Rating	Group A-B	Group C-F	
A	4 {22%}	6 {14%}	
B	8 {44%}	13 {31%}	
C	5 {28%}	20 {48%}	
D	1 {6%}	3 {7%}	

For 'Key to Characteristics' see page 82.

TABLE VII

DISTRIBUTION OF INTERNS' RATINGS OF THEIR PRECEPTORS ON SIX CHARACTERISTICS:  
ONTARIO GROUP (COMPARE TABLES IV-VI)

CHARACTERISTIC I		
Rating	Group A-B	Group C-F
A	9 { 22% }	10 { 9% }
B	14 { 35% }	25 { 23% }
C	13 { 32% }	38 { 35% }
D	3 { 4% }	25 { 23% }
F	1 { 3% }	11 { 10% }

CHARACTERISTIC II		
Rating	Group A-B	Group C-F
A	17 { 42% }	8 { 7% }
B	19 { 47% }	30 { 28% }
C	1 { 3% }	42 { 39% }
D	3 { 8% }	22 { 20% }
F		7 { 6% }

CHARACTERISTIC III		
Rating	Group A-B	Group C-F
A	25 { 62% }	15 { 14% }
B	13 { 32% }	36 { 33% }
C	1 { 3% }	29 { 26% }
D	1 { 3% }	18 { 17% }
F		11 { 10% }

CHARACTERISTIC IV		
Rating	Group A-B	Group C-F
A	12 { 30% }	5 { 4% }
B	22 { 55% }	23 { 21% }
C	5 { 12% }	42 { 39% }
D		23 { 21% }
F	1 { 3% }	16 { 15% }

CHARACTERISTIC V		
Rating	Group A-B	Group C-F
A	21 { 12% }	14 { 13% }
B	12 { 30% }	33 { 30% }
C	6 { 15% }	27 { 25% }
D		24 { 22% }
F	1 { 3% }	11 { 10% }

CHARACTERISTIC VI		
Rating	Group A-B	Group C-F
A	15 { 37% }	4 { 3% }
B	16 { 40% }	19 { 18% }
C	5 { 12% }	39 { 36% }
D	3 { 8% }	26 { 24% }
F	1 { 3% }	21 { 19% }

For 'Key to Characteristics' see page 82.

samples--not individual differences of each preceptor and his interns based on matched ratings man-to-man. (The same could be said of Graphs 3 and 4 (pp. 73 and 74 ). That is, only the number of ratings, expressed as a percentage of the total are compared, as assigned to each characteristic by the interns. Tables IV through XIX show a comparison of ratings by each preceptor and his interns on each characteristic.

#### Wisconsin Group

In the Wisconsin group, the majority (67% of interns' and 79% of preceptors') of the ratings cluster about the upper two grades for all six rated characteristics, as would be expected after examining Graph 2, p. 72 ). Tables IV and V do show, however, the individual characteristics to which most of the interns and preceptors assigned high and low felt-values. The characteristics on which most interns felt that the preceptors did an excellent job are effectiveness in transmitting standards of ethics, professional attitude and conduct, and sympathetic attitude toward the intern's needs. Indeed, the highest rating assigned group A-B preceptors by the majority of former trainees was linked to effectiveness in transmitting standards of ethics, professional attitude and conduct (70% of them rated performance here as excellent). This characteristic also

received the highest number of "excellent" ratings from all trainees combined (49%). The majority of the preceptors' self-ratings of excellent performance were for their effectiveness in transmitting standards of ethics, professional attitude and conduct (34% of the ratings by preceptors in both groups) and their proficiency in stimulating their interns' devotion to the profession (29% of the ratings by preceptors in both groups). By contrast, this latter characteristic attracted the majority of the C-ratings given by interns (37%), particularly from those who had rated their preceptor overall as being in group C-F.

On all characteristics, preceptors give themselves most commonly a rating of "B" (56% of ratings by all preceptors). The frequency of the self-rating is highest for the same two characteristics on which they received from the interns the greatest overall number of excellent ratings, i.e., effectiveness in transmitting standards of ethics, professional attitude and conduct, and sympathetic attitude toward the intern's needs.

The number of "D" and "F" ratings by both preceptors and interns on any characteristic is extremely low. Only on their effectiveness in imparting management techniques and their proficiency in stimulating devotion to the profession did two preceptors (both in group C-F) assign themselves a "D" or "F" rating. Only a few "D" and "F"

ratings are assigned with respect to most characteristics by the interns, although the number is relatively high for the preceptor's effectiveness in imparting management techniques (5%).

#### Ontario Group

In the Ontario group, 47% of the interns' and 63% of the preceptors' ratings cluster about the upper two grades for all six rated characteristics. The characteristics on which most interns felt that the preceptors did an excellent job (as indicated by a rating of "A") were effectiveness in transmitting standards of ethics, professional attitude and conduct, and sympathetic attitude toward the intern's needs. Considering all six rated characteristics by all interns, the most common rating was "B" for the two characteristics, effectiveness in imparting professional information and effectiveness in transmitting standards of ethics, professional attitude and conduct. For both these characteristics, 33% of the interns gave a "B" rating. The most frequently assigned rating in the A-B group was that of "B", given by 62% of their interns to the preceptor's effectiveness in transmitting standards of ethics, professional attitude and conduct. The majority of the preceptors' self-ratings of excellent performance were for their effectiveness in imparting management

techniques (33% of ratings by preceptors in both groups), and their effectiveness in transmitting standards of ethics, professional attitude and conduct (37% of ratings by preceptors in both groups). To the preceptor's effectiveness in imparting management techniques, their interns assigned the greatest number of "C" ratings (34%), particularly among those interns who rated their preceptors on this characteristic as being in group C-F (35%).

On all characteristics, preceptors gave themselves most commonly a rating of "B" (37% of ratings by all preceptors). The frequency of this self-rating of "B" was highest for the preceptor's effectiveness in imparting management techniques and proficiency in stimulating devotion to the profession.

The characteristic on which the former interns felt the preceptors performed most poorly was his willingness to devote adequate time to the intern's training needs. Of all six characteristics, the interns assigned the highest number of "D" and "F" ratings to this aspect of the preceptor's performance. In fact, it received the highest combination of ratings "C" through "F" from both the preceptors and their interns. No preceptor assigned himself a rating of "F" on any characteristic.

Having considered the ratings of preceptors and interns in their respective training areas, there are interesting similarities and differences evident when the

results of the Wisconsin study are compared to those obtained from the respondents in Ontario.

#### Comparison of Wisconsin and Ontario Groups

When interns in a controlled period of practical training as exists in Wisconsin are asked to rate their preceptors' performance on six characteristics, they tend to rate their preceptors' performance overall higher than do interns who trained under preceptors in an uncontrolled system, as in Ontario. Sixty-seven % of the ratings by the Wisconsin sample of former interns clustered around "A" and "B" as compared to 47% of the ratings by Ontario former trainees. This tends to confirm the hypothesis that interns who trained in a controlled system of practical training will tend to rate their preceptors higher than those who trained in an uncontrolled system. It was supposed that where a formal training program was not specified, interns would more frequently notice omissions in their practical training. Moreover, it was supposed that a greater number of interns in an uncontrolled system would also have experienced these deficiencies. The fact that a smaller percentage of the preceptors' self-ratings were in the "A" and "B" range for the Ontario sample (63%) compared to the Wisconsin group (79%) supports the hypothesis that preceptors who trained their students in a controlled system of practical training will tend to rate themselves higher

than those who trained their students in an uncontrolled system. Here too, it was felt that preceptors in an uncontrolled system would more frequently notice omissions in their training program when no guidelines had been specified, though data found in this research project also raised the thought that preceptors could more readily recognize the deficiencies of their personal training program when they compared their accomplishments to those expected by a state board of pharmacy.

Comparing the interns' ratings of their preceptors on the six characteristics, the two on which both groups of preceptors received most ratings of excellent performance are effectiveness in transmitting standards of ethics, professional attitude and conduct, and sympathetic attitude toward the intern's needs. Preceptors in both settings expressed agreement with the interns on the high performance in transmitting standards of ethics, professional attitude and conduct, but the other highest-rated characteristic was different in the different settings. Whereas Wisconsin interns felt, as a group, that the preceptors rated high in their sympathetic attitude, Wisconsin preceptors felt that it was their proficiency in stimulating devotion to the profession that deserved commendation. Likewise, in Ontario, the interns as a group, like their Wisconsin colleagues, paid tribute to the preceptors' sympathetic

attitude, whereas the preceptors as a group felt that they rated higher in their proficiency in imparting management techniques.

Of the six characteristics on which the trainees rated their preceptors, Wisconsin interns as a group rated the preceptors poorest in their effectiveness in imparting management techniques; in Ontario, it was the preceptor's willingness to devote adequate time to the intern's training needs. On this latter point, the Ontario preceptors as a group tended to be in agreement.

Of the six characteristics on which the preceptors were rated, three do not require any specified knowledge or time of the preceptor: stimulating devotion to the profession, sympathetic attitude, and devoting adequate time to training needs. Perhaps for this reason, the interns in Ontario felt that, on at least two of these characteristics, the preceptors had done a more commendable job.

The pattern of these ratings reveal characteristics that interns and preceptors consider the preceptor's strong and weak points. Still more pertinent results are obtained when the preceptor's self-ratings are compared to those assigned by the preceptor's own interns, as discussed below.

### Effectiveness in Imparting Management Techniques

Of all six characteristics on which interns rated their preceptors, preceptors in group A-B and their interns varied most in their rating of the preceptor's effectiveness in imparting management techniques. In the Wisconsin sample, only 70% (16) and 61% (36) of the preceptors and interns, respectively, in group A-B assigned a value of "B" or higher to the preceptor's effectiveness in this area (see Tables IV, V, VIII, pp. 83 , 84 and 95). In the Ontario group, the disparity is even greater. Fifty-seven % (23) of the interns ranked performance here as "B" or better, whereas 100% (60) of the preceptors felt they ranked in the A-B group for their performance on this characteristic (see Tables VI, VII and IX, pp. 85 , 86 and 97). Particularly among the interns, there is an apparent difference of opinion on the preceptor's effectiveness in imparting management techniques.

In the group rated as less-than-superior (the C-F group), 31% (13) of the interns and 78% (14) of the preceptors in the Wisconsin sample rated performance in this area as higher than "C". The rating pattern among preceptors and interns in group C-F in Ontario follows that of their counterparts in Wisconsin. The difference in opinion between preceptors and interns on this point is greater among respondents in Wisconsin than Ontario in

TABLE VIII

COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF  
PRECEPTOR-EFFECTIVENESS IN IMPARTING MANAGEMENT  
TECHNIQUES: WISCONSIN GROUP

Preceptor's Serial Number	Ratings by Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-Rating
	1	2	3	4		
28	A	A	B		A	B
54	B	A	B		A	B
43	A	A			A	B
44	A	C			A	C
60	B	A	D		A	C
85	A	A	C		A	C
88	A	A			A	B
23	B	C			A-B	C
32	B	A			A-B	A
38	D	B			A-B	C
61	A	A			A-B	C
3	B	B	C	C	B	B
11	D	C	A	D	B	B
12	A	D			B	B
13	B	A			B	A
14	B	A	B		B	B
20	C	C			B	C
24	C	C			B	A
59	A	C	F		B	A
68	C	B			B	B
79	D	D	C	C	B	B
33	C	A	B		B	A
64	B	B			B	B
1	D	A	D		C	A
18	C	D			C	B
26	C	C	F		C	F
36	D	D	F		C	C
37	A	B			C	C
47	C	B			C	B
50	D	B			C	A
52	C	D			C	B
53	B	A			C	B
54	C	C	D	C	C	B
66	A	B			C	B
73	D	B			C	B

TABLE VIII - Cont.

Preceptor's Serial Number	Ratings by Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-Rating
	1	2	3	4		
55	A	D			C-D	C
69	C	C			C-D	B
71	A	D			C-D	B
72	F	D			C-D	B
83	B	D			C-D	B
10	C	F			D	A

TABLE IX

COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-EFFECTIVENESS  
 IN IMPARTING MANAGEMENT TECHNIQUES: ONTARIO GROUP

Preceptor's Serial Number	Rating by Interns (1 to 8)								Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4	5	6	7	8		
6A	A	C	C	B					A	B
1A-B	A	D							A-B	B
2A-B	C	A							A-B	B
3A-B	C	B	C						A-B	A
4A-B	B	B	A						A-B	B
9A-B	A	A	B						A-B	A
10A-B	A	A	C						A-B	B
11A-B	B	C	C						A-B	B
14A-B									A-B	B
5B	C	B	C	B					B	B
8B	F	F		A					B	B
12B	D	B	A						B	A
13B	D	B	B						B	A
15B	B	C	C						B	B
16B	C	A	C						B	B
17B	A	B	C						B	A
18B	D	D	C						B	A
20B	C	C	C						B	A
7C	C	C	C	D	F				C	C
19C	C	C	C	F	C				C	B
22C	C	C	C						C	C
23C	F	F	A						C	B
24C	D	D	C						C	A





the C-F group (47 as opposed to 30 percentage points difference in the two groups), whereas the reverse is true of the A-B group (nine percentage points difference in Wisconsin, 43 in Ontario).

The preceptor's self-rating on this characteristic, as on most others, follows the same general pattern as their median ratings: superior-rated preceptors tend to recognize their superiority; preceptors rated less-than-superior tend to rate themselves higher. It was expected, from comments of preceptors and interns in the Ontario sample, that a larger number of interns would have ranked their preceptor high on effectiveness in imparting management techniques. Many preceptors expressed the opinion that pharmacy was primarily a business and that the novice should learn this part of it first. Many interns sensed this view and responded that their preceptors were too involved in the commercial aspect of pharmacy!

#### Effectiveness in Imparting Professional Information

Superior-rated preceptors and their interns in the Wisconsin study agreed quite well in their rating of the preceptor's effectiveness in imparting professional information. Only three of the 59 interns and three of the 23 preceptors felt that performance here was below "B" on the five-factor scale, indicating that superior-rated preceptors and their interns are almost

unanimously agreed that a commendable job is done in this area (see Tables IV, V and X, pp. 83, 84 and 102).<sup>1</sup> The same general pattern is shown by their counterparts in the Ontario study (see Tables VI, VII and XI, pp. 85, 86 and 104), but here too, there is greater disparity between the interns' and preceptors' total commitment to a superior rating.

The differences between preceptors and interns in group C-F in rating these characteristics persist here, with preceptors and interns in the Wisconsin group differing more in their concensus than those in the Ontario sample (see Tables IV-VII, X and XI, pp. 83-86, 102 and 104).

- 
1. There were two exceptions to this (underlined below). On each of the six characteristics, the percentage of preceptors in group A-B who ranked their performance as "B" or better is as follows: Wisconsin: I - 70%, II - 87%, III - 95%, IV - 82%, V - 95%, VI - 82%; Ontario: I - 100%, II - 67%, III - 61%, IV - 56%, V - 83%, VI - 66%. For group C-F, the results are as follows: Wisconsin: I - 78%, II - 78%, III - 83%, IV - 67%, V - 72%, VI - 50%; Ontario: I - 62%, II - 57%, III - 72%, IV - 69%, V - 59%, VI - 45%. Note that the two exceptions are both for the same characteristic as rated by preceptors in group C-F.

TABLE X

COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF  
PRECEPTOR-EFFECTIVENESS IN IMPARTING PROFESSIONAL  
INFORMATION: WISCONSIN GROUP

Preceptor's Serial Number	Ratings by Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4		
28	A	A	B		A	C
34	A	A	A		A	B
43	A	B			A	B
44	A	A			A	B
60	A	A	A		A	B
85	A	A	A		A	C
88	A	B			A	B
23	A	B			A-B	B
32	B	B			A-B	B
38	B	A			A-B	B
61	A	B			A-B	B
3	A	A	B	B	B	C
11	B	A	A	A	B	B
12	B	B			B	A
13	B	B			B	A
14	B	A	A		B	B
20	B	B			B	B
24	C	B			B	B
59	B	B	B		B	B
68	A	A			B	A
79	D	B	C	A	B	A
33	B	B	A		B	B
64	B	B			B	A
1	C	B	C		C	B
18	C	C	C		C	B
26	C	C	B		C	B
36	C	C	B		C	B
37	F	C			C	B
47	D	D			C	B
50	D	B			C	B
52	B	A			C	B
53	C	C			C	B
54	B	C			C	C
66	A	C	C	C	C	B
73	B	C			C	A

TABLE X - Cont.

Preceptor's Serial Number	Ratings by Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4		
55	C	D			C-D	B
69	D	B			C-D	B
71	C	C			C-D	C
72	C	C			C-D	C
83	B	D			C-D	B
10	B	D			D	C

TABLE XI

COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-EFFECTIVENESS  
 IN IMPARTING PROFESSIONAL INFORMATION: ONTARIO GROUP

Preceptor's Serial Number	Rating by Interns (1 to 8)								Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4	5	6	7	8		
6A	B	A	A	A					A	B
1A-B	A	B	B	B					A-B	C
2A-B	B	B	B	B					A-B	C
3A-B	A	A	A	A					A-B	A
4A-B	B	B	B	B					A-B	B
9A-B	B	B	B	B					A-B	C
10A-B	B	B	B	B					A-B	B
11A-B	A	A	D	D					A-B	B
14A-B	A	A	A	A					A-B	B
5B	A	B	B	B					B	B
8B	B	B	C	A					B	A
12B	A	A	C						B	C
13B	A	A	A	D					B	C
15B	B	B	B	B					B	A
16B	B	B	A	A					B	A
17B	B	B	A	A					B	C
18B	D	B	B	B					B	A
20B	B	B	B	B					B	B
7C	B	C	C	B					C	B
19C	A	C	C	C					C	A
22C	B	C	C	C					C	C
23C	B	B	D	C					C	B
24C	C	C	C	C					C	B
27C	C	C	C	B					C	B





Effectiveness in Transmitting Standards of Ethics,  
Professional Attitude and Conduct

Of the six preceptorial characteristics, superior-rated preceptors and their interns in the Wisconsin sample showed the most consistent pattern of ratings on the effectiveness in transmitting standards of ethics, professional attitude and conduct (see Tables IV, V and XII, pp. 83, 84 and 108). In group A-B, 95% of the preceptors and 97% of their interns rated performance here as excellent or good. In the Ontario study, on this characteristic, 94% of the interns in the A-B group rated their preceptor as highly, but the preceptors' consensus drops off to 61% on this characteristic, a difference of 33 percentage points (see Tables VI, VII and XIII, pp. 85, 86 and 110). However, the figure of 94% consensus by the interns on this characteristic is the highest reached in the Ontario study.

This finding suggests that one of the most commonly observed features of a superior-rated preceptor is his ability to impart to neophytes a feeling for standards of ethics and professional conduct. In an uncontrolled setting, such as existed in Ontario, where no stimulus or pressure was provided on any aspect of practical training, this one characteristic likewise seems to stand out from the rest. With one exception in the Ontario sample, preceptors and interns alike in group C-F ranked

TABLE XII

COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF  
PRECEPTOR-EFFECTIVENESS IN TRANSMITTING STANDARDS  
OF ETHICS, PROFESSIONAL ATTITUDE AND CONDUCT:  
WISCONSIN GROUP

Preceptor's Serial Number	Ratings by Interns (1 to 4)				Overall Median Rating of Preceptor by Preceptor's	
	1	2	3	4	His Interns	Self-rating
28	A	B	A		A	B
34	B	A	A		A	B
43	A	A			A	A
44	A	A			A	B
60	A	A	A		A	B
85	A	A	A		A	B
88	B	A			A	A
23	B	A			A-B	B
32	B	A			A-B	A
38	A	A			A-B	B
61	A	A			A-B	B
3	A	A	A	A	B	A
11	C	B	A	A	B	A
12	B	B			B	B
13	A	B			B	A
14	A	A	A		B	C
20	B	B			B	B
24	B	A			B	B
59	A	B	B		B	A
68	A	A			B	A
79	C	A	A	B	B	A
33	B	A	A		B	A
64	A	A			B	A
1	C	A	B		C	B
18	C	B			C	C
26	C	B	A		C	B
36	D	B	C		C	B
37	F	C			C	B
47	D	F			C	B
50	C	C			C	A
52	A	B			C	B
53	D	D			C	B
54	D	B			C	A
66	A	A	A	A	C	A
73	B	C			C	B

TABLE XII - Cont.

Preceptor's Serial Number	Ratings of Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4		
55	C	F			C-D	B
69	D	B			C-D	B*
71	A	F			C-D	C
72	D	B			C-D	C
83	C	D			C-D	B
10	C	C			D	A

TABLE XIII

COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR-EFFECTIVENESS  
 IN TRANSMITTING STANDARDS OF ETHICS, PROFESSIONAL ATTITUDE AND CONDUCT:  
 ONTARIO GROUP

Preceptor's Serial Number	Rating by Interns (1 to 8)								Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4	5	6	7	8		
6A	B	A	A	A					A	C
1A-B	A	B							A-B	B
2A-B	A	A	A						A-B	C
3A-B	A	A	A						A-B	C
4A-B	A	A	B						A-B	B
9A-B	A	A	A						A-B	D
10A-B	A	A	A						A-B	B
11A-B	A	A	B						A-B	C
14A-B	B	A	A						A-B	B
5B	A	B							B	B
8B	A	D						B	B	A
12B	B	A							B	C
13B	A	B	B						B	A
15B	A	A	A						B	A
16B	B	A	A						B	A
17B	A	A	A						B	B
18B	B	A	A						B	C
20B	C	A	A						B	A

TABLE XIII - Cont.

Preceptor's Serial Number	Rating by Interns (1 to 8)								Overall Median Rating of Preceptor by His Interns	Preceptor's Self-Rating
	1	2	3	4	5	6	7	8		
7C	B	B	B	B	C				C	A
19C	B	A	B	B	F				C	C
22C	B	B	A	B					C	B
23C	B	A	A	D					C	A
24C	C	D	A	A					C	A
27C	C	A	A	A					C	A
28C	A	A	C	A					C	A
30C	B	C	B	B					C	D
31C	C	B	B	B					C	C
33C	B	A	B	A	B	A	B	A	C	A
35C	A	B	D	D					C	B
36C	B	B	C	B					C	B
37C	C	C	C	C					C	B
38C	C	C	C	C					C	B
40C	C	C	C	B					C	C
42C	B	C	C	D					C	D
43C	C	C	C	C	F				C	B
44C	C	C	C	A	B	A			C	A
46C	A	A	B	C					C	B
51C	A	A	D	C					C	C
53C	D	C	C	D	B				C	A
54C	C	C	C	C					C	A
55C	C	C	C	C					C	A
56C	C	C	C	C					C	A



the preceptor's performance here as being excellent or good more frequently than any other characteristic.

Proficiency in Stimulating Devotion  
to the Profession

On this preceptorial characteristic, neither the group rated as superior nor that rated less-than-superior show noteworthy variance from their rating pattern for the five other characteristics. Within the Wisconsin group, agreement remains high among the superior-rated preceptors and their interns, while disagreement is still a notable feature within the C-F group (see Tables IV, V and XIV, pp. 83 , 84 and 114). This is in contrast to the Ontario sample, where again, concensus is low between preceptors and interns in both groups A-B and C-F (see Tables VI, VII and XV, pp. 85 , 86 and 116).

Sympathetic Understanding of, and Attitude  
Toward Intern's Needs

Preceptors and interns in group A-B of the Wisconsin sample once again follow their rating pattern characteristic of the other five traits, but an obvious difference is evident among interns who ranked their preceptors in the C-F group. Whereas on all other characteristics the majority of interns in the C-F group ranked their preceptors in the "C" to "F" range, while on this one, the pattern is reversed. Sixty-eight % of the

TABLE XIV

COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF  
PRECEPTOR-PROFICIENCY IN STIMULATING DEVOTION TO  
THE PROFESSION: WISCONSIN GROUP

Preceptor's Serial Number	Ratings of Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4		
28	A	A	A		A	A
34	B	A	A		A	B
43	A	A			A	B
44	A	A			A	B
60	A	A	A		A	C
85	A	A	B		A	B
88	A	B			A	B
23	A	C			A-B	C
32	C	A			A-B	A
58	A	A			A-B	A
61	A	A			A-B	B
3	A	A	B	B	B	A
11	C	B	A	A	B	A
12	B	C			B	C
13	A	C			B	A
14	A	A	A		B	B
20	C	C			B	C
24	B	B			B	A
59	A	B	C		B	A
68	A	B			B	A
79	B	B	B	B	B	B
33	B	B	B		B	A
64	A	A			B	B
1	B	A	B		C	B
18	C	C			C	C
26	C	C	A		C	B
36	C	C	B		C	B
37	B	C			C	C
47	C	B			C	B
50	C	C			C	B
52	A	C			C	C
53	C	C			C	C
54	C	C			C	C
66	C	A	C	C	C	A
73	C	C			C	B

TABLE XIV - Cont.

Preceptor's Serial Number	Ratings of Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4		
55	C	C			C-D	B
69	C	C			C-D	C
71	C	C			C-D	B
72	F	B			C-D	B
83	C	C			C-D	B
10	C	D			D	D







interns in group C-F rank the preceptor's performance here as "B" or better (see Tables V and XVI, pp. 84 and 120). In the Ontario group, there is no such reversal of rating trend (see Tables VI, VII and XVII, pp. 85, 86 and 122).

Preceptors and interns who gave an "A" or "B" rating to this characteristic were of course not necessarily wrong in doing so, for preceptors who are rated overall as less-than-superior will often perform commendably on certain aspects of the preceptorship. This might be the case with respect to a sympathetic understanding of the intern's needs, since there is high agreement among interns and preceptors on this point.

#### Devoting Adequate Time to Intern's Training Needs

From the comments of preceptors rated as superior and less-than-superior, it was felt that a larger number of the interns should have ranked their preceptor lower than they did on the preceptor's devoting adequate time to the intern's needs and on the preceptor's sympathetic understanding than any of the other four characteristics. Preceptors mentioned frequently that they did not have sufficient time to spend with the intern, particularly in dealing with matters of professional ethics and conduct, talking with the intern about his problems and encouraging extra reading.

TABLE XVI

COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF  
PRECEPTOR'S SYMPATHETIC UNDERSTANDING AND ATTITUDE  
TOWARD TRAINEE'S NEEDS: WISCONSIN GROUP

Preceptor's Serial Number	Ratings by Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4		
28	A	A	A		A	A
34	C	A	A		A	B
43	A	A			A	A
44	A	A			A	A
60	B	A	A		A	B
85	A	A	A		A	B
88	A	A			A	B
23	A	B			A-B	B
32	B	A			A-B	B
38	C	A			A-B	B
61	A	B			A-B	B
3	A	A	A	A	B	A
11	C	D	A	A	B	B
12	B	B			B	B
13	A	A			B	A
14	A	A	B		B	C
20	B	B			B	A
24	B	A			B	A
59	A	B	C		B	B
68	A	B			B	A
79	A	B	A	B	B	B
33	B	A	C		B	A
64	C	B			B	B
1	C	B	B		C	B
18	C	B			C	B
26	B	A	A		C	C
36	B	A	B		C	B
37	C	B			C	B
47	A	C			C	B
50	B	C			C	B
52	C	B			C	B
53	C	C			C	B
54	A	B			C	C
66	B	B	B	A	C	A
73	F	B			C	C

TABLE XVI - Cont.

Preceptor's Serial Number	Ratings by Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4		
55	A	D			C-D	B
69	B	A			C-D	B*
71	B	C			C-D	C
72	A	C			C-D	C
83	B	B			C-D	B
10	A	F			D	B

TABLE XVII

COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF PRECEPTOR'S SYMPATHETIC UNDERSTANDING, AND ATTITUDE, TOWARD TRAINEE'S NEEDS: ONTARIO GROUP

Preceptor's Serial Number	Rating by Interns (1 to 8)								Overall Median Rating of Preceptor by His Interns	Preceptor's Self-Rating
	1	2	3	4	5	6	7	8		
6A	A	A	A	B					A	B
1A-B	A	A							A-B	C
2A-B	B	B							A-B	A
3A-B	A	A							A-B	A
4A-B	A	A							A-B	A
9A-B	A	A							A-B	A
10A-B	A	A							A-B	C
11A-B	A	A							A-B	A
14A-B	A	A							A-B	A
5B	B	B							B	B
8B	B	F		B					B	B
12B	B	C		C					B	B
13B	C	A		A					B	A
15B	A	A		A					B	B
16B	A	C		C					B	C
17B	C	B		B					B	B
18B	B	C		C					B	B
20B	B	B		B					B	B
7C	A	B		F					C	B
19C	B	B		B					C	A
22C	D	C		C					C	C
23C	C	A		A					C	C
24C	C	B		B					C	C





If such is the case, it should show up in the intern's ratings, unless he and the preceptor hold quite different concepts with respect to "adequacy" on these points. Whether or not different frames of reference do largely account for the observed differences remains to be investigated. Only nine interns (17%) and four preceptors (18%) in group A-B of the Wisconsin sample rated the performance lower than "B" on this latter characteristic, while 17 interns (44%) in the C-F group rated their preceptors higher than "C" (see Tables IV, V and XVIII, pp. 83, 84 and 126). In the Ontario study, nine interns (23%) and six preceptors (34%) in the A-B group ranked performance here lower than "B", and in group C-F, 23 interns (21%) and 19 preceptors (45%) ranked performance on this characteristic as "A" or "B" (see Tables VI, VII and XIX, pp. 85, 86 and 128).

As previously discussed, many preceptors even in the C-F group are rated high on their sympathetic understanding of the intern's needs. Preceptors as a whole feel relatively inadequate in this area however, as shown by Tables IV and VI, pp. 83 and 85, since it is to this characteristic that a large number of preceptors assigned themselves a low grade (Wisconsin - 18% in group A-B, 50% in group C-F; Ontario - 34% in group A-B, 55% in group C-F).

The interns' and preceptors' ratings of the adequacy of time devoted to training may be placed in relation to

TABLE XVIII

COMPARISON OF PRECEPTOR'S AND INTERN'S RATING OF  
PRECEPTOR'S WILLINGNESS TO DEVOTE ADEQUATE TIME TO  
INTERN'S TRAINING NEEDS: WISCONSIN GROUP

Preceptor's Serial Number	Ratings by Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4		
28	A	A	B		A	B
34	B	A	A		A	B
43	A	B			A	A
44	A	A			A	C
60	B	A	A		A	B
85	A	B	A		A	B
88	A	A			A	C
23	A	B			A-B	B
32	C	B			A-B	B
38	B	A			A-B	B
61	A	B			A-B	B
3	B	A	C	A	B	B
11	B	B	B	C	B	C
12	B	A			B	C
13	B	B			B	A
14	D	A	B		B	B
20	B	B			B	B
24	A	B			B	B
59	A	A	C		B	B
68	B	A			B	A
79	B	C	A	C	B	B
33	B	C	B		B	B
64	C	C			B	A
1	C	C	C		C	B
18	A	B			C	B
26	D	A	B		C	B
36	A	B	C		C	C
37	C	B			C	C
47	B	B			C	C
50	B	C			C	A
52	C	C			C	A
53	C	C			C	C
54	C	B			C	B
66	B	C			C	C
73	A	C	B	B	C	C

TABLE XVIII - Cont.

Preceptor's Serial Number	Ratings by Interns (1 to 4)				Overall Median Rating of Preceptor by His Interns	Preceptor's Self-rating
	1	2	3	4		
55	A	D			C-D	C
69	D	C			C-D	C
71	C	F			C-D	C
72	B	C			C-D	C
83	C	C			C-D	B
10	B	F			D	B







the number of pharmacists in each training pharmacy, to provide a different perspective. Regardless of the number of pharmacists that work with the intern, interns still varied widely in how they rated their preceptors on this point. However, most of the preceptors in both the groups rated as superior and as less-than-superior, who ranked themselves as "C" or lower on this preceptorial characteristic, worked in a pharmacy where fewer than three pharmacists were employed. In Wisconsin, of 41 pharmacies, 15 (37%) had three employed pharmacists.<sup>2</sup> In Ontario, of 60 pharmacies, only five (8%) had three employed pharmacists.

This finding might entail circumstances where preceptors who feel that they were not devoting adequate time to their interns may have been reflecting, without realizing it, a pressure generated by insufficient manpower. A discussion of the relation between the number of pharmacists, the type of pharmacy they worked in and the preceptors' median ratings is presented in Chapter V.

When the interns' and preceptors' ratings of this characteristic are placed in relation to the type of pharmacy in which the preceptor worked, no pattern is

---

2. In Wisconsin, there were, as of 1964, 88 pharmacies out of 1092 that employed three pharmacists. Proceedings, N.A.B.P. (1964), 113. No comparable data were available in Ontario.

observed. Any unobserved relationship might be obscured here by the small sample sizes and the numerous gradations in types of pharmacies where these preceptors trained their interns, or by overshadowing from stronger influences on the ratings. As discussed in Chapter V, it is inferred that the nature of the pharmacy does have some effect on the internship experience, however; and a larger sample and specially designed methodology might unmask such influence. Tables placing the preceptor's median rating in relation to the type of pharmacy in which he worked are presented in Chapter V.

In the last three areas discussed, proficiency in stimulating devotion to the profession, sympathetic attitude toward the intern's needs and devoting adequate time to training needs, the nature of the dyadic relationship is particularly critical in the development of a proper attitude on the part of an intern. As pointed out by R. W. Husband, pairs of close friends can be more efficient in the solution of problems than pairs of strangers.<sup>3</sup> Louise Tyler alluded to the same thought when she said "...the nature of an ideal teaching relationship involves good or excellent communication, in a peer relation which tends to be emotionally close."<sup>4</sup>

3. R. W. Husband, "Cooperative Versus Solitary Problem Solution," Journal of Social Psychology, 11 (1940), 409.

4. Louise E. Tyler, "The Concept of an Ideal Teacher-Student Relationship," The Journal of Educational Research, 58, no. 3 (November 1964), 116.

## GENERAL COMMENTS

A significant finding from a comparison of the intern's evaluation of his preceptor with his preceptor's self-evaluation is that some patterning can be perceived. Some preceptors are clearly ranked as superior by their interns, and (with the exception of these interns' opinions of the preceptor's effectiveness in imparting management techniques) agreement is high. Those preceptors ranked as superior tend to agree with their interns, though the degree of concensus between preceptor and intern in the Ontario group is not high on four of the characteristics.

Though it should not be surprising that preceptors as a group would rank themselves higher than the majority of their interns would, it is worth noting that, on five of the characteristics rated by the Wisconsin group, and four rated by the Ontario sample, a lower percentage of preceptors in the C-F group ranked themselves as "B" or better than did their colleagues of the A-B group. Though far from conclusive evidence, this does tend to substantiate that we have separated out a group of preceptors who are indeed validly classified as superior. This finds further support when the group rated as less-than-superior is considered, for the ratings are more disparate. Interns disagreed on many characteristics. No way has yet been worked out to show the extent to

which these differences stem from different interpretations of the terms of reference. The fact that there are not only disagreements but that lower ratings were much more numerous suggests that a real difference was established between the C-F group of preceptors and the A-B group. However, some may be better preceptors than their overall ratings suggest. The superior-rated group has been "distilled from the menstruum of preceptors," but the distillation process may not yet be complete.

By comparing groups of preceptors in two different settings, we can gain an insight into the effect of this distillation process. In Ontario, under a system of practical training which precedes chronologically and logically the system used in Wisconsin, we have evidence that proportionately fewer preceptors are rated as superior by their interns, and fewer preceptors consider their own performance as superior. In Wisconsin, of 41 preceptors in our sample, 23 (56%) were in group A-B. In Ontario, of 60 preceptors, only 18 (30%) were in the same classification. On five of six characteristics, a smaller proportion of Ontario preceptors in group A-B ranked themselves as superior than did their Wisconsin counterparts. In the Ontario C-F group, a smaller proportion of preceptors felt they performed in a superior manner than did their Wisconsin colleagues.<sup>5</sup>

5. On characteristic IV, there were actually 69% in Ontario versus 67% in Wisconsin who ranked their performance as superior, a difference considered negligible here.

With more experience and a larger number of interns to rate them, and for other reasons previously discussed, some preceptors in group C-F might well pass over into group A-B, particularly if the same preceptors in Ontario were to be studied after several years' experience in a controlled program.

Having focussed our attention now on two groups of preceptors in two geographically different settings, we proceed now to examine these teachers and the environment in which they worked, beginning with a study of their personal qualities and temperament.

## CHAPTER IV

### SOME PERSONAL CHARACTERISTICS OF PRECEPTORS IN TWO DIFFERENT SETTINGS

#### PERSONAL QUALITIES

During 12 impressionable months, a neophyte of pharmacy is guided into patterns of attitude, thought and practice by a preceptor who, inescapably, is the most influential model of a pharmacist. The most promising intern can be hampered in his zeal, disillusioned in his career choice and taught unprofessional methods by an incompetent, uninterested or lax preceptor. On the other hand, an intern who is lazy, belligerent, or prone to unethical conduct can be improved under the guidance of a competent, alert preceptor. Since this practical teacher can influence a young pharmacist in the proper direction, it becomes of prime importance to improve our ability to distinguish different levels of preceptorship and to understand better the interplay of component factors that affect this teaching function--ability, attitudes, experience, personality, knowledge, motivation, and the professional setting.

#### Academic Achievement

As a dimension of the preceptors here studied, comparative data were obtained on their cumulative academic

achievement during college preparation for their careers (available for 18 group A-B preceptors and 17 group C-F preceptors in Wisconsin; 17 group A-B preceptors and 38 group C-F preceptors in Ontario). Based on a four-point grading system (A = 4; D = 1), the cumulative grade-point average<sup>1</sup> of preceptors in group A-B (Wisconsin sample) ranged from 2.2 to 3.5, with a median at 2.9; and in group A-B (Ontario sample), the range was 2.4 to 3.3, with a median at 2.8. For the C-F groups, the range for the Wisconsin sample was between 2.2 and 3.6, with a median of 2.8; for the Ontario group, the range was 2.2 to 3.7, with a median at 2.8.

The two groups in both settings have very similar levels of academic achievement, although, within each group, wide differences are found between individuals.

- 
1. The number of credits taken in each course each semester was multiplied by the numerical equivalent of the grade received in each course (A = 4, B = 3, C = 2, D = 1) and the sum of these products was determined. The total number of credits taken during the period of academic training was divided into the sum of the product of credits x grade received. This yielded the cumulative grade-point average. Averages are those of the universities concerned, based on official records. The method used to calculate the grade-point average of the Ontario preceptors was that used by the University of Wisconsin for Canadian students, where they assigned four points to marks of 75-100%, three points to 66-74%, two points to 60-65% and one point to 50-59%. (Letter from the Graduate School, The University of Wisconsin, May 26, 1969).

Thus, the evidence does not support the hypothesis that, as a group, the pharmacists rated superior as preceptors were earlier superior academically as pharmacy students, in Wisconsin or Ontario. In designing this project, consideration had been given to a proposal of dividing preceptors into superior and not-superior groups based on their academic performance, as indicated by grade-point averages, or by their results on state board examinations (for the Wisconsin sample), or by some combination of both indicators. However, it was felt that such indicators would give insight into the preceptor's own experience as a student or intern, and not necessarily relate to his personal effectiveness as a practical teacher. It was thought that superior academic performance might be reflected in the preceptor's rated ability to teach. But proficiency in teaching involves only a portion of the characteristics on which the preceptor was rated by his interns. To determine any relationship between academic achievement and the characteristics on which the preceptor was actually rated by his former interns, the grade-point average of each preceptor was related to the rating by his interns on each individual characteristic. We find that, for those preceptors who had a grade-point average of 3.0 or higher, 86 percent of those in Wisconsin and 78 percent of those in Ontario were ranked as superior by their

interns on effectiveness in imparting professional information. Therefore, though the preceptor's overall rating bears no relation to his academic ability, there is an appreciable relationship between grade-point average and the intern's rating of preceptorial effectiveness in imparting professional information. Similar relationships are found in looking at the effect of professional experience on the preceptor's rated effectiveness.

#### Professional Experience

Because the preceptors vary widely in age and date of graduation, there is a wide difference in the amount of experience they are likely to have had as pharmacists (further affected in some instances by illness or periodic work in unrelated fields, war services, etc.). Table XX, p. 140, shows the age distribution of the preceptors in the two settings, at the time when they were rated by their former students.

The age distribution of the Ontario sample of preceptors is considerably higher than that of the Wisconsin sample. Two-thirds of the preceptors in Ontario who were sampled were 46 years or older at the time of rating, whereas only approximately one-third of the Wisconsin sample were over 46 years of age.

From the data of the Wisconsin sample, it can be inferred that among preceptors whose former interns rated

TABLE XX

AGE DISTRIBUTION OF PRECEPTORS IN TWO SETTINGS:  
 "SUPERIOR" (A-B) AND "NOT SUPERIOR" (C-F)

Age When Rated	Number of Preceptors in Each Group			
	A-B		C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
25 to 35	4	2	7	5
36 to 45	7	3	8	10
46 to 55	5	6	2	18
56 to 65	7	4	1	4
Over 65		3		5
	23	18	18	42

them as superior on our particular criteria, age (experience?) may not be decisive. On the other hand, among preceptors less well regarded (group C-F), 83 percent were younger than 46 years of age. In the Ontario study, approximately one-third of the preceptors at both levels of rating were under 46 years of age. For these groups then, there was no apparent difference between the distribution of the preceptors by age.

Does the difference in age distribution between the A-B and C-F groups of the Wisconsin sample mean that relatively few of the older pharmacists of limited preceptorial ability volunteer for such service; or does it perhaps mean that many of the less effective preceptors may surmount their handicaps, in the maturity of age and experience? We cannot know, but the question of age distribution of the more and the less effective preceptors would seem to merit further attention whenever other groups of preceptors can be studied. To gain some insight into this question however, the ratings of interns on individual characteristics were compared to their preceptor's age. It was found that a positive relationship existed between the preceptor's age and his rating on proficiency in stimulating devotion to the profession, devoting adequate time to training needs (for the Wisconsin sample) and effectiveness in imparting management techniques (for the Ontario group of preceptors).

In these three instances, a greater proportion of preceptors 46 years of age or over were rated as superior by their former interns. That increasing effectiveness in performance on these three variables should necessarily come with increasing experience as a pharmacist (and, in some cases, as a preceptor) cannot be proven, but these positive relationships do merit further study.

When experience as a preceptor under the controlled internship program in Wisconsin is considered, there was no real difference between preceptors in either the A-B or C-F group. All had been preceptors since the inception of the controlled program, except for three in each group (most of whom were unable to get an intern during 1964 and hence had one year less experience). About one-third of the pharmacists had experience training apprentices ranging from three to 20 years duration prior to the controlled internship program.

Table 21, p. 143, shows the number of interns trained by preceptors in group A-B and group C-F during the years 1959-1963 (Wisconsin sample), and during the years 1952 to 1966 for the Ontario sample. In Wisconsin, the proportion of preceptors in both groups who trained four or more interns was nearly the same (0.44 and 0.50). In the Ontario sample, the two proportions were respectively, 0.61 and 0.50. The hypothesis that the proportion of the

TABLE XXI

NUMBER OF INTERNS TRAINED BY PRECEPTORS IN GROUP A-B AND  
 GROUP C-F DURING THE PERIOD 1959-1963 (WISCONSIN SAMPLE)  
 AND 1952-1966 (ONTARIO SAMPLE)

Number of Interns Trained	Number of Preceptors in Each Group			
	A-B		C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
0 to 3	13	7	9	21
4 to 8	10	10	9	15
9+		1		6
	23	18	18	42

preceptors who had trained four or more interns would be larger in the group rated superior thus was not supported by the Wisconsin study, whereas the Ontario study did support the hypothesis. That perfect agreement does not exist between a pharmacist's experience as a preceptor and his overall rating by his former interns follows, of course, from the fact that experience as a preceptor is not the only factor that can affect performance on the six characteristics rated. If we divide the preceptors into two groups, those who trained four or more interns and those who trained fewer, and compare their ratings on each of the six characteristics, we find that, in the Wisconsin sample, a positive relationship exists between experience as a preceptor and the preceptor's proficiency in stimulating devotion to the profession. For the Ontario sample, a positive relationship was found on three characteristics: effectiveness in transmitting standards of ethics, professional attitude and conduct, sympathetic attitude toward the intern's needs, and proficiency in stimulating devotion to the profession.

Therefore, it has not been shown that the length of experience as pharmacist or as preceptor, nor the number of interns trained, nor anything associated with a pharmacist's demonstrated ability academically has any necessary relationship to preceptorial effectiveness as here differentiated. Yet, it seems clear that each of

these factors does bear a possible relationship to various components of the preceptorial role as conceived here. So many variables can affect an intern in the rating of his preceptor's effectiveness that it scarcely seems feasible to estimate the validity of the positive relationships found; but a thorough study of these components of the preceptor's role alone undoubtedly would yield some valuable information on what background prepares a preceptor most effectively as a teacher.

Purely personal qualities often are difficult to assess, hence not taken into account adequately in considering a pharmacist's preceptorial function. This does not permit us to ignore them here, however tentative may be the approach and findings.

When interns were asked about the qualities they would look for in an ideal preceptor, they suggested most frequently those listed in Table XXII, p. 146.<sup>2</sup> Such

- 
2. Max A. Lemberger, Director of the Wisconsin Internship program, stresses nine attributes of a good preceptor--perceptive, receptive, energetic, competent, enlightened, principled, tolerant, organized and responsible. For explanation of these attributes, see Max A. Lemberger, "Are You a Good Preceptor?," American Professional Pharmacist, 34, no. 2 (February 1968), 34-35. An analogous article is that of Walter L. Dickinson, "An Educator's View on the Preceptorship and Selection of Preceptors," Proceedings, N.A.B.P. and A.A.C.P. District No. 6, Texas (November 17-19, 1963), 62-63.

TABLE XXII

MOST COMMON QUALITIES INTERNS WOULD  
LOOK FOR IN AN IDEAL PRECEPTOR

Quality	Number of Interns Who Mentioned Each Quality	
	Wisconsin	Ontario
Interested	21	34
Ethical	17	15
Professional	16	9
Understanding	16	8
Patient	12	16
Honest	9	8
Sense of humor	8	3
Critical	8	3
Intelligent	7	21
Well-informed	7	3
Good teacher	6	13
Businesslike	5	6
Dynamic		5
Willing to learn himself		5
Interested in furthering pharmacy		11

qualities, except for intelligence, are not so much linked to academic ability or physical vigor of the preceptor as they are to personality.<sup>3</sup> The Ontario group emphasized certain points proportionately more frequently than did their Wisconsin colleagues, and vice versa. On such an open-ended question, it is not unexpected that results would differ widely.

Some former interns are dissatisfied with their practical experience in the belief that their preceptors did not spend enough time with them or were too concerned with the business aspect of pharmacy, supposedly trying to maximize the "profit" from an intern's services. Such complaints often can be related to the preceptor's personality.

Some dissatisfactions do not spring from the preceptor's qualities as a teacher alone. A clash of personality between the intern and preceptor can seriously cloud the former's impressions, as can an unrealistic expectation of ideal qualities from some preceptorial paragon. Whether they are right or wrong, prejudiced or fair, the intern does look critically at his preceptor as a human being. For these reasons it was felt that an attempt should be made to learn more about the preceptor's inherent temperamental qualities.

---

3. Compare with Mieczyslaw Peszczyński, "Preceptor Selection for Residents in Physical Medicine and Rehabilitation," American Journal of Physical Medicine, 45 (August 1966), 196.

## SURVEY OF TEMPERAMENT

Personality, Temperament and Character

The layman may use the three terms personality, temperament and character interchangeably, but there is a difference that is necessary to recognize in the present context. Moreover, Shaffer points out, the "concept of personality is difficult to treat with precision, for it corresponds to no single or simple trait. Personality does not depend upon one or a few characteristics only, but upon the interaction of practically all of the traits of the individual."<sup>4</sup>

Fromm defines personality as "the totality of inherited and acquired psychic qualities which are characteristic of one individual and which make the individual unique."<sup>5</sup> Allport's definition of personality as the "entire system of relatively permanent tendencies, both physical and mental, that are distinctive of a given individual, and determine his characteristic adjustments to his material and social surroundings,"<sup>6</sup> emphasizes the broad nature of personality.

- 
4. Laurence F. Shaffer, The Psychology of Adjustment, Houghton Mifflin Co., New York (1936), 282.
  5. Erich Fromm, Man for Himself, Holt, Rinehart and Winston, New York (1947), 50.
  6. Gordon W. Allport, Personality and Social Encounter, Beacon Press, Boston (1960), 145-146.

Temperament, according to Allport, "refers to the characteristic phenomena of an individual's emotional nature including his susceptibility to emotional stimulation, his customary strength and speed of response, the quality of his prevailing mood, and all peculiarities of fluctuation and intensity in mood; these phenomena being regarded as dependent upon constitutional make-up, and therefore largely hereditary in origin."<sup>7</sup>

The distinction is underscored by Ohvall when he says, "some personality traits believed to be innate are termed the biogenic or inherited personality. These inherited traits are modified by early life experiences to form a quasi-permanent disposition known as one's temperament."<sup>8</sup> To distinguish character from temperament, Fromm states, "Temperament refers to the mode of reaction and is constitutional and not changeable; character is essentially formed by a person's experiences, especially of those in early life, and changeable, to some extent, by insights and new kinds of experience."<sup>9</sup>

- 
7. Gordon W. Allport, Pattern and Growth in Personality, Holt, Rinehart and Winston, Inc., New York (1961), 28.
  8. Richard A. Ohvall, "A Study of the Need and Feasibility of Establishing Differential Guidance Standards for Pharmacy Undergraduates in the Extended Curriculum," unpublished Ph.D. thesis, University of Wisconsin (1962), 212.
  9. Fromm, Man for Himself, p. 52.

As a preliminary approach to choosing some tools and developing some insight with respect to this inner life and reaction pattern affecting preceptorship, it was decided to make some assessment of "temperament." It will be clear from the preceding paragraphs that the findings cannot tell us about that broader spectrum of psychic qualities called the preceptor's "personality." Rather, we are studying only the nonchangeable, largely hereditary aspects of his personality. Hence, the ten traits to be discussed are those which have remained relatively unaltered by the life experiences of a preceptor, the relatively permanent aspect of his personality.

#### The Guilford-Zimmerman Temperament Survey

The Guilford-Zimmerman Temperament Survey appeared to be as useful as any other single psychological tool that would be practicable under conditions of the present project, as it could provide information on ten traits that are considered to be factors that could affect the training an individual preceptor is able to give.

The Guilford-Zimmerman Temperament Survey provides information on personality traits that, to a greater or lesser extent, are possessed by all people. This survey has a reliability coefficient as high as most other personality tests (averaging 0.80). Since pharmacists

are busy people, the Temperament Survey has the heuristic advantage of a reasonable time requirement, its 300 questions being answerable in approximately 50 minutes. Another advantage is a range of best and poorest C-scores (derived by others from experimental work with the Survey) that help predict how good a respondent will be in a supervisory capacity. Several characteristics of the Guilford-Zimmerman Survey are:

1. It is based upon the responses of normal everyday people, not of the overtly maladjusted or the institutionalized.
2. Its scores are set up by internal analysis, by study of the "going together" of groups of items.
3. Responses are taken at face value. Their significance is assumed to be given by their obvious content.
4. The respondent may endorse as many or as few of the items as he wishes; his choices are not forced or constrained.<sup>10</sup>

#### Import of the Survey to Preceptorship

The degree to which ten traits are developed within the individual is suggested or roughly estimated by proper use of the Guilford-Zimmerman Temperament Survey.

---

10. Robert L. Thorndike and Elizabeth Hagen, Measurement and Evaluation in Psychology and Education, 2nd edition, John Wiley and Sons, New York (1961), 337.

All these traits have some interest in studying the preceptor as a practical teacher.<sup>11</sup> The preceptor's score on "general activity" gives us some idea of his drive, energy and efficiency. Scores on "restraint" indicate whether the preceptor is serious-minded, restrained or happy-go-lucky and impulsive. "Ascendance" indicates whether the preceptor is in the habit of leading or following, whether he can speak readily with others or is hesitant to do so.

The preceptor's score on "sociability" indicates whether or not the preceptor is at ease with others, establishes intimate rapport, or is withdrawn and reserved. Whether or not a preceptor is optimistic, cheerful, pessimistic or gloomy is shown by his score on "emotional stability." High scores on "objectivity" indicate that the preceptor shows insensitivity and less egoism than would be indicated by a low score; low scores mean touchiness or hypersensitivity. The "friendliness" score on the Survey indicates whether or not the preceptor is likely to tolerate hostile action, respect other people or show belligerence and contempt for others. Scores on "thoughtfulness" will indicate whether or not a preceptor is introvert, mentally poised or extrovert and mentally

---

11. We must remember in using tests of this type that each score measures what a person says about himself, not necessarily the way he acts. The latter cannot be assumed in the present study. See Leona E. Tyler, Tests and Measurements, Prentice-Hall, Inc., New Jersey (1963), 82.

disconcerted, while his score on "personal relations" indicates whether he is tolerant or hypercritical of people. Finally, the preceptor's score on "masculinity" will indicate the degree to which his interests and behavior are characteristic of men, and thus indicate the likelihood that he may be better understood and accepted by them.<sup>12</sup>

"Of course, most people do not score at either extreme on these dimensions. Here, as elsewhere, a continuous range of variation with most people occupying an intermediate position is the characteristic pattern. Most people are neither outstandingly active nor conspicuously lethargic, neither clearly ascendant nor clearly submissive. People can rarely be well described by clear-cut personality types. They are described as showing different traits in varying degrees."<sup>13</sup>

The Guilford-Zimmerman Temperament Survey probably has its main value when it is considered for each individual separately. It provides little basis for corrective action because we are dealing here with relatively permanent aspects of personality. Results from the Survey could be used to help an individual toward a better accommodation of work circumstances to his

---

12. See Guilford and Zimmerman, Manual, pp. 2-3, 8-10.

13. Thorndike and Hagen, Measurement, p. 336.

temperament configuration, or toward a more suitable type of position or of vocation, or to understand his temperamental aptitude for supervisory work. Here we are mainly interested in the individual temperament only as a part of one of two groups: A-B or C-F. We would like to know, for example, are trait differences among preceptors sufficiently patterned to help account for their being rated differently by former interns (a group superior, and a group who are not)? Are some traits more characteristic of superior-rated preceptors than are others? Could the Temperament Survey perhaps be developed into a device having some prognostic value as to strengths and potential problems of prospective preceptors? Such questions make the tentative assessment of temperament traits among preceptors in our sample of general interest to pharmacy, even though this initial effort provides no definitive answers.

#### Interpretation of "Profile Charts"

Thirty-six (88%) preceptors in the Wisconsin study and 56 (93%) from the Ontario sample completed answer sheets of the Temperament Survey in a manner that permitted them to be utilized. Three preceptors from each study group did not complete the survey; two Wisconsin preceptors and one from Ontario used so many

indecisive ("?") responses on all traits so as to invalidate their scores.

The raw scores for each preceptor from the Wisconsin and Ontario samples are shown respectively in Tables XXIII and XXIV, pp. 156-157 and 158-159. Applying these figures to the "profile chart" in Appendix E, p. 374 reveals each preceptor's temperament pattern.

To show the trends and patterns of various distributions of trait scores, the nearest T-score distribution is used instead of the raw score. The T-score sets the mean at 50 (to avoid negative scores) and sets each standard deviation at five points. Changing raw scores to standard scores does not alter the form of the distribution. Raw scores are used here for calculations of significance tests.

The medians of the nearest T-scores for preceptors from the two samples on each trait are shown in Table XXV, p. 160. Most of the medians center around 50 to 55 or very close to a mean C-score of 5, or to a centile rank ranging from 40 to 70. Thus, the preceptors in both samples, considered as two groups, do not differ markedly from college men in general. The most obvious difference between the preceptors and the sample of college people on which the Survey's reliability was estimated, is the "masculinity" trait, on which both superior- and not-superior-rated preceptors in the Wisconsin sample,

TABLE XXIII

RAW SCORES FROM "PROFILE CHARTS": WISCONSIN GROUP

(See Appendix E, p. 374)

Preceptor Number	Traits									
	G	R	A	S	E	O	F	T	P	M
P 28 A	23	21	20	25	28	26	26	21	26	21
P 34 A	22	16	19	SH*	15	17	9	19	23	18
P 43 A	28	12	22	24	28	22	7	14	17	23
P 44 A	22	18	18	?**	26	22	12	7	24	21
P 60 A	5	16	6	5	6	14	17	23	21	16
P 85 A	SH	24	?	?	24	25	27	20	?	?
P 88 A	19	25	15	22	26	26	21	23	22	SH
P 23 A-B	22	20	16	17	21	22	24	23	18	14
P 32 A-B	23	SH	21	30	27	29	26	12	22	23
P 38 A-B	25	18	13	19	21	17	18	14	23	19
P 3 B	9	23	5	10	13	22	19	20	26	18
P 12 B	12	20	20	15	27	21	23	14	26	21
P 13 B	23	19	21	18	17	18	14	19	21	19
P 14 B	?	?	14	11	19	19	15	14	16	12
P 20 B	15	21	8	15	28	27	27	8	29	SH
P 24 B	20	20	15	22	21	17	22	20	23	18
P 59 B	22	20	18	21	18	19	24	16	18	12
P 64 B	18	24	20	21	23	24	22	11	22	22
P 68 B	13	17	13	21	28	24	25	SH	24	18
P 79 B	24	21	23	18	22	18	23	19	18	14
P 1 C	27	20	23	29	SH	12	7	22	15	16
P 18 C	21	16	12	16	20	19	13	21	17	SH
P 26 C	14	23	11	22	26	25	28	14	28	21
P 37 C	12	14	19	21	25	22	20	12	25	18
P 50 C	19	18	?	23	18	12	9	27	15	18
P 52 C	26	20	25	29	23	26	16	21	23	17
P 53 C	15	20	?	28	27	24	19	9	21	17
P 54 C	28	20	18	23	22	14	11	23	18	14
P 66 C	6	19	15	5	8	18	16	20	12	?
P 73 C	26	21	15	10	26	20	12	SH	20	24
P 55 C-D	27	14	15	23	24	24	16	20	21	30
P 69 C-D	23	22	14	23	21	19	21	16	20	19
P 71 C-D	20	19	SH	13	18	15	10	8	15	20
P 72 C-D	10	20	17	25	13	19	18	12	9	13
P 83 C-D	21	23	11	16	15	10	8	22	13	12
P 10 D	11	22	6	12	19	16	19	22	25	12

TABLE XXIII - Cont.FOOTNOTES

\*"SH" designates a trait score that failed to meet "split-half reliability" test.

\*\*Respondent invalidated this trait score by using too many "?" answers (indecision) on the answer sheet.

NOTE: For explanation of trait abbreviations, see p. 160.

TABLE XXIV

RAW SCORES FROM "PROFILE CHARTS": ONTARIO GROUP

(See Appendix E, p. 374)

Preceptor Number	Traits										
	G	R	A	S	E	O	F	T	P	M	
P 6 A	24	19	20	24	23	24	26	18	28	21	
P 1 A-B	18	21	14	26	21	13	25	18	18	6	
P 2 A-B	19	25	23	18	26	13	14	16	22	19	
P 3 A-B	25	22	16	17	12	16	25	20	23	15	
P 4 A-B	24	SH*	15	19	27	25	19	SH	25	20	
P 9 A-B	22	19	SH	14	25	25	19	22	26	22	
P 10 A-B	26	16	24	24	24	21	12	20	19	15	
P 11 A-B	25	SH	13	24	19	16	15	12	21	16	
P 14 A-B	20	23	20	18	25	22	16	11	22	18	
P 5 B	19	25	20	25	25	23	24	16	26	18	
P 8 B	10	21	15	23	19	13	19	21	18	22	
P 12 B	-	-	-	-	-	-	-	-	-	-	
P 13 B	20	SH	20	22	9	15	19	18	18	25	
P 15 B	15	19	21	?**	15	17	21	20	21	22	
P 16 B	4	24	18	17	10	SH	14	25	15	18	
P 17 B	23	18	13	23	15	13	13	15	19	17	
P 18 B	21	17	17	18	22	18	21	22	17	27	
P 20 B	17	24	19	24	27	20	12	21	19	15	
P 7 C	27	23	21	23	26	27	22	26	27	20	
P 19 C	5	18	15	22	15	21	7	SH	18	11	
P 22 C	16	21	12	25	18	26	16	20	?	24	
P 23 C	22	18	21	27	28	16	20	20	20	16	
P 24 C	21	26	11	22	21	27	12	19	16	22	
P 27 C	28	20	18	18	25	15	18	11	17	21	
P 28 C	20	21	12	17	22	30	9	18	22	8	
P 30 C	19	19	9	6	25	15	21	13	18	27	
P 31 C	11	18	19	17	27	17	25	22	7	22	
P 33 C	7	16	25	15	27	21	27	25	19	18	
P 35 C	26	21	27	17	22	19	?	14	12	26	
P 36 C	19	20	19	21	19	8	14	21	26	13	
P 37 C	15	SH	3	21	11	15	SH	26	15	21	
P 38 C	15	14	10	12	15	16	19	16	18	22	
P 40 C	11	17	9	14	15	18	19	22	23	14	
P 42 C	12	22	16	17	16	11	16	26	11	26	
P 43 C	10	17	8	17	22	26	11	16	27	17	
P 44 C	21	19	?	8	18	16	21	12	26	26	
P 46 C	20	19	21	27	26	20	10	18	19	15	
P 51 C	-	-	-	-	-	-	-	-	-	-	
P 53 C	21	17	?	8	23	9	8	26	18	17	
P 54 C	11	17	23	17	3	16	19	19	24	27	
P 55 C	25	21	15	15	17	18	12	20	9	19	
P 56 C	19	27	15	19	16	21	12	17	19	22	

TABLE XXIV - Cont.

Preceptor Number	Traits									
	G	R	A	S	E	O	F	T	P	M
P 25 C-D	11	18	22	19	21	8	19	17	23	19
P 32 C-D	17	4	27	18	23	17	17	23	16	27
P 34 C-D	20	25	23	8	21	17	19	26	22	24
P 39 C-D	18	15	25	20	20	21	16	23	24	23
P 45 C-D	26	15	21	27	27	26	19	9	27	26
P 49 C-D	-	-	-	-	-	-	-	-	-	-
P 50 C-D	20	25	12	13	7	9	15	15	16	19
P 52 C-D	19	11	8	18	9	21	6	4	13	21
P 57 C-D	15	26	11	21	23	SH	14	23	15	19
P 21 D	21	19	26	22	23	19	11	17	26	16
P 26 D	28	17	25	19	14	22	15	22	26	22
P 29 D	7	17	11	15	12	9	7	21	19	17
P 58 D	11	25	23	8	27	11	9	4	17	15
P 59 D	18	27	15	24	19	22	21	9	12	12
P 60 D	?	?	?	?	?	?	?	?	?	?
P 41 D-F	16	19	20	24	26	20	18	25	24	14
P 47 D-F	17	18	22	29	26	23	16	21	27	19
P 48 F	16	21	19	25	22	25	17	7	21	25

FOOTNOTES

\*"SH" designates a trait score that failed to meet "split-half reliability" test.

\*\*Respondent invalidated this trait score by using too many "?" answers (indecision) on the answer sheet.

NOTE: For explanation of trait abbreviations, see p. 160.

TABLE XXV

MEDIAN OF NEAREST T-SCORES ON EACH TRAIT IN THE  
 GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY FOR PRECEPTORS  
 IN TWO DIFFERENT SETTINGS

Trait	Group	Median of Nearest T-Scores	
		Wisconsin	Ontario
General activity	A-B	60.0	55.0
	C-F	55.0	50.0
Restraint	A-B	55.0	60.0
	C-F	55.0	50.0
Ascendance	A-B	55.0	55.0
	C-F	50.0	50.0
Sociability	A-B	45.0	55.0
	C-F	55.0	45.0
Emotional stability	A-B	57.5	60.0
	C-F	55.0	55.0
Objectivity	A-B	55.0	50.0
	C-F	50.0	50.0
Friendliness	A-B	65.0	60.0
	C-F	50.0	55.0
Thoughtfulness	A-B	50.0	52.5
	C-F	55.0	52.5
Personal relations	A-B	55.0	55.0
	C-F	57.5	50.0
Masculinity	A-B	45.0	47.5
	C-F	42.5	50.0

and superior-rated preceptors of the Ontario sample scored below a T-score of 50; such differences are not startling, however, amounting to no more than two standard deviations.

When a test of significance of difference between the means for preceptors of group A-B and group C-F is applied to scores on each trait, differences between the two groups in Wisconsin were found to be significant at the 0.95% confidence level on Restraint, Objectivity, Friendliness, Thoughtfulness, and Personal Relations.<sup>14</sup> For the two Ontario groups, a similar statistical significance was found only on the trait Friendliness. It should be pointed out here that the difference on the Thoughtfulness trait in the Wisconsin study was such that the C-F group scored significantly higher than the A-B group, whereas the reverse was true on the other traits where significant differences were found.

The median of all T-scores for each preceptor, as calculated for Tables XXVI and XXVII, pp. 162 and 163, again show that the medians clustered about the 50 and 55 range, with some exceptions. Using the raw data for each preceptor, a test of significance of difference between the mean scores of group A-B and group C-F preceptors in

---

14. The student's t test was used to test the significance of the difference between means. See Allen L. Edwards, Experimental Design in Psychological Research, Rinehart & Co., New York (1951), 142f.

TABLE XXVI

MEDIAN OF ALL T-SCORES FROM GUILFORD-ZIMMERMAN  
 "PROFILE CHART" FOR EACH PRECEPTOR: WISCONSIN GROUP

<u>Preceptor Number</u>	<u>Median of T-Scores</u>
P 28 A	60.0
P 34 A	50.0
P 43 A	55.0
P 60 A	42.5
P 85 A	--
P 88 A	60.0
P 23 A-B	55.0
P 32 A-B	60.0
P 38 A-B	52.5
P 3 B	47.5
P 12 B	55.0
P 13 B	50.0
P 14 B	45.0
P 20 B	60.0
P 24 B	55.0
P 59 B	50.0
P 64 B	55.0
P 68 B	55.0
P 79 B	52.5
P 1 C	60.0
P 18 C	50.0
P 26 C	65.0
P 37 C	52.5
P 50 C	50.0
P 52 C	60.0
P 53 C	55.0
P 54 C	55.0
P 66 C	50.0
P 73 C	60.0
P 55 C-D	57.5
P 69 C-D	55.0
P 71 C-D	55.0
P 72 C-D	47.5
P 83 C-D	42.5
P 10 D	47.5

TABLE XXVII

MEDIAN OF ALL T-SCORES FROM GUILFORD-ZIMMERMAN  
 "PROFILE CHART" FOR EACH PRECEPTOR: ONTARIO GROUP

Preceptor Number	Median of T-Scores
P 6 A	57.5
P 1 A-B	50.0
P 2 A-B	50.0
P 3 A-B	52.5
P 4 A-B	62.5
P 9 A-B	60.0
P 10 A-B	55.0
P 11 A-B	50.0
P 14 A-B	55.0
P 5 B	60.0
P 8 B	52.5
P 13 B	55.0
P 15 B	55.0
P 16 B	45.0
P 17 B	47.5
P 18 B	55.0
P 20 B	55.0
P 7 C	65.0
P 19 C	50.0
P 22 C	55.0
P 23 C	57.5
P 24 C	55.0
P 27 C	52.5
P 28 C	52.5
P 30 C	50.0
P 31 C	55.0
P 33 C	52.5
P 35 C	55.0
P 36 C	50.0
P 37 C	50.0
P 38 C	45.0
P 40 C	45.0
P 42 C	47.5
P 43 C	45.0
P 44 C	55.0
P 46 C	55.0
P 53 C	50.0
P 54 C	50.0
P 55 C	50.0
P 56 C	50.0

TABLE XXVII - Cont.

<u>Preceptor Number</u>	<u>Median of T-Scores</u>
P 25 C-D	52.5
P 32 C-D	52.5
P 34 C-D	57.5
P 39 C-D	55.0
P 45 C-D	67.5
P 50 C-D	45.0
P 52 C-D	40.0
P 57 C-D	50.0
P 21 D	55.0
P 26 D	55.0
P 29 D	40.0
P 58 D	40.0
P 59 D	50.0
P 41 D-F	55.0
P 47 D-F	57.5
P 48 F	55.0

Wisconsin and in Ontario revealed no statistically significant differences (at the 0.05% significance level) in either setting.<sup>15</sup> Similarly, when the Wisconsin A-B group is compared to the Ontario A-B group, and Wisconsin C-F group is compared to the Ontario C-F group, no significant difference is found between the "patterns" of their respective scores on the ten traits of the Guilford-Zimmerman Survey.

These findings do not support the hypothesis that the Guilford-Zimmerman Temperament Survey would show patterns of test scores that could help account for one group of pharmacists having been rated superior preceptors rather than not-superior. However, the results of the Wisconsin study do reveal some interesting trends. On four of ten characteristics preceptors rated as superior scored significantly higher than did their colleagues rated less-than-superior. On one of the ten traits, there is a significant reversal, in that the Wisconsin group C-F preceptors scored higher as a group on the Thoughtfulness trait than did their superior-rated colleagues. In the Ontario study, on only one trait, Friendliness (which was also one of the four in Wisconsin) was there a statistically significant

---

15. For method of calculating the chi square value used in this test, see Paul G. Hoel, Elementary Statistics, John Wiley and Sons, New York (1963), 157f.

difference. The results from these limited samples suggest a probability that temperament may play no major role among the preceptors as a group in determining whether they are rated as superior or not by their former interns.

The preceptor, regardless of how his interns react to him, appears above all to be temperamentally a man who does not differ markedly from the average college-educated man. The highest median T-score was 65, the lowest 42.5 for Wisconsin preceptors in the sample; the range was 40.0 to 67.5 for the Ontario sample. These are ranges into which the majority of college-educated men would fall. Larger differences naturally occur on single traits between one preceptor and another, but when their overall profiles are considered, the Survey provides few indications of diagnostic differences between superior and not-superior ratings, regardless of the preceptorial setting.

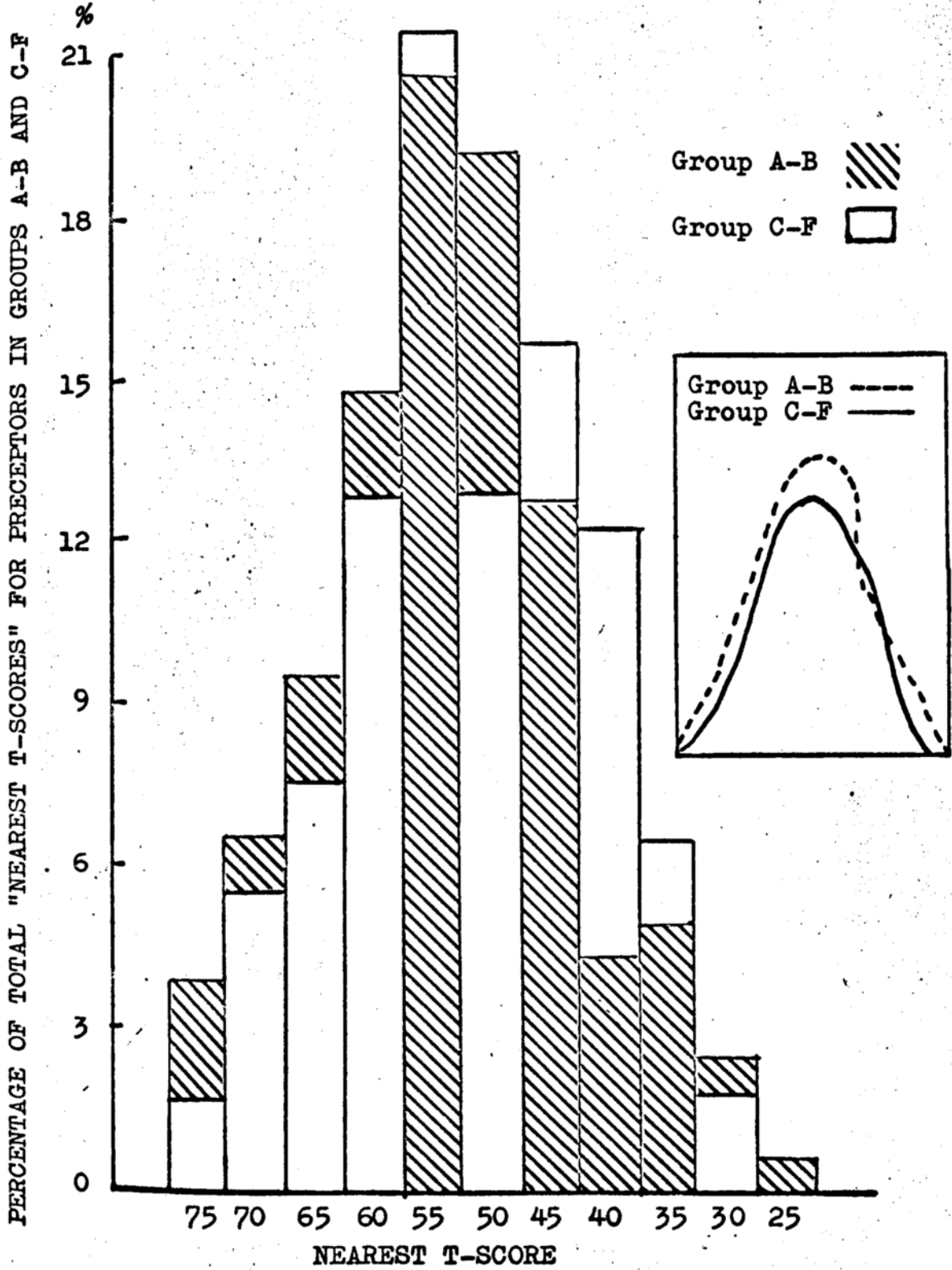
How might this be accounted for? First of all, the people who took part in this study were all pharmacists with a university education, all are adults, all volunteered to serve as pharmacy preceptors, and, in the case of the Wisconsin sample, all met the qualifying standards. Within either setting, the preceptors have a great deal in common. Between the two settings, no other study has assessed similarities or differences between

the two geographically separated fields of practice. Personal experience in both settings leaves the impression that both are similar in the nature of the practice, the attitude of the pharmacist and the "free enterprise" atmosphere in which they work. The Ontario pharmacist may have been less aware of the expectations of a practical training program, may have lacked the formal guides, but as a pharmacist and a man, he was motivated much as his Wisconsin colleague.

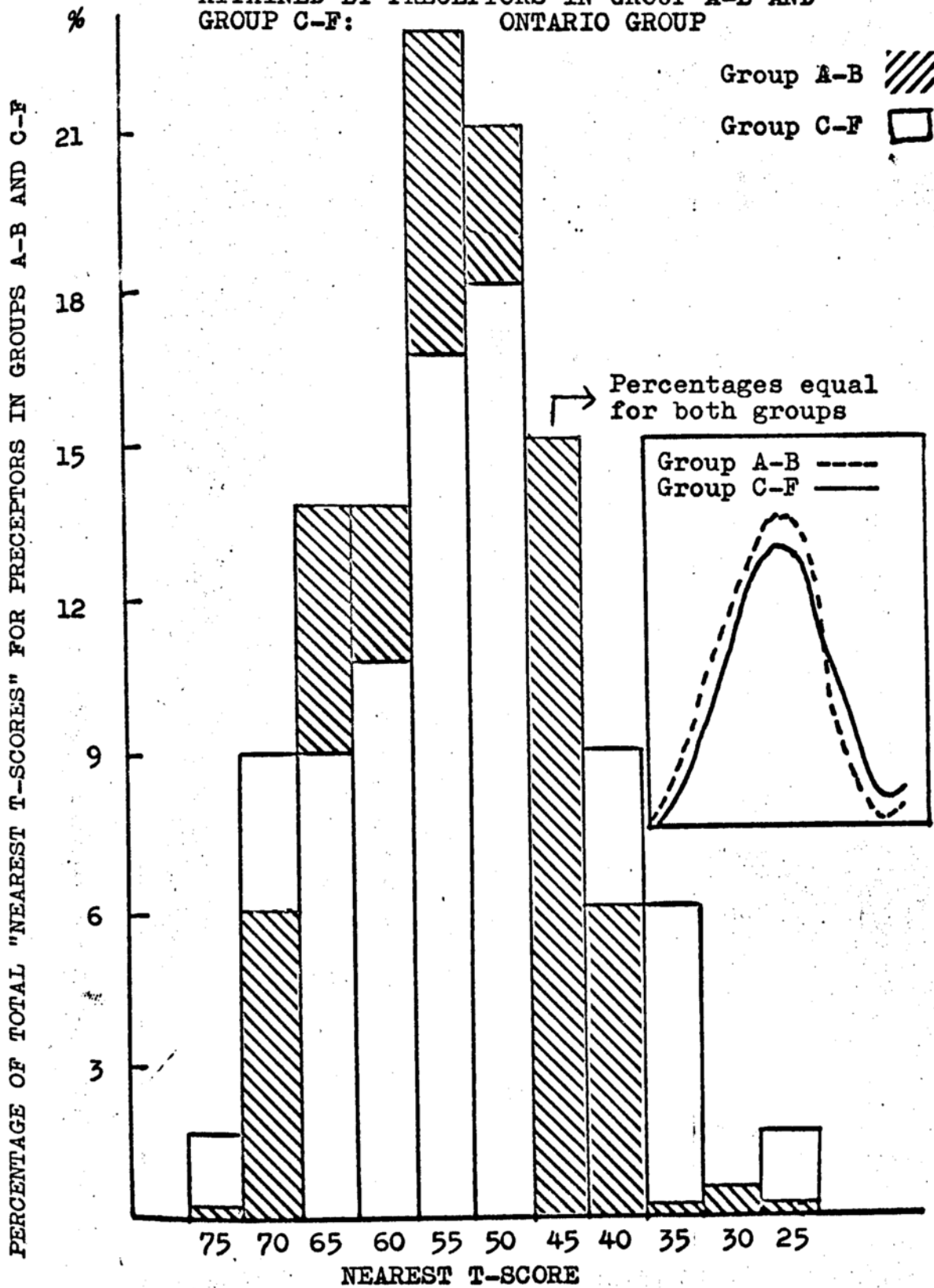
For the 20 preceptors in group A-B of the Wisconsin study, there were 187 traits obtained from the profile charts. Seven traits, or 3.7% of the total, had a "nearest T-score" of 75. For the 16 preceptors in group C-F, there were 153 traits obtained from the profile charts. Three traits, or 2.0% of the total, had a "nearest T-score" of 75. In this way, the preceptors in group A-B and group C-F in both settings were compared as to the percentage distribution of their "nearest T-scores" on all ten traits from the Guilford-Zimmerman Temperament Survey (see Graphs 5 and 6, pp. 168 and 169).

As shown by the line graphs in the insets, both the "A-B" and "C-F" groups in Wisconsin and Ontario roughly approximated a normal distribution of "nearest T-scores." In the Wisconsin sample, preceptors in group A-B had a slightly greater percentage of their traits in the "nearest T-score" range from 75 to 60 than did preceptors

GRAPH 5. PERCENTAGE DISTRIBUTION OF "NEAREST T-SCORES" FROM THE GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY ATTAINED BY PRECEPTORS IN GROUP A-B AND GROUP C-F: WISCONSIN GROUP



GRAPH 6. PERCENTAGE DISTRIBUTION OF "NEAREST T-SCORES" FROM THE GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY ATTAINED BY PRECEPTORS IN GROUP A-B AND GROUP C-F: ONTARIO GROUP



in group C-F. From 45 to 35, preceptors in group C-F had a greater percentage of their traits in this range than did preceptors in group A-B. This is in contrast to preceptors in the Ontario sample, where those in group A-B had more of their "nearest T-scores" in the middle (65 to 50) than did preceptors in the C-F group, whereas the reverse was true for preceptors' "nearest T-scores" at the extremes (75-70, 30-25). Since the T-scores are so arranged along the "profile chart" that the distribution will approximate the normal curve, it is obvious that the groups of preceptors in the samples did not deviate markedly from a normal distribution. With larger samples, the distributions might even more closely approximate the normal curve. Thus, when preceptors are compared as to the frequencies with which they scored high and low on all the traits as a group, they do not differ markedly from each other, nor from a pattern that would be observed for the average college-educated man. This again emphasizes that we seemed to be dealing with preceptors who, as a group, were notably similar in their temperament profiles and who were notably similar to other college-educated men.

Supervisory Promise: Table XXVIII, p. 171, shows the range of most favorable and least favorable C-scores in terms of supervisory promise, as determined by using the Guilford series of personality inventories with

TABLE XXVIII

RANGES OF MOST AND LEAST FAVORABLE C-SCORES IN TERMS  
OF SUPERVISORY PROMISE, BASED UPON USE OF THE  
INVENTORIES WITH SUPERVISORY AND ADMINISTRATIVE PERSONNEL\*

Trait	Most Favorable C-Scores	Least Favorable C-Scores
General activity	6- 8	0-1
Restraint	5- 6	0-2; 9-10
Ascendance	7- 9	0-4
Sociability	5-9	---
Emotional stability	5- 9	0-3
Objectivity	5- 7	0-3
Friendliness	5- 9	0-3
Thoughtfulness	5-8	0-3
Personal relations	6-10	0-4
Masculinity	5- 8	0-3

\*This table was drawn from Guilford and Zimmerman's Manual, p. 10. The terms "most favorable C-scores" and "least favorable C-scores" and the accompanying figures do not refer to preceptors from this study. See Profile Chart, Appendix E, p. 365 for C-score norms. The C-scale is so arranged that mean will be exactly at point 5.0 with the two limiting classes being called 0 and 10.

supervisory and administrative personnel. Though the supervisory nature of the preceptorial function is considered according to the teaching role, it is interesting to compare the pattern of the preceptors' scores to that established by Guilford and co-workers. Tables XXIX and XXX, pp. 173 and 174 show the distribution of each preceptor's centile-rank (called C-scores) on all traits in terms of the supervisory promise they showed. No significant difference was found in the pattern for group A-B compared to group C-F in the Wisconsin sample, but a significant difference was found in the pattern for the two groups in the Ontario study (chi square test, 0.05% significance level). In terms of supervisory promise, a significant difference was also found in the pattern of scores between Wisconsin and Ontario A-B groups, and Wisconsin and Ontario C-F groups, at the same level of significance.

Comparing the two groups in each setting on the number of most favorable and least favorable C-scores in terms of supervisory promise that each attained, a difference significant at the 0.95% confidence level (student's t test) was found between Wisconsin group A-B and group C-F in terms of least favorable C-scores, and Wisconsin group C-F and Ontario group C-F in terms of least favorable C-scores. Due to the results of Ontario group A-B in terms of least favorable C-scores,

TABLE XXIX

NUMBER OF TRAITS ON WHICH PRECEPTORS OBTAINED MOST FAVORABLE, LEAST FAVORABLE AND OTHER C-SCORES IN TERMS OF SUPERVISORY PROMISE: WISCONSIN GROUP

Preceptor Number	C-Scores		
	Number of Most Favorable	Number of Least Favorable	Other
P 28 A	6	0	4
P 34 A	5	1	5
P 43 A	5	1	4
P 44 A	6	1	2
P 60 A	4	4	2
P 85 A	3	0	1
P 88 A	5	1	3
P 23 A-B	6	1	3
P 32 A-B	6	1	5
P 38 A-B	7	1	2
P 3 B	4	2	4
P 12 B	6	0	4
P 13 B	8	0	2
P 14 B	3	2	3
P 20 B	2	1	6
P 24 B	8	0	2
P 59 B	6	1	3
P 64 B	6	1	3
P 68 B	6	0	3
P 79 B	6	1	3
P 1 C	4	4	1
P 18 C	6	2	1
P 26 C	4	1	5
P 37 C	5	1	4
P 50 C	3	3	3
P 52 C	7	1	2
P 53 C	6	2	1
P 54 C	4	1	5
P 66 C	4	1	5
P 73 C	4	3	2
P 55 C-D	6	0	4
P 69 C-D	7	1	2
P 71 C-D	4	2	3
P 72 C-D	4	3	3
P 83 C-D	2	5	3
P 10 D	4	2	4

TABLE XXX

NUMBER OF TRAITS ON WHICH PRECEPTORS OBTAINED MOST FAVORABLE, LEAST FAVORABLE AND OTHER C-SCORES IN TERMS OF SUPERVISORY PROMISE: ONTARIO GROUP

Preceptor Number	C-Scores		
	Number of Most Favorable	Number of Least Favorable	Other
P 6 A	6	0	4
P 1 A-B	5	0	5
P 2 A-B	3	0	7
P 3 A-B	4	0	6
P 4 A-B	4	0	4
P 9 A-B	8	0	1
P 10 A-B	5	0	5
P 11 A-B	3	0	6
P 14 A-B	7	0	3
P 5 B	5	0	5
P 8 B	5	0	5
P 13 B	5	0	4
P 15 B	6	0	3
P 16 B	3	1	5
P 17 B	3	0	7
P 18 B	4	0	6
P 20 B	5	0	5
P 7 C	5	0	5
P 19 C	3	2	4
P 22 C	6	0	3
P 23 C	7	0	3
P 24 C	4	0	6
P 27 C	4	0	6
P 28 C	4	1	5
P 30 C	3	1	6
P 31 C	4	1	5
P 33 C	3	1	6
P 35 C	3	0	6
P 36 C	4	0	6
P 37 C	0	1	7
P 38 C	2	0	8
P 40 C	3	0	7
P 42 C	3	0	7
P 43 C	2	0	8
P 44 C	5	0	4
P 46 C	6	0	4
P 53 C	2	0	7

TABLE XXX - Cont.

Preceptor Number	C-Scores		
	Number of Most Favorable	Number of Least Favorable	Other
P 54 C	3	1	6
P 55 C	3	0	7
P 56 C	2	0	8
P 25 C-D	5	0	5
P 32 C-D	3	1	6
P 34 C-D	6	0	4
P 39 C-D	7	0	3
P 45 C-D	5	0	5
P 50 C-D	1	0	9
P 52 C-D	1	1	8
P 57 C-D	2	0	7
P 21 D	5	0	5
P 26 D	5	0	5
P 29 D	1	1	8
P 58 D	1	1	8
P 59 D	3	0	7
P 41 D-F	8	0	2
P 47 D-F	6	0	4
P 48 F	8	1	1

no standard deviation could be found, and hence no test could be applied. In terms of results on least favorable C-scores, where a statistically significant difference was found in the Wisconsin sample, the C-F group had more C-scores in the least favorable area than did the A-B group; similarly, in the same statistically significant difference found between Wisconsin and Ontario samples, the Wisconsin C-F group had a larger number of unfavorable C-scores than did the Ontario C-F group.

Table XXXI, p. 177 shows the number of preceptors who scored favorably and unfavorably in terms of supervisory promise on each trait. Larger samples would be needed in order to conduct meaningful tests of the significance of difference between proportions, so we are restricted here to an examination of the results.

For Wisconsin, the greatest differences in terms of favorable C-scores between group A-B and group C-F is on the trait, General Activity; for Ontario, it is also on the General Activity trait. In terms of least favorable C-scores, the greatest difference between Wisconsin A-B and C-F groups is on the Personal Relations trait; in Ontario, it is also on the Personal Relations trait, with Ascendance also showing a rather large difference.

TABLE XXXI

NUMBER OF PRECEPTORS IN TWO DIFFERENT SETTINGS WHO SCORED MOST FAVORABLY AND LEAST FAVORABLY IN TERMS OF SUPERVISORY PROMISE ON EACH OF THE TEN TRAITS  
(Proportions Shown in Parentheses)

Trait	Group	Number Who Scored Most Favorably		Number Who Scored Least Favorably	
		Wisconsin	Ontario	Wisconsin	Ontario
General activity	A-B	11 (0.61)	9 (0.53)	1 (0.06)	1 (0.06)
	C-F	4 (0.25)	10 (0.26)	1 (0.06)	3 (0.08)
Restraint	A-B	11 (0.61)	6 (0.43)	1 (0.06)	2 (0.14)
	C-F	9 (0.56)	23 (0.61)	0 (0.00)	8 (0.21)
Ascendance	A-B	6 (0.32)	3 (0.48)	5 (0.27)	2 (0.12)
	C-F	2 (0.15)	15 (0.41)	5 (0.38)	12 (0.32)
Sociability	A-B	9 (0.53)	10 (0.62)	-	-
	C-F	10 (0.62)	19 (0.49)	-	-
Emotional stability	A-B	17 (0.85)	12 (0.70)	1 (0.05)	3 (0.18)
	C-F	12 (0.80)	28 (0.72)	1 (0.07)	5 (0.13)
Objectivity	A-B	12 (0.60)	7 (0.44)	1 (0.05)	4 (0.25)
	C-F	8 (0.50)	17 (0.45)	3 (0.19)	7 (0.18)
Friendliness	A-B	14 (0.70)	13 (0.76)	2 (0.10)	0 (0.00)
	C-F	9 (0.56)	24 (0.65)	3 (0.19)	6 (0.17)

TABLE XXXI - Cont.

Trait	Group	Number Who Scored Most Favorably		Number Who Scored Least Favorably	
		Wisconsin	Ontario	Wisconsin	Ontario
Thoughtfulness	A-B	12 (0.63)	11 (0.69)	4 (0.21)	2 (0.12)
	C-F	9 (0.60)	21 (0.56)	4 (0.27)	8 (0.21)
Personal Relations	A-B	11 (0.58)	9 (0.53)	1 (0.05)	1 (0.06)
	C-F	8 (0.50)	17 (0.45)	6 (0.38)	11 (0.29)
Masculinity	A-B	6 (0.35)	7 (0.35)	6 (0.35)	0 (0.00)
	C-F	7 (0.50)	18 (0.47)	7 (0.50)	5 (0.13)

## GENERAL COMMENTS

Fundamental to the question of superior preceptorship is an understanding of the character and experience of the person who has been so designated. A variety of information sources permitted further insight into the nature of preceptors in two different settings.

Superior academic experience as indicated by the cumulative grade-point average may be related to the preceptor's rated effectiveness in imparting professional information, on the average. Experience as a pharmacist may be related to the preceptor's proficiency in stimulating devotion to the profession, devoting adequate time to training needs, and effectiveness in imparting management techniques. Superior performances in these instances is related positively to greater age (possibly to greater experience as a pharmacist).

Experience as a preceptor was also compared to preceptorial rating on individual characteristics. One tentative finding is a positive relationship between preceptorial experience and proficiency in stimulating devotion to the profession, effectiveness in transmitting standards of ethics, professional attitude and conduct, and sympathetic attitude toward the intern's needs.

Can a diagnostic method be found which will enable preceptors to be rated as superior or not-superior in different settings, so that the results obtained will be

standard from one setting to another? Such questions become professionally important in trying to identify a pharmacist who will be an effective preceptor or in determining areas in which preceptors lack proper training or experience to function efficiently.

Ideally, superior preceptorship would be identifiable on the basis of a test procedure that could be conveniently scored and interpreted. Our study raises serious doubts that the Guilford-Zimmerman Temperament Survey will carry us very far toward that objective. Limited perhaps by the small sample sizes, no relationship between the rating of a preceptor and his overall result on the test was found. However, individual relationships, such as the preceptor's rated effectiveness and results on individual trait scores, such as restraint, objectivity, friendliness, thoughtfulness and personal relations in the Wisconsin sample indicate that use of such inventories may have some relevant potential for development.

In terms of supervisory promise, more preceptors in group A-B scored favorably on most traits (eight of ten in Wisconsin, six of ten in Ontario), and a statistically significant difference was found in the pattern of each group's C-score distribution in the Ontario study, but not in the Wisconsin study (for reasons not established).

It remains an open question whether, thus far, we have distinguished the "superior" from the "non-superior"

men, and further consideration of these findings and questions is reserved until the final chapter where they are discussed in relation to the other findings of the study. We turn now to another type of influence upon the quality of an intern's practical experience, as we consider the "classroom" in which teacher and student meet--the pharmacy.

## CHAPTER V

### THE INSTRUCTIONAL ENVIRONMENT OF THE PRECEPTOR IN TWO DIFFERENT SETTINGS

Because the instructional environment and resources--the pharmacy itself--may influence the quality of the preceptorship, a study was made of the pharmacies in which the preceptors worked at the time they trained the interns in our two samples. In examining the findings below, it must be kept in mind that only one observer evaluated these pharmacies, hence elevating the risk of bias in matters of judgment, although constant effort was made to minimize it and standardize the procedure.

#### TYPE OF PHARMACY

To relate the preceptors rated superior and not-superior to the type of pharmacy in which each group conducted the practical training, an appropriate system of classifying pharmacies was devised (see Table XXXII, p. 183). This permits us to convey a rather concrete impression of the teaching environment of the preceptors (including the style, size and character of their pharmacies). The small size of the samples, however (41 preceptors in Wisconsin, 60 in Ontario), prevents any serious attempt to determine a general tendency or pattern

TABLE XXXII

## TYPE OF PHARMACY\* IN RELATION TO PRECEPTOR'S MEDIAN RATING

Type of Pharmacy	Number of Preceptors in Each Type			
	A-B		C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
<u>Independent</u>				
Separate Community Pharmacy	6	10	4	17
Clinic	1	1	0	0
Medical Building	1	0	1	3
Shopping Center	1	0	1	1
<u>Chain</u>				
Separate Community Pharmacy	3	2	4	4
Clinic	2	1	0	1
Shopping Center	3	2	6	7
<u>Hospital</u>				
100 to 300 beds	4	0	2	1
301 to 500 beds	2	1	0	5
501 and over	0	1	0	3
Total:	23	18	18	42

\*Separate community pharmacies are considered to be those that are established in the city or town proper and that are part of a single commercial establishment (as opposed to a shopping center). An independent pharmacy is regarded as one operated by a single pharmacist or a partnership, and not more than two pharmacies are operated by the same owners (as opposed to a chain pharmacy, considered to consist of three or more). A clinic pharmacy operates in a building where medical practitioners work in conjunction with one another, share the same facilities and technical or professional help, and share income and expenses as a corporation. A pharmacy in a medical building is looked upon as one serving many units operated independently by practitioners with offices in the same building. A shopping center pharmacy is part of a group of stores, usually with separate managements, within a single shopping complex. Hospital pharmacies are classified into three groups

\*(footnote continued): according to the number of beds served by the pharmacy: Group A with 100 to 300 beds, Group B with 301 to 500 beds, and Group C with 501 beds or over. [Adopted from a report by Lourdes Santies and Kathleen Cultar, "How Hospitals Implement Menu Systems," Hospitals, 38, no. 10 (May 16, 1964), 93-96, 140.]

of differences among preceptors rated superior and less-than-superior.

Data for the Wisconsin group, as shown in Table XXXII, does contain some hint of validity for our hypothesis that the proportion of hospital preceptors would be larger in the group rated superior than in the not-superior group. The majority of interns who worked in hospital pharmacies tended to rate their preceptors higher than "C" while the median self-rating of all hospital pharmacists in the sample was "B".

In the Ontario sample, the results are somewhat different (see Table XXXII, p. 183). In this case, the proportion of hospital preceptors rated not-superior exceeds that rated superior. These findings merit further study when a larger sample is available, especially since the earlier findings of William Sharp showed that trainees who served their internship in hospital pharmacies rated responses to his questions significantly higher than did the total group of trainee-respondents.<sup>1</sup>

"Should it be required that part of every internship be served in a fairly large hospital pharmacy?" The interns' and preceptors' replies to this question include some interesting results. In Wisconsin, most interns and preceptors who served in community pharmacies did not feel

---

1. Sharp, Pharmacy Trainee Program, p. 30.

that hospital pharmacy experience would offer an advantage. By contrast, the majority of the preceptors (68%) and interns (74%) in the Ontario setting, regardless of previous experience in hospital pharmacy, and regardless of the rating assigned to preceptorial effectiveness, felt that compulsory training in a fairly large hospital pharmacy would be a highly desirable feature of a training program. When interns and preceptors in the Wisconsin group who worked in a hospital pharmacy were asked this question, about one-half of the preceptors and one-half of the interns say 'yes', the others say 'no'. Thus, for the Wisconsin group, though hospital pharmacy interns generally rated their preceptors high, all here consulted revealed no clear consensus that hospital pharmacy experience should be required of all interns.<sup>2</sup>

### Sales Volume

The preceptors were asked to indicate their approximate sales volume on a check list provided (see Appendix A, p. 316). The majority of preceptors in both

2. The value of experience in the better hospital pharmacies has been stated by several pharmaceutical educators and leaders. See for example, Clifton J. Latiolais, "Revised Minimum Standard for Pharmacy Internship in Hospitals," American Journal of Hospital Pharmacy, 15, no. 3 (March 1958), 228-231; Linwood F. Tice (Chairman), "Education," Journal, A.Ph.A., NS8, no. 7 (July 1968), 387-390.

settings work in pharmacies with a sales volume over \$150,000. Except for preceptors in group C-F in the Ontario sample, at least half of the preceptors reporting on this question work in pharmacies with a sales volume of \$200,000 or more. However interesting may be a comparison of the interns' ratings of preceptors in relation to the volume of the pharmacies where preceptorship was conducted, the small size of the sample does not permit us to infer any general tendency from data such as Table XXXIII, p. 188.

A larger sales volume may affect the intern in at least two ways. First, regardless of the number of employees, the preceptor may have more responsibilities and more to do, consequently having less time to spend with his intern. Second, the intern may have an opportunity to gain experience in more phases of a general or diverse type of pharmacy operation, since the majority of the community pharmacies in the sample with sales volumes over \$150,000 are chain units that stock a wide variety of merchandise; but this is not necessarily a significant advantage, as some of the former interns implied.

The majority of the preceptors functioned in the large volume establishments (sales volumes over \$150,000). In the Wisconsin study, about half of this group were rated superior, while in the Ontario group, 18 of 30 in

TABLE XXXIII

DISTRIBUTION OF PRECEPTORS IN RELATION TO SALES VOLUME  
OF TEACHING PHARMACIES IN TWO DIFFERENT SETTINGS\*

Annual Sales Volume	Number of Preceptors in Each Class			
	A-B		C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
\$ 80,000-\$100,000	1	2	0	6
\$100,000-\$125,000	1	0	2	1
\$125,000-\$150,000	2	2	3	5
\$150,000-\$200,000	1	4	3	9
Over \$200,000	11	8	8	9
Total:	16	16	16	30

\*Data are not listed for eight hospital pharmacists and one community pharmacist in Wisconsin, 11 hospital pharmacists and three community pharmacists in Ontario. All except one said they did not have the information; one refused to divulge it.

this category were rated as not-superior and 12 of the 30 as superior. Thus 75% of those rated superior in the Ontario group worked in pharmacies with sales volumes of \$150,000 and more, and 60% of those rated not-superior in the Ontario group worked in pharmacies with sales volumes of \$150,000 and more. Hence, the interns' reaction to their internship probably depends more upon the practitioners under whom they trained than upon the size of the operation, as we would expect. If there is any effect on the preceptorship arising from differences in sales volume alone it would not be easy to demonstrate. There is no clear evidence yet that interns have a better chance of finding superior preceptorship in smaller operations. However, in a situation as existed in Ontario (and still does to a large extent), the interns may find themselves gravitating towards high-volume chain organizations for their training, as they are frequently more willing and able to pay the wages they ask for.

#### Daily Prescription Volume

The volume of prescriptions that a pharmacy fills is considered so important to internship that a statement of the minimum number that a preceptorial pharmacy must fill (about 20 per day in Wisconsin) is written into the regulations. The same is true in Ontario today (though the number specified is only 2,000 per year as opposed to

6,000 in Wisconsin), and during the period covered by this project, no such requirement was stipulated. Table XXXIV, p. 191 shows the daily new prescriptions filled by pharmacies of superior and not-superior preceptors. The hospital pharmacies fill the largest number of prescriptions (including those that come down from the floors). For this reason, the distribution pattern in the higher range of new prescriptions per day follows closely the pattern established in Table XVIII where the preceptor's rating was classified according to the type of pharmacy in which he worked.

In terms of prescription volume, the Ontario sample outnumbered the Wisconsin group at the two extremes. In the community pharmacies of the Wisconsin sample, the most common daily volume was clearly in the range of 30 to 40 new prescriptions. In Ontario, the most common daily new prescription volume was not so clear. Nine community pharmacies had between 90 and 100 new prescriptions. Eight community pharmacies had between 10 and 30 new prescriptions. Thus, the Ontario sample appeared to have two common volume ranges in the community pharmacies--one quite high (90-100) and one fairly low (below 30). Half of the pharmacies in the Wisconsin study filled at least 50 new prescriptions per day, whereas half the sample in the Ontario study filled at least 60 new prescriptions.

TABLE XXXIV

DAILY NEW PRESCRIPTIONS IN TWO DIFFERENT SETTINGS  
IN RELATION TO PRECEPTOR'S MEDIAN RATING

New Prescriptions Per Day	Number of Preceptors in Each Class			
	A-B		C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
10- 20	1	2	2	6
20- 30	0	4	2	4
30- 40	9	1	5	2
40- 50	2	1	1	3
50- 60	0	0	3	2
60- 70	2	2	1	3
70- 80	1	1	1	2
80- 90	1	0	0	4
90-100	2	5	1	5*
100-200	3*	0	0	2
200-300	2*	1*	0	6*
Over 400	0	1*	2*	3*
Total:	23	18	18	42

\*Volume of new prescriptions per day of hospital pharmacies, including orders which come down from the floors. In the 90-100 range, for the Ontario sample, only one of the pharmacies in the C-F group is a hospital pharmacy.

While we would not expect superiority of preceptorship to depend upon prescription volume alone, any tendency related to this characteristic cannot be demonstrated with the size of the samples available for the present study. It does show, however, that most of the preceptorial pharmacies operated well above the respective established minimum volumes of prescription practice, that there was a wide range in the volumes of prescription practice available for training purposes, and that the hospital pharmacies operate at a considerably higher level of activity per unit than most of the community pharmacies. Naturally, the quality of instruction on a few selected prescriptions may be more productive than on a large number involving repetitions and simple operations; yet, ordinarily a larger volume of prescription practice is likely to offer a greater variety of experience, both mental and manual, and unusual features of prescribing.

#### Number of Pharmacists Per Unit

The more fellow-pharmacists an intern works with, the greater is the likelihood that he will gain from their diverse experiences and teaching abilities, and find someone with whom he can identify professionally, even if it is not his preceptor. Both aspects are important to the intern. Table XXXV, p. 193 shows that,

TABLE XXXV

NUMBER OF PHARMACISTS IN RELATION TO PRECEPTOR'S  
MEDIAN RATING

Number of Pharmacists Per Pharmacy	Number of Preceptors in Each Class			
	A-B		C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
1	2	4	1	8
2	4	6	5	14
3	10	1	5	4
4	6	2	5	5
5	1	3	1	1
6	0	1	0	0
7	0	0	0	2
8	0	1	1	4
9 or more	0	0	0	3
Total:	23	18	18	42

in the Wisconsin sample, most of the pharmacies had either three or four pharmacists, which is more professional staff than the typical Wisconsin pharmacy at the time.<sup>3</sup> In Ontario, the sample of pharmacies studied would indicate that most commonly, training pharmacies had two pharmacists.

Hospital and shopping center pharmacies in both samples generally had the larger number of full-time pharmacists. As we would expect, the preceptors rated superior and not-superior appear to be distributed at random in professional staffs of various size. The distribution suggests that no correlation exists between the types of pharmacies and number of pharmacists employed in them, although that cannot be statistically validated with the type of sample available. The number of pharmacists per pharmacy in relation to interns' and preceptors' ratings of effectiveness based on time devoted to intern's training needs was discussed in Chapter III, p. 68.

#### TYPE OF OWNERSHIP

The type of pharmacy ownership could affect an internship indirectly. A preceptor who owns his own

3. In Wisconsin, pharmacies most commonly (917 out of 1,092) employed only one pharmacist, besides the owner. Proceedings, N.A.B.P. (1964), 13.

pharmacy or who is in partnership may have more independent control over operating policy and may be better able to conduct the intern's training wholly in the manner he desires. On the other hand, his additional administrative functions and responsibilities might diminish the amount of time he can spend with his intern.

When preceptors are classified according to ownership, it is found that, in the Wisconsin sample, of 23 preceptors rated as superior, nine owned their own pharmacies in whole or in part. Three of the four preceptors rated as "A" were the sole proprietors of their pharmacies. In the comparable Ontario group, a larger proportion (11 of 18) of the superior-rated preceptors owned the pharmacy solely or in partnership. This contrast is carried through to the groups rated as not-superior. In Wisconsin only four of 18 preceptors so rated owned the pharmacy in whole or in part, whereas in Ontario, 19 of 42 similarly rated preceptors owned the pharmacy in whole or in part.

Though the numbers are small (see Table XXXVI, p. 196) they raise a question whether or not circumstances of independent ownership increase or decrease the chance for offering a preceptorship that interns consider superior, and this should eventually receive further study. A motivation detected in the Wisconsin group, and explicitly expressed by four owners during interviews, was

TABLE XXXVI

TYPE OF PHARMACY OWNERSHIP IN RELATION TO PRECEPTOR'S MEDIAN RATING

Type of Ownership	Number of Preceptors in Each Type													
	Wisconsin Group						Ontario Group							
	A	A-B	B	C	C-D	D	A	A-B	B	C	C-D	D	D-F	F
Preceptor owns in whole or in part*	4	1	4	3	1	1	1	5	5	11	3	2	2	1
Principally absentee ownership**	1	2	5	2			1	1	2			1		
Owned by hospital, public or private institution	2	2	2	2			1	1	6	2	1			
Owned principally by physicians***			1	1								1	1	
Owned by pharmacist(s) other than preceptor	1	3	1	3			1	2	5	3	1			
Total:	7	4	12	12	5	1	1	8	9	24	9	6	2	1

\*Wisconsin - Of the 13 preceptors in this group, five owned a pharmacy themselves, eight owned it in partnership with one or more other pharmacists. Ontario - Of the 30 preceptors in this group, 14 owned the pharmacy themselves, 16 owned it in partnership with one or more other pharmacists.

\*\*In all cases except two in Ontario, the absentee owner was a non-pharmacist.

\*\*\*In Wisconsin, the location of the two physicians' offices was not divulged. In Ontario, the physicians in one case were identified as occupants of the building.

a desire to interest the intern to stay on after he completed his internship and became a licensed pharmacist.

#### APPEARANCE OF THE PHARMACY EXTERIOR

Since the preceptorship often provides a model of behavior and lays down habit patterns for the conduct of practice at an impressionable time for the neophyte, it appears of some consequence to a profession's dignity and standing what standards of appearance and maintenance are enforced in the teaching pharmacies.

#### Rating on a Pictorial Scale

The appearance of pharmacies in which young graduates are learning to put their profession into practice surely is not irrelevant to the preceptorship. So we are curious about what sort of establishments serve Wisconsin's internship program, with the training pharmacies studied in Ontario as a point of comparison. Even though nearly all teaching pharmacies in our sample were visited for one or two hours, there is no entirely satisfactory, practicable way to convey concrete impressions. One device used to stabilize standards of observation and reportorial method is a material scale of photographs of pharmacies, selected to provide a qualitative range of appearance.<sup>4</sup> Differences in size and architecture were

4. For photographs, see Appendix D, p. 358.

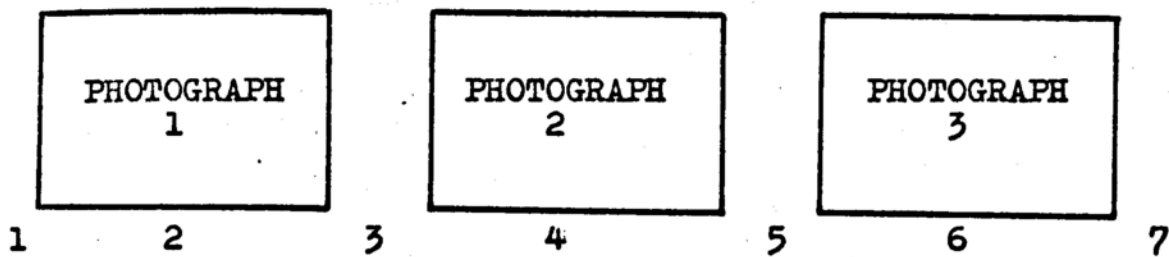
disregarded as much as possible, to focus the rating on such features as the condition and orderliness, appearance of advertising and display windows, and the character of the main identifying features (including identifying signs). To minimize bias, a pharmacy's appearance was judged without checking at the time of the visit whether it held a preceptor rated superior or not-superior.

The seven-point scale along which the pharmacies are ranged (in relation to the photographs) is shown on p. 199. For purposes of discussion, 1 is considered as low, 7 as high (without intending judgment of merit as service units). The six photographs for this study were chosen to provide the widest spread between a pharmacy with a clearly professional atmosphere, and one with a clearly commercial atmosphere. Photograph 2 is not meant to represent a midpoint between the pharmacies in Photograph 1 and Photograph 3.

For the Wisconsin group, in relation to the photographs, half of the pharmacies corresponded best to the numerical value 4 (see Table XXXVII, p. 200). About three-quarters of these ratings were drawn from the C-F group, and particularly the pharmacies located in shopping centers. Pharmacies which served an "A-B" preceptorship were categorized mainly between 4 and 7, as 13 of 17 pharmacies received ratings of 4 or higher. An exception to this trend for higher-rated preceptorial pharmacies in

DIAGRAM 1. SEVEN-POINT RATING SCALE USED WITH SIX PHOTOGRAPHS OF PHARMACY EXTERIORS AND INTERIORS.

Exterior Photographs



Interior Photographs

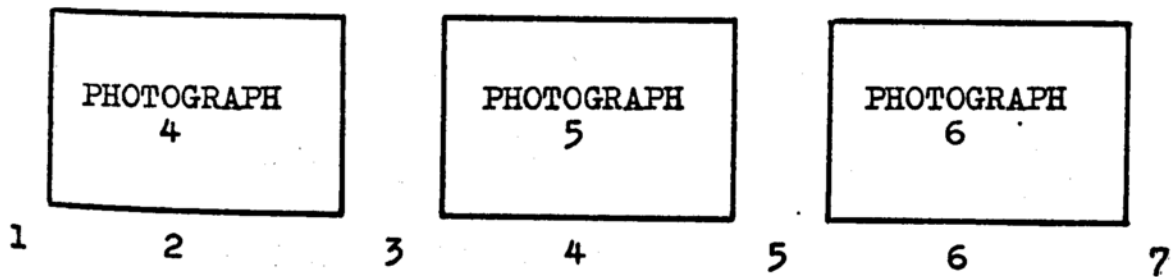


TABLE XXXVII

APPEARANCE OF A COMMUNITY PHARMACY'S EXTERIOR ON A SEVEN-POINT PICTORIAL SCALE IN RELATION TO THE NUMBER OF PHARMACIES SERVING PRECEPTORS RATED AS SUPERIOR AND NOT-SUPERIOR IN TWO DIFFERENT SETTINGS

Scale Numbers	Number of Pharmacies Serving Preceptors Rated			
	A-B		C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
1	0	1	0	8
2	2	2	0	3
3	2	0	5	5
4	6	3	10	2
5	2	2	1	3
6	3	5	0	8
7	2	3	0	4
<b>Total:</b>	<b>17</b>	<b>16</b>	<b>16</b>	<b>33</b>

the A-B group was in the rating of two pharmacies operated by the same chain. Both had such cluttered windows, replete with signs and dusty merchandise, that they were ranked at 2 on the continuum. All clinic pharmacies were assigned to category 6.

Three-fifths of the ratings between 1 and 4 inclusive were assigned to pharmacies in group C-F, where only one establishment received a rating higher than 4. Chain pharmacies, located in shopping centers or elsewhere in the community, were the ones most often placed in categories below 4.

In the Ontario sample, there is no single numerical value to which the majority of the pharmacies come closest in appearance. The single most common numerical value is 6, to which 13 of the 49 rated pharmacies were assigned (eight of these 13 ratings were drawn from the C-F group).

Pharmacies serving an "A-B" preceptorship were categorized mainly between 4 and 7, as 13 of 16 pharmacies received ratings of 4 or higher. Two of the remaining three pharmacies in the A-B group were operated by chains in shopping centers; the other was a community pharmacy owned by the preceptor.

For the pharmacies of preceptors in group C-F, there was almost the identical number with appearance designated as 4 or higher on the scale as the number designated between 1 and 4.

In both samples, more pharmacies in group A-B were categorized toward the end of the continuum representing "professional" appearance, whereas a greater proportion (5 of 16) of pharmacies in the Wisconsin C-F group tended to fall toward the end of the continuum representing "commercialized" appearance; pharmacies in the Ontario C-F group were divided almost equally as to "professionalized" and "commercialized" appearance.

These findings tend to suggest that preceptors rated as superior are more likely to be serving in pharmacies with a professional atmosphere, and this indicates the possibility that a pharmacy's orientation, the preceptorial setting, may be the tangible evidence of a professional spirit that influences the impression of interns, or perhaps even the setting itself can be influential.

#### Identifying Signs

The manner in which the establishment was designated by its main identifying sign varied considerably, though no striking difference was observed between Wisconsin and Ontario on the average. In fact, the appearance of pharmacies as a whole in the two settings was rather similar. Variations from one extreme to another were common to both.

Most signs were in good condition and in good taste, though a few could be called gaudy. Such detractions were found almost equally often, however, at sites of preceptors rated superior and not-superior in Wisconsin; whereas in Ontario, the gaudy sign was more typical of the pharmacies in the C-F group.<sup>5</sup>

In Wisconsin, three-quarters of the pharmacies that had signs considered as gaudy or in poor taste were independent community pharmacies and chain stores, particularly in shopping centers. In Ontario, the gaudy signs were all on independent community pharmacies, except for two, concentrated in one large metropolitan area. Pharmacy identification signs that are part of an advertising sign (such as Coca-Cola) were most frequently found on independent community pharmacies.

#### Window Displays

In the pharmacies studied, window displays judged to be totally commercial in appearance (see Table XXXVIII, p. 204) numbered 21 of 33 pharmacies in the Wisconsin sample and 32 of 49 in the Ontario sample.

In both settings, the majority of the pharmacies in which the window displays were predominantly commercial in appearance were of preceptors rated in the C-F group.

---

5. Forty-one percent of the gaudy signs in the Wisconsin sample were on pharmacies in the A-B group, 63% of those in the Ontario study were on the pharmacies in the C-F group.

TABLE XXXVIII

APPEARANCE OF COMMUNITY PHARMACY'S WINDOW DISPLAYS  
 IN RELATION TO THE NUMBER OF PHARMACIES SERVING  
 PRECEPTORS RATED AS SUPERIOR AND NOT-SUPERIOR IN  
 TWO DIFFERENT SETTINGS

Type of Window Display	Number of Pharmacies Serving Preceptors Rated			
	A-B		C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
Totally commercial	7	8	14	24
Mixed profession- al and commer- cial	3	4	1	4
Totally professional	2	2	0	2
None	5	2	1	3
<b>Total:</b>	<b>17</b>	<b>16</b>	<b>16</b>	<b>33</b>

Rather surprisingly, only a small proportion of the preceptorial pharmacies in both settings, regardless of their rating, mixed some professional advertising into their window displays. Much less presented displays judged to be solely professional.<sup>6</sup> Of the 11 pharmacies with no window displays, eight were clinic pharmacies and three had no window display facilities of any type. No pharmacy in the Wisconsin sample bore any imprecise reference to competitors or to itself in the windows or anywhere on the pharmacy's interior. In Ontario, two pharmacies had window displays claiming services that could be considered as implying lack of qualification of other pharmacies, or services that could not be obtained at any of the other pharmacies in town. The exact wording of the claims should not be mentioned here in the interest of preserving the confidentiality of the respondents.

#### Appearance of Advertising

Not surprisingly, the appearance of advertising follows the same pattern as established by the window

6. The extent to which an establishment's window display was judged to be professional or commercial depended on the "message" the pharmacist was trying to convey by his display. Professional displays included those that educated the public in the functions of a pharmacist, advances in pharmacy, benefits of research, health care, etc. Commercial displays were those whose purpose was to promote the sale of drugs and other items, whether these were related to health or not.

displays (see Table XXXVIII, p. 204). A greater proportion of pharmacies in the Ontario sample had one or two signs advertising proprietary drugs in the window displays than did the Wisconsin sample (roughly half as compared to a third). As in Wisconsin, the Ontario group compared proportionately as to the A-B and C-F groups--a greater number of the pharmacies operated by preceptors rated as less-than-superior had one or two proprietary drug advertising signs than did pharmacies operated by superior-rated preceptors. The reverse is true in the case of pharmacies with three or more proprietary drug advertising signs--these predominated in pharmacies operating under superior-rated preceptors. In Wisconsin, chain stores (particularly in shopping centers) predominated in this group, whereas in Ontario, independent community pharmacies more frequently had three or more proprietary drug advertising signs. As would be expected from the distribution of the pharmacies along the continuum provided by the photographs, professionally-oriented pharmacies tended to have less commercialized window displays and made use of fewer commercial signs.

Attention should be called to one variable of appearance. The pharmacies in the Wisconsin sample were visited between December and February, when Christmas and January sales are common features of many pharmacies, particularly chain stores. In how many instances this may

have contributed to an atypical appearance could not be assessed. However, many of the establishments having such sales also hold sales at other times, and thus their appearance may not have deviated widely from their normal. The study in Ontario, in which visits were made through the normally "slow" summer months, revealed a number of pharmacies with "sale" signs displayed, and perhaps at Christmastime these would likewise have been more frequent in Ontario.

#### APPEARANCE OF THE PHARMACY INTERIOR

##### Rating on a Pictorial Scale

With few exceptions, the exterior reflected the mood of the interior of the pharmacy. Virtually the same pattern that emerged in ranking the pharmacies according to exterior appearance recurred from similar observations of the pharmacy interiors (see Table XXXIX, p. 208). Some pharmacies were rated one unit further toward the commercial end of the scale (in the Ontario sample, these were rated two units further toward the commercial end of the scale), particularly independent community establishments that attempted to crowd a variety of merchandise into a small area (producing a more heterogeneous and less dignified appearance), most resembling Photograph 1 (see Appendix D, p. 358).

TABLE XXXIX

APPEARANCE OF COMMUNITY PHARMACY'S INTERIOR RATED ON A SEVEN-POINT PICTORIAL SCALE IN RELATION TO THE NUMBER OF PHARMACIES SERVING PRECEPTORS RATED AS SUPERIOR AND NOT-SUPERIOR IN TWO DIFFERENT SETTINGS

Scale Numbers*	Number of Pharmacies Serving Preceptors Rated			
	A-B		C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
1	2	2	0	5
2	1	1	1	9
3	0	1	2	1
4	4	2	8	6
5	5	3	3	5
6	3	5	0	4
7	2	2	0	3
Total:	17	16	16	33

\*In ascending order of level of appearance, see p. 199.

As before, more preceptors rated in the Wisconsin study as superior by their interns worked in pharmacies considered as professionally oriented than worked in pharmacies that appeared highly commercial. Preceptors in group C-F more commonly worked in pharmacies whose appearance suggested a commercial orientation.

In the Ontario sample, the tenuous relationship found between preceptorial rating and appearance of the pharmacy is maintained. The predominance of advertising in many independent community pharmacies did tend to lower the rating of some pharmacies' appearance, but the general pattern remained virtually the same as that in Wisconsin. The relationship of these patterns to other findings is discussed below under "General Comments."

#### The Pharmacy's Front Area

The "front end" of a pharmacy is commonly regarded as what the patron sees, exclusive of the prescription dispensing area. In most cases, it occupies a larger proportion of the area and provides the greatest part of the income. The nature and extent of the pharmacy's front-end operation will be a major factor in determining the character of the training an intern receives in this area, as required by State Board regulations.

All pharmacies in the Wisconsin sample dealt in merchandise besides prescriptions and products related to

health and beauty needs, except two clinic pharmacies and two pharmacies in medical buildings and, of course, all the hospital pharmacies.

In the Ontario sample, three independent community pharmacies in a medical building and one chain pharmacy in a clinic sold no merchandise other than prescriptions and products related to health and beauty needs.

In both settings, regardless of the preceptors' rating by their interns, departmentalization was considered to be excellent, as merchandise was neatly shelved, well-grouped and readily located. This was true of over three-quarters of the pharmacies serving preceptors rated in the A-B group in the Wisconsin sample, and at least two-thirds of the A-B group preceptors in the Ontario study. Exceptions, in the Wisconsin group, were two independent community pharmacies and the two chain pharmacies mentioned on p. 201, in which the extent and layout of the merchandise gave the observer a feeling that could be termed oppressive. In the Ontario sample of the A-B group, independent community pharmacies of particularly restricted floor space gave the impression of greatest disorder. Many chain pharmacies, in both group A-B and C-F were superior in this respect.

Cleanliness throughout most of the pharmacies was considered to be quite good, with the exception of one particularly ill-kept independent community pharmacy

serving in group A-B in Wisconsin, and two similar pharmacies in group C-F in Ontario.

The majority of the community pharmacies serving both A-B and C-F groups (24 of 33 in Wisconsin, 39 of 49 in Ontario) placed products for medicinal use within reach of patrons. In most cases (particularly in chain pharmacies), such products were close to the prescription dispensing area under the supervision of the pharmacist, where professional attention could be readily given to a patron making a selection.

The area of the pharmacy devoted to the compounding and dispensing of prescriptions, over-the-counter drugs and first-aid supplies generally occupied 20 to 30% of the total pharmacy area. Ten pharmacies in both samples (eight from group A-B, six of which were in Wisconsin and two from group C-F in Ontario) devoted 40% or more of their floor area to these departments, with clinic pharmacies and pharmacies in medical buildings devoting the highest proportion of space. In the majority of the pharmacies in shopping centers, the proportion was relatively low, but these departments nevertheless were of considerable size and variety, averaging about 20% of a large floor area. The proportion is naturally lower in these pharmacies that are considerably larger overall than are most independent community pharmacies serving clinics or medical buildings.

The main type of advertising in the Wisconsin sample was for nonpharmaceutical products advertising in 19 of the 33 pharmacies. Most of this promotional material did not seriously detract from the pharmacy's appearance, as it was relatively small in extent. The majority of the pharmacies serving group A-B had a commendable appearance with respect to visible promotional material, particularly the pharmacies in clinic and medical buildings. On the other hand, in this A-B group were three of the pharmacies that had promotional material judged to be out of keeping with a teaching pharmacy; and two of these pharmacies were judged as having the most offensive advertising examined in the Wisconsin study. One of these establishments, a chain pharmacy in the community, had a profusion of signs dangling from the ceiling, which promoted discounted vitamins. The other pharmacy, operated by the same chain in a shopping center, had signs along the wall and hanging from the ceiling proclaiming "It's the Price that Counts," "Compare Prices, not Claims," and "Low, Low Prices Every Day." Such signs were considered both somewhat misleading and out of character with a superior teaching pharmacy.

In pharmacies serving the C-F group, signs promoting sales and non-drug items were most common, and one pharmacy operating in a shopping center had a sign of questionable merit. It read: "Save Time - Save Money,

Prescriptions Filled at [Blank's] Stores may Be Refilled at any of our Convenient Locations." When four persons not associated with pharmacy were asked how they would interpret such a sign, three implied that they would expect a special service from these pharmacies which they could not obtain elsewhere.<sup>7</sup>

In the Ontario study, observations on this point were similar to those described above. Thirty-four of 49 pharmacies had advertising of nonpharmaceutical products as the main type of advertising in the establishment, the number of such pharmacies being more prevalent in group C-F than in group A-B. As in Wisconsin, some of the advertising was judged to be of doubtful accuracy or professional propriety, for example, "Your Prescription Will Cost You Less at [Blank's]," "Low, Low Discount Prices Every Day," "\$Are you paying too much for your prescription? Let me show you how we can save you money\$!"<sup>8</sup>

In Wisconsin, four superior-rated preceptors worked in pharmacies that offered special services, such as

- 
7. Two thought their prescriptions would be lower in price at these pharmacies, and one thought he could get his prescriptions refilled without requiring the doctor's approval. One person believed there was nothing misleading in the sign.
  8. One intern who worked in such a pharmacy mentioned in his questionnaire reply that this slogan "grated on my nerves."

truss-fitting and the sale of surgical and orthopedic garments or services. Two of these also offered supplies to physicians and one operated a hearing-aid center. Two of these pharmacies regularly put out health information pamphlets for the public. No preceptor in the group rated less-than-superior worked in pharmacies where such special services were offered, except one pharmacy that displayed free health pamphlets.

In the Ontario sample, only three pharmacies (one of group A-B, two of group C-F) offered special services. These were restricted to the sale of surgical appliances (in one case, fitting as well). No pharmacy displayed health information pamphlets for the public.

#### The Prescription Dispensing Area

For purposes of teaching the intern, the controlled internship program places emphasis on what goes on in the prescription dispensing area. Most interns look forward to spending as much time as possible there, and it embodies the main part of the work for which they have spent five college years preparing (four years in Ontario).

The majority (17 of 33 in Wisconsin, 42 of 49 in the Ontario sample) of the pharmacies serving both A-B and C-F groups had the dispensing counter toward the back of the pharmacy, and most were arranged so that the patron

could observe only partially the pharmacist's prescription work. In all but a few pharmacies, the pharmacist could look over the entire floor of the pharmacy from his prescription bench.

In the Wisconsin sample, a greater proportion of pharmacies serving group A-B preceptors devoted the front of the area designated for prescription service to the sale or promotion of health-related items than did those serving group C-F. More pharmacies serving group C-F devoted between 10% and 100% of this area to the display of merchandise unrelated to health needs (with the majority in the 10% to 40% range). Products such as writing and photographic supplies were frequently displayed alongside over-the-counter preparations.

In the Ontario study, the proportion of preceptorial pharmacies which devoted the front of the area designated for prescription service to the sale or promotion of health-related items was greater for the C-F group than for the A-B group. Chain pharmacies, particularly in shopping centers, seemed to be most uniform in this respect, and devoted a larger proportion (approximately 50%) to promotion of health needs. Three of the preceptors in group A-B permitted no such display, as the front portion of the dispensing area was not given to the display of any merchandise.

In 35 of the 41 pharmacies in the Wisconsin study pharmacists were differentiated from unlicensed personnel by means of a tag worn on their clothes and/or a distinctive uniform. In Ontario, 42 of the 60 pharmacies studied differentiated their professional employees in some manner. Of the six pharmacies in Wisconsin where pharmacists were not thusly differentiated, four were serving superior-rated preceptors (but in two of these pharmacists were the only persons employed). In Ontario, of the 18 pharmacies where professional employees were not differentiated, 12 were small community pharmacies in small towns, where the pharmacists were known personally to all their patrons and they felt no such distinction was necessary.

In a majority of the pharmacies in this study (62 of 101) there was an office or desk-nook where a preceptor could counsel with an intern somewhat insulated from interruptions by clientele. This arrangement was more common and uniform in Ontario pharmacies (approximately three-quarters) than in Wisconsin pharmacies (approximately one-half, with more of the office facilities in the A-B group).

#### The Pharmacy's Library

There has been a great deal of discussion in the past few years about changing the role of the pharmacist, particularly toward a greater responsibility as a

pharmaceutical consultant to the medical practitioners, and also to patrons in fields of his expertise. The preceptor might therefore be expected to have an above-average collection of good books and journals, both for his own use and for purposes of training the intern. With this in mind, the library in the preceptor's pharmacy was studied to characterize the nature and extent of the literature resources. (For checklists used, see Appendix A, p. 332).

Reference Books and Professional Volumes: In checking the Wisconsin preceptor's library, reference books and professional volumes required by State Board regulations were ignored, as it was assumed that all pharmacies would have these. (Two chain stores that did not have on the premises some of the books required by the State Board reported that the missing books were shared with other units in the chain.)

The checklist used for surveying the literature collections was based upon the list of books recommended in "The Pharmacist's Reference Shelf."<sup>9</sup> All books that the preceptor had or indicated he had were tabulated and the percentage of pharmacists in both the A-B and C-F

---

9. See Dolores Nemec, "The Pharmacist's Reference Shelf," Bulletin School of Pharmacy, The University of Wisconsin (Summer 1962-1963), 20. This original list (since revised and up-dated annually) was based on Lawrence E. Newman, "These Books Form the Nucleus of a Useful Reference Library," American Professional Pharmacist, 27, no. 3 (March 1961), 46-51.

groups who had each of the books listed is shown in Table XL, p. 219. Wisconsin preceptors, regardless of their rating by former interns, shelved more books than did their Ontario colleagues.

Most of the volumes are of the type that give basic information on therapeutic properties of drugs. The superior-rated group in Wisconsin did tend to have more books dealing with other aspects of pharmacy; however, these numbers are so small--in most cases, only one pharmacist having one of these books--that the difference is not marked. The difference between the libraries of Wisconsin and Ontario pharmacists, however, is rather obvious.

This seems to suggest that preceptors are either able to get along quite well on the books they do have, or do not think it worth the money to buy additional ones. The small number of books on toxicology and ethics does suggest that many pharmacies must be lacking in certain areas, as information on these subjects is not generally or conveniently found in the books most pharmacies shelve.

In Wisconsin, the median number of professionally relevant volumes was six, and was the same in both groups (exclusive of the books required by State Board regulation). Exceptions were one hospital pharmacy in the sample that had 40 professionally relevant volumes on its shelf, and one community pharmacy that had 207. Ten pharmacies in clinics, medical buildings and hospitals

TABLE XL

PERCENTAGE OF PRECEPTORS RATED AS SUPERIOR AND NOT-SUPERIOR  
IN TWO DIFFERENT SETTINGS WHO SHELVED THE BOOKS LISTED

Book	Group A-B		Group C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
Physicians' Desk Reference	74%	11%	78%	14%
Merck Index	65	--	50	35
Remington's Practice of Pharmacy	48	24	67	21
Modern Drug Encyclopedia	39	17	67	2
Merck Manual	35	31	17	21
New and Nonofficial Drugs	22	--	22	2
The Pharmacological Basis of Therapeutics (Goodman and Gilman)	13	11	--	--
Blakiston's New Gould Medical Dictionary	9	6	--	--
A medical dictionary	9	--	--	14
A laboratory procedure book	4	--	--	--
Pharmaceutical Dispensing (Husa)	4	--	--	14
Norms of Conduct for Pharmacists	4	--	--	14
American Pharmacy (Lyman)	4	--	--	--
History of Pharmacy (Kremers and Urdang)	4	--	--	--

TABLE XL - Cont.

Book	Group A-B		Group C-F	
	Wisconsin	Ontario	Wisconsin	Ontario
American Drug Index	4%	--	--	--
Mirror to Hospital Pharmacy	4	6%	--	--
A toxicology volume	--	6	6%	--
Clinical Toxicology of Commercial Products (Gleason)	--	--	6	--

had access to medical libraries in the building.

In the Ontario sample, the median number of professionally relevant volumes on preceptors' shelves was three. As in Wisconsin, hospital pharmacies and two of the clinic pharmacies had access to larger library facilities within the building. However, the overall picture was definitely meager library resources as compared with those common to Wisconsin pharmacies in the sample.<sup>10</sup>

These findings failed to support the hypothesis that pharmacists who maintain quantitatively superior literature resources are likely to have qualities that former interns rate as superior preceptorship.

Journals: Table XLI, p. 222, shows the distribution of the journals among the two classes of preceptors in the Wisconsin sample. Though the numbers of journals are small, superior-rated preceptors did receive more journals than did preceptors rated less-than-superior. Moreover,

---

10. The reason that Ontario preceptors shelved fewer volumes than did their Wisconsin colleagues is due in part perhaps to the difference in Canadian publishers' marketing facilities or efforts. Except for one book on toxicology, no Canadian counterparts of American textbooks were found. Pharmacies all have copies of the Compendium of Pharmaceuticals and Specialties published by the Canadian Pharmaceutical Association, which is distributed to all pharmacies and which resembles the Physicians' Desk Reference. This book was not available during the period covered by our study.



TABLE XLI - Cont.

Group A-B		Journal		Group C-F	
Received	Scanned	Received	Scanned	Received	Scanned
4%	4%	---	---	---	---
---	---	6%	6%	6%	6%
---	---	6	6	6	6

\*Saved for period of at least one year.

\*\*Journals received by paid subscription (other than through a society membership).  
Business Publication Rates and Data, a monthly publication of Standard Rate and  
Data Service, Inc., was used to infer (where possible) whether the journals were  
 paid for.

it may reflect a difference of attitude that group A-B preceptors received more journals requiring a paid subscription than did preceptors in group C-F, who relied more on free-circulation periodicals. When pharmacists pay for a journal subscription, it would seem to indicate a greater interest in keeping abreast of the literature.

Considering the journals received by both groups, there were no remarkable differences in the number of preceptors who at least scanned each journal, nor in the number who saved them for a period of at least one year, although Table XLI shows some additional attention to the literature by the group rated superior. No pharmacy studied used any topical system of filing either journal references or clippings deemed to have especial potential. Journals were simply stacked together or mixed with other books on the shelf.

When it came to classifying the journals found in the Ontario preceptorial pharmacies, there were too few journals received and saved to make any sort of tabular presentation meaningful. Two journals are received (gratis) by all registered pharmacists in the province, in addition to journals provided gratis by several wholesale and manufacturing firms. To find other journals in the community pharmacies was rare. Only in the hospital pharmacies did an occasional journal obtained by paid subscription turn up. Usually the journals in the community pharmacies were discarded after a brief time.

The results carry further the finding that the Ontario preceptor's library and its use is surpassed by that of his Wisconsin colleague.

Product and Professional Information: About one-half of the preceptors in each group of the Wisconsin sample kept a file of new product literature, ranging in volume from one to six linear feet, and, on the average, about three linear feet. Only two pharmacies had files of other professional information and literature references, and both of the preceptors concerned were in group A-B. One of them was the only preceptor in our sample who had a real system of encouraging and teaching the intern to use professional literature to best advantage. This preceptor took material from his shelf each week for the intern to read and discuss with him.

In the Ontario study, only 13 of the 60 preceptors kept a file of new product literature. Only three were from the A-B group. No pharmacy in the sample kept a file on any subject other than new product information.

The large majority (88%) of preceptors felt that a file of product information was too difficult to maintain and that all the information they needed could be obtained from their books and from manufacturers' circulars which accompany the drug itself.

## GENERAL COMMENTS

The attempt to survey and depict certain facets of the physical character and resources of teaching pharmacies provides a more concrete impression than hitherto available of the environment in which preceptors function. This may permit inferences about what can be expected from the program at the present stage--inherent limitations as well as potential--even though the influence, or even the more general validity, of some interesting findings cannot be statistically validated until more pharmacies meeting necessary conditions of the sample are available for study.

In physical appearance most teaching pharmacies have a mixed professional-commercial atmosphere, but more Wisconsin group A-B preceptors worked in pharmacies that were judged to emphasize professional appearance. However, even in this group, there were exceptions--e.g., two of the pharmacies that looked most highly commercial were served by preceptors in the A-B group. Preceptors who achieved a superior rating did tend (more often than others in the Wisconsin sample) to be found in pharmacies more often having more professional-looking window displays, more professional-looking promotional material

inside, more health-related use of the front of their prescription departments, more professional services and supporting resources, and better facilities for professional consultation.

One of the consistent patterns observed lies in the character of the preceptors' libraries. Superior-rated preceptors, on the average, shelved more reference books, read more journals from allied fields, and in more instances maintained reference files of professional information than did the preceptors in group C-F. The important element here was not the library itself, but what it might suggest about the preceptorship.

Results of the Ontario study offered considerable contrast. On no other part of this project was the distinction between a controlled and uncontrolled program of practical training more sharply evident, except in the rating of the preceptors, than in the appearance of the pharmacy and in the library and its use. The Ontario findings lacked some distinctions between the two groups of preceptors on this portion of the study that appeared in Wisconsin. In general, factors of the pharmacy and its training resources may have had little bearing on the rating of the preceptors by Ontario interns.

When all the factors in this segment of the study are taken into consideration, the findings suggest tentatively denying, for the Wisconsin group at least, the

hypothesis that the rating of a group of pharmacists as superior preceptors has no discernible relationship to physical and administrative characteristics of the preceptorial setting. Superior-rated Wisconsin preceptors did tend to work in pharmacies that have characteristics that differentiated them from pharmacies of preceptors rated less-than-superior by their former interns. What this means is made more doubtful by findings in the Ontario study that tend to confirm the hypothesis.

CHAPTER VI  
ATTITUDES TOWARD CERTAIN ASPECTS OF PRECEPTORSHIP  
IN TWO DIFFERENT SETTINGS

It has been stated frequently that the key to a successful practical training program lies with a "good preceptor." It therefore becomes important to question the preceptor, who has had experience in training future pharmacists, regarding his views on the practical training program as he has experienced it.

Frequently he has had only limited contact with the internship program--having trained a few students in a single location, over a restricted period of time. However, when his views are coupled with those of his colleagues and the students who experienced the training, we can crystallize out a rather clear picture of preceptorship as it has been, and experienced opinions of how it should be. Let us look then, at the views of the pharmacist-preceptor in two different settings.

Preceptor's Role As a Practical Teacher

Basically, the preceptor functions as a teacher. The controlled internship was developed to enhance learning in important aspects of being what we mean by a "good pharmacist," which cannot be adequately simulated and inculcated in the classroom.

The importance of developing within a preceptor a proper recognition and respect for his role as a practical teacher has been emphasized by Banton. He points out that, since the teacher enacts his role in relative privacy, so much depends on the enthusiasm with which he carries out the role "that any attempt to standardize and control the quality of teaching will be ineffective."<sup>1</sup> This is not to say that defining roles and setting standards of performance have no value.<sup>2</sup> Some of the shortcomings of a program in which roles and objectives are not adequately defined are evident in the discussions below.

In answering the question on the way they gave their intern the most benefit as a practical teacher, there was a marked difference in the answers provided by the Wisconsin and the Ontario sample of preceptors. Approximately three-quarters of the preceptors in the Wisconsin sample felt that their role as a practical teacher was mainly a supervisory role, that their interns learned mainly by doing. In contrast, preceptors in Ontario emphasized individually-oriented areas that they particularly emphasized with the student, e.g., development

1. Banton, Roles, p. 165.

2. Ibid., pp. 167, 201. See also Morris L. Cogan, "The Problem of Defining a Profession," The Annals of the American Academy of Political and Social Science, 297 (January 1955), 108-109.

of self-confidence in meeting the patient, good appearance, knowledge of drugs, professional ethics. Both groups invariably mentioned that the example they themselves provided was one of their main functions as a preceptor (comments to this effect came from both superior and non-superior-rated preceptors). Many preceptors relied on the example they themselves set to show the intern how to deal with such matters as compounding techniques, relations with patrons, and techniques of salesmanship.

The most resourceful preceptors do go further. Asked how he taught interns, one Wisconsin preceptor replied: "By example, but I have done another thing. Each week, I prepared a manila folder on readings I myself have done. This contains interesting articles on the Red Cross, City Council, drug news, etc. The intern is given such a folder each week and is left to do what he wants with it. He just initials the material and gives it back." Comments by this preceptor's interns indicated that they found this to be very helpful.

In the Wisconsin study, lack of time was mentioned by a fourth of the preceptors as a factor which prevented them from functioning efficiently as preceptors.<sup>3</sup> As one

---

3. If we consider the preceptor's indication of a lack of time as indicative that other tasks require a large part of his attention, the preceptor may experience "role conflict" between his duties as a pharmacist and as a preceptor (analogous to the discussion by Banton, Roles, p. 167).

of them said, "If you had the chance to stand on top of him [the intern] and watch all that he does, that would be one thing. All I can do is have him bring the prescription he has filled to me to check and give instructions on how to write up the directions. We're checkers more than anything else." In Ontario, one of only three preceptors who mentioned time as a limiting factor replied:

By taking time to talk about the problem in hand, by practical demonstration of simple pharmaceutical procedures. Relating some incident to the one under discussion, I feel that more can be accomplished by informed 'bull sessions' than by pre-organized formal settings. Of course, in all this apprentice-preceptor business, one must find time, and today there is simply no time so one must take five minutes here, five minutes there, or just a word in passing. I feel very keenly, the fact that I cannot give the time to the apprentice that I should. I know that in my own four year apprenticeship, I learned more pure pharmacy and dispensing technique from the senior clerk who had worked all his life in a drugstore but never qualified (as a licensed pharmacist). When you teach your apprentice to get the feel of his spatula, the proper twist and turnover on an ointment slab, the proper way to hold the pestle and which type of mortar for the job, to take pride in the finish of his product as well as in its pharmaceutical elegance, the satisfaction of a job well done, by the final cleaning and grooming of his work area, you have been a practical teacher.

Although many preceptors in Wisconsin regarded their teaching function as mainly supervisory, interviews often

indicated that they supplemented their supervision with instructions and action. "We've always been on the alert. Whenever we get any prescription that is different, or puzzling--a 'good compounder' as we called them--we would turn it over to the intern, things like possible overdose or an incompatibility. Whenever we see an interesting article, we see that the intern gets it. When a problem comes up, we ask the intern what he would do in such a case." Such comments indicated that some preceptors do keep a watchful eye for items of practical importance for their interns. One Wisconsin hospital pharmacy preceptor expressed a policy that probably was not unusual in the sample when he said that he closely supervised his intern, then gradually gave the intern more responsibility as he progressed. "In the first year they come with us, we let them make some of our stock solutions after the bulk of the morning work load is done. When we feel that they are capable, they are assigned that job. They help with the filling of [ward] baskets of medication in the morning. As they become familiar with it, we allow them eventually to fill a basket on their own. By the time they are licensed, they are already doing a pharmacist's work." This gradual lessening of supervision, though not encouraged by the State Board, was mentioned by several other Wisconsin preceptors. Four of the former interns recalled a lack of supervision in filling prescriptions to a degree that they believed not desirable.

As mentioned previously, the Ontario preceptors in the sample tended to enumerate (average of four per respondent) specific areas they covered with their trainees, but the number who could describe actual programs by which this was carried out was very small-- much smaller than in the Wisconsin sample. One preceptor in Ontario indicated that he "permitted the apprentice to work out the problem first. Then I corrected and where possible showed an easier solution or method of operation." Most preceptors in the Ontario study would describe their activities with such terms as: teaching, covering, showing the proper way, discussing, seeing that they know, etc.. Perhaps the presumed difference between Wisconsin and Ontario was more one of viewpoint than of substance; but it is difficult to escape the conclusion or impression, that as a group Wisconsin preceptors gave more stress to a supervisory attitude, while the Ontario attitudes gave larger place to concern with what, explicitly, the intern was required to learn. However, the list they enumerated often varied from one preceptor to another, depending on his personal views and past experience, suggesting a marked lack of role concensus. In preparing the summary of responses, 43 topical areas (some overlapping) were identified that the Ontario preceptors felt it was their duty to cover with their interns. Former trainees frequently failed to substantiate the claims of their preceptors. Among

preceptorial qualities or effective teachings that former Wisconsin interns mentioned most frequently are: the preceptor's interest, his ethics, encouragement to read, teaching of application of laws, and the business aspects of operating a pharmacy. Ontario interns mentioned most frequently the fact that they appreciated their preceptors' understanding, sympathetic and helpful attitude, the fact that some gave specific assignments and quizzes, that the preceptor was accurate, friendly and ethical. The "specific assignments" referred to by six former interns were not mentioned by their preceptors when they were asked how they gave the student the benefit of their experience as practical teachers.

The following examples of comments on the preceptor's quizzing and criticizing of the intern are by interns who, in Wisconsin, rated their preceptor as superior:

My preceptor constantly quizzed me as to who makes what and what it's used for. We daily discussed how to handle customers, doctors, our wives, and anyone else who comes in the store. He taught me to read a newspaper daily so that I could talk to people about what is going on in the world. [He] insisted for the first six months that each prescription be cross-checked by him or a senior pharmacist. Thus, extra time assured accuracy and at the same time precipitated discussions on many pharmacy problems.

Among Ontario interns, a few interesting points were mentioned that were not raised by other trainees.

He gave me complete responsibility in the dispensary, in my dealings with customers, doctors, salesmen and employees yet was always on hand to thoroughly discuss and present various viewpoints on any difficulties that arose. He made me conscious of all the responsibilities from garbage to book-keeping. He made sure that I read all the mailings and would quite frequently discuss articles in journals, etc..

He continued the teaching and drilling learned at school. His problems became my problems and I was required to work them out to find the proper solution.

In Wisconsin, nine of 16 interns who rated their preceptors in group C-F and who replied to the questionnaire said that their preceptor had no qualities as a teacher, or was a poor teacher. In Ontario, 25 interns felt that their preceptors had no qualities as a teacher (seven of these serving under preceptors rated as superior).<sup>4</sup>

Many resented the commercial orientation of their preceptor. "His education was much more directed in a merchandising and business management direction than in the area of strictly dispensing." Others indicated that they felt their preceptor was unqualified. "Unfortunately my

---

4. Concerning this problem, where the student sees no desirable qualities as a teacher in his preceptor, see Howard Rosenfeld and Alvin Zander, "The Influence of Teachers on Aspirations of Students," Journal of Educational Psychology, 52, no. 1 (February 1961), 1-11.

preceptor was a 2 year graduate of about 1930, and since there have been no refresher courses required, he was really of no use as a teacher." Two went so far as to suggest that they were of more help to the preceptor than vice versa. "In some cases, e.g., compounding, calculations, I seemed to be more help to the preceptor than the preceptor to me." "My last preceptor was concerned only with the chance to have a pharmacist in the store so he could leave. His concern was not for my education but for his welfare." Two former interns obtained rather negative guidance from their preceptor. "His actions taught me how not to run a business." "I felt that if this were the type of person that they allowed to practice pharmacy then I had better look to another endeavour. I have done so. I no longer practice pharmacy."<sup>5</sup>

In Wisconsin, as previously mentioned, preceptors' view of their role as a practical teacher was restricted

- 
5. Hare points to a possible cause for disillusionment and resentment on the part of some interns toward their preceptors, and names it "role collision." It is a type of conflict "which may occur if two different individuals in a group hold roles which overlap in some respect." Alexander P. Hare, Handbook of Small Group Research, The Free Press, New York (1962), 119. Since some preceptors commented that they found their interns "knew it all," and some interns expressed the view that there was nothing that the preceptor could teach him, it is possible that the intern and the pharmacist each assuming a role considered unwarranted by the other should be considered an interesting variant of Hare's "role collision."

in most cases by preoccupation with the function of supervising the intern's work. However, many preceptors implied more in the term "supervisory" than is apparent at first blush. Particularly among superior-rated preceptors, the supervisory role was supplemented by extra guidance that carried the task far beyond mere supervision. When supervision itself was lacking, it was typically among the preceptors rated less-than-superior and their former interns recalled a dislike for this lack of interest in the role of "practical teacher." In Ontario, too, the interns expressed disappointment in preceptors who showed lack of interest or ability. Disappointment was prevalent among interns who had served under preceptors rated as less-than-superior, and disappointment was more commonly expressed over lack of preceptorial ability, rather than interest.

A further indication of interns' reaction to their preceptor's function as a practical teacher was their response to a question about their attitude toward becoming a preceptor themselves.

Sixty-nine per cent of the interns in group A-B who answered the question said that they would want to qualify as preceptors. However, three of the 50 former interns in Wisconsin who answered the question were already qualified as preceptors. Most who would not want to qualify said that they were in medical or law

school or that their pharmacy could not use another employee (intern). Even more of the interns in group C-F who answered this question, 86%, said that they would like to qualify as preceptors.

In Ontario, 19 of 89 respondents already were registered as preceptors. Seventy-five per cent of the group A-B respondents and 62% of the group C-F respondents indicated a willingness to qualify as preceptors. One trainee said that he would be willing to do so only if there is a course of study mapped out for teacher and student.

When asked whether they would be willing to put more preceptorial effort into the practical instruction than their preceptors did, about one-half of the A-B group in Wisconsin said that they would. Nearly all (eight) of those who said they would not explained that they could do no better than their own preceptors did. Another intern said, "I do not feel I would be patient enough to give the intern or extern the instructions and help to do justice to the job." In the Wisconsin C-F group, 15 of 17 former interns indicated that they would put more effort into the preceptorship. One of the two who would not is in medical school; the other said, "I felt I was well enough prepared with the practical aspect. It was the experience and familiarity with the products that I lacked."

In the Ontario sample, the proportion of respondents in both the A-B and C-F groups who would try to do better than their own preceptors was just as high as for the C-F group in Wisconsin. As in Wisconsin, those who would not try to do better mainly felt that they could not surpass their own preceptor's performances. "No one could possibly put more effort and interest in instruction than did my preceptor,--a gentleman I hold in the very highest regard." Another maintained, "Anyone with the intelligence and initiative to acquire a B.Sc. degree in pharmacy can find the answers for himself from daily activities without any of this sort of thing, and without examinations on his internship."

Thus, a high proportion of the former interns later aspire to becoming preceptors. A higher proportion of the intern-respondents in Wisconsin group C-F did not let deficiencies they felt in their preceptors' overall effectiveness influence them negatively in their wish to become preceptors. A larger proportion of Ontario interns in group C-F did not wish to become preceptors. In Wisconsin, interns who rated their preceptors as superior tend to follow their preceptor's example; while those who rated their preceptors overall as not-superior would attempt to improve on their preceptor's effectiveness as a practical teacher. The difference between the program in Wisconsin and Ontario may account at least partially for the greater desire among those who experienced

training in Ontario to improve on it but unfortunately, a smaller number of former interns who experienced this training would be willing to serve as preceptors themselves.

#### Hospital Pharmacy Experience

The proposal that hospital pharmacy experience should be required for the intern was supported by 59% of the superior-rated preceptors in Wisconsin, and by a far lesser percentage in each of the other three groups (33% of Wisconsin group C-F, 39% of Ontario group A-B and 31% of Ontario group C-F preceptors). Even among the group A-B Wisconsin preceptors, some of those who supported the proposal would not go so far as to require it, but would only suggest it strongly.

Preceptors who approved of such a requirement saw such experience mainly in terms of giving the interns a better picture of what hospital pharmacy practice is like; while some saw it as a professional essential that the intern become acquainted with all types of pharmaceutical practice, and suggested that the intern be required to spend three months in a community pharmacy, three months in a hospital pharmacy, three months in a clinical pharmacy, and three months with a wholesale druggist. Although difficult to put into practice, it would, they felt, have a broadening effect and help him decide what field he is best suited for. Several

preceptors in both settings felt that such experience would provide contacts with allied health professionals, disease conditions and different types of medication and medication forms that are seldom encountered in community pharmacy. Two preceptors in Ontario who approved hospital experience had some reservations. One said that he approved of the idea, but not under the existing practical training system. Another, though he approved of the idea, did not feel that it would be practical, particularly in smaller communities.

When the interns were asked this same question, about 40% of those in Wisconsin and 50% of those in Ontario agreed that hospital pharmacy experience should be required or recommended. They stressed the value of such experience in rounding out their education. Allowing them to more readily choose their proper field and giving them experience in handling products they would not encounter in a community pharmacy. As one Wisconsin intern stated: "Hospital pharmacy can be, and usually is, much different from retail pharmacy. The types of drugs used are different and the methods of work are different. This can be invaluable experience for retail pharmacy on many occasions and helps to round out the experience and education of the resultant pharmacist." Several Ontario interns stressed as reasons for favoring hospital experience that it allows the student to better utilize his scholastic training, it gives the student a better

impression of pharmacy than afforded by community practice, and it permits the student to make a better choice of the field in which he wishes to work.

Of the preceptors, more than half sampled in both Wisconsin (53%) and Ontario (63%) and of the interns . 62% in Wisconsin and 36% in Ontario opposed any hospital experience. The proportion of interns opposing hospital pharmacy experience was greater in group A-B than in group C-F for Wisconsin, but the proportion in Ontario opposing hospital experience was almost the same for the two groups of interns.

Both preceptors and interns who felt this way said that it is either unnecessary or impractical. Many felt that there were simply not enough hospitals available to put such a plan into operation. Others felt that the intern should be able to get all the experience he needs in a community pharmacy, and should not have to work in a hospital, especially if his interests lie elsewhere. One intern stated the feelings of many when he said, "Unless a person wants to work in a hospital pharmacy after he graduates, there is no reason that this should be a requirement. He gets enough experience in the retail store." One preceptor in Ontario said, "I'd also be somewhat afraid that the policy of substitution or formulary system may in the apprentice's mind seem to be standard and not confined to hospitals."

Thus, preceptors and interns varied widely in their reaction to hospital pharmacy experience. A greater proportion of superior-rated pharmacists than those rated not-superior in both settings recognized some advantages to hospital pharmacy experience, even though in some cases they could not say what these advantages are. As one preceptor said, "I think I approve of it because I would have liked to have had the experience myself." Interns were more critical; and some former hospital pharmacy interns felt it should not be made a general requirement. Those who opposed the idea, indeed even those who supported it, did not seem to think of the hospital pharmacy experience as perhaps leading to greater experience with drug therapy through possible patient contact. Restated in terms of a "clinical pharmacy" experience that can be afforded by such a training environment, the suggestion might have received far more support.

Attitude Toward Suggested Changes To Be Made  
In the Program

Orientation Institutes for Interns: Approximately two-thirds of the preceptors sampled in Wisconsin and Ontario felt that a two-to-three day orientation institute for the interns prior to graduation would be valuable, rating it between 8 and 10, on a 10-point scale. The proportion was somewhat higher among preceptors in group C-F of the Ontario study, where three-quarters of the

respondents ranked the suggestion between 8 and 10. Preceptors who favored this suggestion generally felt a need for such guidance, as exemplified by the comment, "The interns need guidance which to date has apparently been lacking. Many came in with a rather confused idea of what is expected of them and look to me for guidance. I find that I myself am often lacking in the ability to explain it all fully to him." This comment by a Wisconsin preceptor was mirrored by several of his colleagues in Ontario, who thought the Ontario College of Pharmacy should have introduced such institutes at an earlier time, "... Most students are generally in the dark concerning what is expected of them. It should make for a happier apprentice and preceptor and save time and money. The College should have made them aware of their objectives and regulations long before they are ready for apprenticeship." Several preceptors felt that they should be permitted to attend such institutes as well.

Several Ontario preceptors, divided between groups A-B and C-F, felt strongly about the timing of such institutes. Eight preceptors from group C-F felt they should be longer than two or three days, but did not suggest a proper length. Various Ontario preceptors had different views as to when these institutes should be held. All seemed to feel that they should begin no later than after the student's first year at the Faculty of

Pharmacy, and several felt they should be repeated annually until the student has completed his university training. Several preceptors commented on what the institute should do; for example, one preceptor indicated that in addition to orienting the student to his practical training, the institute should "give the student a clear and concise picture of where he is headed when he accepts the idea of pharmacy as a career."

In contrast, those who did not favor a two to three days of orientation felt that the intern did not need such guidance, as shown by such comments as: "I don't like the [length of] time there. It is not necessary, especially if the intern has had some experience already." [Wisconsin preceptor] "Though the idea is good, I don't feel it should be or need be such a formal institute. If the College supplies us with the information, we could take it up with the students at the start of the summer. It wouldn't take two or three days either." [Ontario preceptor] Other preceptors who objected to the institute felt that two or three days was too long, or that the idea was impractical or could be done better by the preceptor himself in the pharmacy. However, the general idea seemed worth while to the majority of the preceptors in both areas and appeared to be of considerable benefit in setting up a practical training program.

Institutes for Preceptors: A suggested institute of two to three days for preceptors, to be held every other year, was vigorously opposed by two-thirds of the preceptor-respondents in both settings. Their comments indicated that "a session lasting two to three days would certainly not be practical." Many preceptors felt that they could not leave their pharmacies for such a length of time; others, that it would be asking too much of a preceptor. A few Wisconsin preceptors remarked that from their previous experience with preceptors' conferences too little was accomplished or learned to justify "dragging it out" to two or three days.

Two of the Ontario preceptors who denounced the proposal (one from group A-B, one from group C-F), suggested as an alternative approach orientation through circulars by mail. One felt that besides circulars, it would be useful to have a workshop stressing methods and time-saving techniques, and urged reliance on seasoned experience in preceptorship rather than youthful enthusiasms or expertise.

Forty preceptors (34 from Ontario) indicated strong support of the orientation idea, by ranking it 8 through 10 (on a 10-point scale), but several of these indicated that they supported the idea, and not its practicality.

Thus, more extensive training of preceptors for their teaching role (in the sense of the test question) could not be undertaken without resistance among the

majority of practitioners concerned. If preceptors could be reached with such training without the threat of disrupting operation of their pharmacies, one infers that many attitudes might change. Other comments suggest, however, (see below) that further effort toward improving the present preceptors' conference in Wisconsin may be a strategic prerequisite to proposing a lengthened program.

Visiting Field Advisor: The idea of a field advisor to visit preceptors and students in the teaching pharmacies was strongly supported by approximately two-thirds of the preceptors rated superior and by one-half of the not-superior in both settings, as indicated by their ratings of 7 through 10 and by their comments. Reasons for support contrasted markedly with the opposing reasons. About a third of the Wisconsin preceptors who favored the suggestion felt that there had been a longstanding need for such a man, and that the one-time director in Wisconsin<sup>6</sup> had been of great help. The Ontario preceptors who approved of the idea did so with enthusiasm. Several regretted that this had not yet been instituted, and others commented on the value to the program and to the advisor that such visits would have:

---

6. In 1961, an assistant to the Secretary of the Wisconsin Board of Pharmacy was hired to travel around the state in connection with the controlled internship program. Preceptors referred to him as a director of the program.

"...for he would most certainly learn many things he wouldn't find in books and which would add to his experience, enabling him to pass it along to other preceptors and students."

Objections to the idea of having a director put forward by individuals included the opinion that it would be impractical and unnecessary, that he would interfere, and that the previous director (in Wisconsin) proved to be unsatisfactory.

One Ontario preceptor gave qualified endorsement, "Provided, however, that the advisor is in touch with retail pharmacy as well as professional pharmacy, preferably a man with a good understanding of business administration as well as pharmacy, and that he does not attempt to improve his thinking on the preceptor as opposed to advising him." This was essentially the feeling of 18 preceptors (10 from Wisconsin) who emphasized that such a person would have to be carefully selected on the basis of his interest, experience and maturity. Others would welcome such an advisor but felt he should come to the pharmacy only after having made a proper appointment. Eighteen of the Ontario preceptors (15 from group C-F) who opposed the idea did so because they considered a field advisor unnecessary, particularly if some of the other suggestions were implemented and proper direction were given from the Ontario College of Pharmacy.

Fourteen preceptors (10 from Wisconsin) indicated support for the idea, but preferred to reserve final judgment until they saw what kind of a job such a field advisor would do.

But clearly most preceptors expected that their work as practical teachers could be aided significantly by a carefully selected director of internship training.

Textbook for the Interns: The idea that a textbook could be provided to help the intern during his period of practical training received most support from preceptors in group A-B, in both settings. Only three of the 41 preceptors in this group (one from Wisconsin) definitely opposed the idea. Several preceptors felt that the textbook should be oriented toward their needs as well, as they felt that they could be better informed on what is expected of them than they are presently. In both groups of the Ontario sample, preceptors offered reactions of the most disparate kind, among them:

We need such a [textbook] guide, but not necessarily the "practical information." Most capable pharmacists, if they are to act as teachers, should already have this knowledge.

...[A text] should tell me not only what, but how the student is to be taught.

...[It should] deal with, and stress, mathematics as applied to pharmaceutical knowledge.

The textbook should be loose-leaf, and of the same format as the formulary of the American Society of Hospital Pharmacists. There would be a quarterly bulletin of some interest to the apprentices--maybe a contest or two--or a prize essay or quiz.

This book should be a joint effort of educators and practising pharmacists.

...I suggest a sectionalized outline where certain things accomplished can be ticked off in a schedule of day to day events.

Fourteen of 60 Ontario preceptors (12 from group C-F), in endorsing the textbook, mentioned the value they found in Dean Hurst's Pharmacy Apprenticeship Studies.<sup>7</sup>

Opposition to a textbook centered among preceptors in group C-F, where a third of the Wisconsin preceptors said that a textbook "would not be practical." One-quarter of the Ontario preceptors in group C-F felt such a textbook would have no value. Some preceptors commented to the effect that the intern "is through with his book-learning" and that if the internship program can be covered in a textbook, it could be learned in school. Such criticism overlooks the supporting role that a text or manual can play in any learning experience, but the

---

7. Three apprenticeship manuals were published by R. O. Hurst under the above title in 1934, 1935 and 1937. They were aimed at providing guides and practical information for the students during their apprenticeship.

majority recognized that such a textbook could find a useful place in an internship program.<sup>8</sup>

Training Bulletins for Preceptors: The training bulletin for preceptors mentioned in our test question was favored by a high proportion of preceptors in our sample, as Sharp also found.<sup>9</sup> This idea met little opposition (only 13 of 101 preceptors, six from Wisconsin, gave it a rating lower than 5 on the scale). Approximately three-quarters of the preceptors felt that it would have practical use and better guide them in their training of the intern. Several Ontario preceptors offered constructive suggestions with regard to the bulletins, such as the idea that the bulletins should cover all fields of pharmacy (community, hospital, industry, etc.), should be brief and to the point, should combine the ideas and information of many preceptors which could be passed along to the apprentice, should have a cumulative index, etc..

Coupled with Sharp's findings, the results give strong support to the idea of a training bulletin for preceptors. Sharp's group of preceptors considered

8. Such a textbook would of course be quite different from the useful little Pharmacy Preceptor's Guide distributed by the National Association of Boards of Pharmacy.

9. Sharp, Pharmacy Trainee Program, p. 43.

quarterly the most appropriate frequency.<sup>10</sup>

When preceptors in the A-B and C-F groups in both settings were compared as to their rating of these suggestions, no clear difference was apparent, particularly in the Wisconsin sample. This tends to deny the hypothesis that preceptors rated as superior tend to be more accepting of proposals for improvement of the internship as a learning experience than are the preceptors rated not-superior. Indeed, in Ontario, larger proportions of preceptors rated in the C-F group frequently supported some of the suggestions and elaborated on the proposals, giving their views on how the idea could be implemented or improved.

Having asked for the preceptors' views on certain preconceived proposals, we focussed our attention on three rather intangible areas of practical training, and asked the preceptor to state his experience in dealing with the intern's problems, with teaching him standards of ethical conduct and with professional behavior.

Dealing with Intern's Problems, Ethics  
and Professional Conduct

Intern's Problems: Many interns experience problems in the course of their practical training with which the preceptor could be of assistance. But how does the

---

10. Ibid., p. 42.

preceptor learn of these problems, and how does he deal with them?

When asked if they set aside definite periods, away from customer interruptions, for discussion with the intern, the same proportion of preceptors rated superior and not-superior indicated that they did so. In Wisconsin the proportion was approximately one-quarter, whereas in Ontario it was about one-third.

In Wisconsin, six preceptors of 40, and in Ontario, 18 preceptors of 60 sat down at least once a month with their interns to discuss problems arising in the internship training; three in Wisconsin and six in Ontario did so weekly. One preceptor in Ontario said that it varied from apprentice to apprentice. All of these preceptors indicated that they found the practice extremely beneficial: "I remember that this was stressed at a preceptor's conference, and I feel it is of great value. The intern gets to feel that I am interested in his problems and doesn't feel that he has to keep them to himself."

The majority of the preceptors in the sample (78% in Wisconsin, 60% in Ontario) said that they did not hold conferences regularly, but talked to the interns "as the occasion demands." Many felt that this is all that is required: "Though consistency is an advantage, to hit the nail at the right time is an over-balancing factor," and others felt that to actually stipulate set periods

for discussion not only would not fit into the work pattern, but might detract from the value of such conferences. The feeling was strong, particularly among the Ontario sample of preceptors, that the spontaneous, unstructured discussion was the better procedure.

Several preceptors in both settings indicated that, despite not holding regular conferences, they considered them to be of value and they would like to adopt such a plan if they had the time.<sup>11</sup>

How did the interns feel about the conference? The majority of those who participated in regular conferences felt that they were somewhat useful.

The majority of the interns who answered this question (63% in Wisconsin, 62% in Ontario) indicated that their preceptors did not hold regular conferences with them. Nineteen of these 32 interns in Wisconsin and 19 of the 53 in Ontario mentioned subject areas that they thought could have been beneficially covered if such conferences had been held. In Wisconsin, the most frequently mentioned topics were: drugs (properties and uses), customer relations and business management. In Ontario, the topics emphasized, in decreasing order of frequency, were: pharmacist-physician relationship, pharmacy management, pharmaceutical jurisprudence. Some

---

11. In a few instances, interns disagreed with their preceptors as to whether or not regular conferences were held.

former interns would have liked to discuss with their preceptors the internship program in general and mistakes that they made on the job. Several, particularly in Ontario, felt that discussion should take place at the time of occurrence of an incident, not later.

The majority of preceptors (84%) did not hold regular discussion periods with their interns, but the majority of their interns felt that this would have been beneficial. Although many preceptors felt that such conferences are not necessary, the interns tended to disagree; and the satisfaction shown by both preceptor and intern from having such conferences (and other evidence) indicated that such a conference would probably fill a definite need.

Ethics and Professional Conduct: Only five preceptors in the Wisconsin study, all rated as superior, and two in Ontario, both from group C-F, systematically covered specific requirements of the code of ethics with their interns. In Wisconsin, four of the preceptors indicated that they went over the state code of ethics with the interns at the outset; the other had a book on professional ethics that she asked interns to read. In Ontario, the two preceptors who indicated that they systematically approached the problem of ethics did not refer to any code or book that they may have used.

The large majority (88% in Wisconsin, 96% in Ontario) indicated no systematic way of dealing with professional ethics. Seven preceptors in Wisconsin, 13 in Ontario indicated that the student was able to learn standards of ethics by following the example set by the preceptor and the pharmacy in which he taught.

"...We think we are operating our pharmacy according to a very high code, and this in itself serves to guide them." "...Your own example in the solving of your day to day problems should show the apprentice the way to make the code functional."

The most common method mentioned in dealing with professional ethics (as indicated by 16 preceptors in Wisconsin and 10 in Ontario) was by discussion as an incident arose that embodied an ethical problem. "An occasional situation would arise which involved both ethical and professional relations with customers and doctors. We would discuss the situation thoroughly and mention any unethical principles that should guide us in dealing with such situations." Four preceptors in group C-F of the Wisconsin study said that they assumed that the intern already knew all he had to know with respect to ethics. A similar attitude was expressed by six preceptors in Ontario (group C-F) who felt that the learning of ethics was the intern's own responsibility: "It is his own responsibility to know it and unless he

does, he cannot work for me." Four Wisconsin preceptors in group A-B and five in group C-F (22% of the total) said that they never discussed ethics with their interns.

Sixty-six per cent of the former interns sampled in Wisconsin and 56% of those in Ontario could recall ways in which their preceptor helped them make high ethical standards a part of their routine way of work. Of these interns, 52% in Wisconsin and 61% in Ontario rated their preceptors as superior. As the main methods by which they acquired ethical standards of conduct, interns most commonly mentioned the example set by the preceptor and the close supervision he maintained. In Ontario, the respondents frequently elaborated on the idea of a model or example in mentioning specific areas of behavior that they admired in their preceptor; e.g., relationship with doctors, handling of requests for information, etc. Many seemed to confuse the idea of ethics with good pharmaceutical technique and pharmacy management; however, they seemed to want to emphasize that their preceptor's example set the standard they followed in matters pertaining to ethics, as they conceived this field.

The level of examples set varied between two extremes, however. One intern who rated his preceptor as superior said that he "just followed his perfect example"; while an intern who rated his preceptor as

not-superior said, "He was actually unethical'. e.g., he sold prescription-only drugs 'O-T-C' to his old buddies, refilled prescriptions without authorization for these same old buddies. He showed by example what not to do."

When dealing with matters of professional conduct, preceptors indicated that they relied upon their own example and upon discussions of problems as they came up to guide the intern. In Ontario, one preceptor (in group A-B) used a somewhat different approach: "We would examine situations that arose or we would theorize situations that could arise, and discuss the proper action that should be taken in each case." The preceptor's comments indicated that he emphasized this matter to a greater extent than did his colleagues.

Only 11 interns could recall, when invited to do so, an actual incident that illustrated the opportunity they experienced to learn standards of professional conduct. Three of the incidents involved overdoses of prescribed medication, two dealt with competition between pharmacies, one with substitution of prescribed drugs, one with outdated products and the remainder with customer relations. The comments of a few of these interns are worth noting:

The competition was cutting prices and advertising such 'discount prices' openly, both to the public and through sending letters to the area physicians. My preceptor refused to meet them at

their own level (gutter level), and did not lower his prices, insisting instead that our fees were fair, honest, and deserved. He brought the matter to the attention of the local pharmacy association, which handled it to the best of its ability.

A doctor had written a prescription for a drug with the dosage too potent to be dispensed. The doctor was very hard to deal with, and my preceptor explained how to call and check the dose without being sarcastic or telling the doctor you know the correct dosage. The call was made and the patient saved serious injury, and I learned the art of tact. Refusal by my preceptor to dispense amphetamine to customer without a prescription.

Another store we were acquainted with would fill a Rx with a 'cheap brand' drug and still charge the full price for the prescribed brand. I was taught never to do this while I worked in the store I was in.

The majority of the interns could recall no incident, but some indicated that incidents probably occurred that could no longer be remembered. A few interns specifically indicated that they learned professional relations by observing their preceptors.

Obviously most preceptors had relied upon example and occasional discussions to impart standards of professional ethics and professional relations to their interns.<sup>12</sup> With the additional teaching aids and

12. See also the comments of Allen I. White, "The Development of Professional Morality in Pharmacy Students," Amer. J. Pharm. Educ., 17 (April 1953), 222-225.

patterns, we dare infer that most preceptors could go more deeply and systematically into these areas that are so peculiarly suited to inculcation under actual conditions of practice.

Benefits from Experience in Internship  
Program

All preceptors in the Wisconsin sample and 73% of those in the Ontario study felt that the time spent training the interns was well justified. As Sharp found<sup>13</sup> so also the majority of the preceptors in our group felt that the internship gave them more opportunity to keep abreast of what is happening in the profession. Preceptors in both settings mentioned most frequently, as the main value of having an intern, that the intern "keeps you on your toes. Many preceptors said that they learned something from the intern, although the majority could or would not recall anything specific. Five of the superior-rated Wisconsin preceptors welcomed the opportunity to learn from the intern what is being taught in the school of pharmacy since they themselves graduated.

When asked to recall specific examples of the preceptor learning from the intern, only 16 preceptors in Wisconsin could or would do so, and 13 of these 16

---

13. Sharp, Pharmacy Trainee Program, p. 76.

preceptors were in group A-B. Interns brought new information to these preceptors on such diverse subjects as pharmacology, chemistry, preparation of ointments and ophthalmic solutions, dispensing and emulsifying agents, pharmaceutical arithmetic, drug nomenclature, and on improved organization of particular sections of the pharmacy. In Ontario, only 11 of the 60 preceptors could recall a constructive idea they learned from one of their interns. Most of the ideas centered on an improvement in the design and layout of the dispensary area; a few mentioned specific areas of drug knowledge in which they gained increased insight from their interns.

When interns were asked whether the time they spent on internship training was well justified, a somewhat smaller majority responded affirmatively in both Wisconsin and Ontario (83% and 60%) than did the preceptorial groups.

The nature of the benefit was exemplified by one intern's comment, "I did not feel equipped upon graduation to take the life of a patient into my hands when dispensing prescription medication. I did well enough in school, but did not have enough familiarity with tradename 'legend drugs' to feel confident that I had read the physician's prescription to the letter of its intent. It was good to have someone there to verify my work, and in one year I was ready to go it alone."

Those interns who felt the time spent was not justified gave various reasons for their attitude. In Wisconsin, objection centered about the program itself (mainly, they felt it was too long), rather than about the preceptor. In Ontario, 22 of the 89 interns objected because there was no program to follow. Others (6 of 89) found the pharmacy and its environment unsuitable; five said their preceptor was not competent. The most frequent criticism, voiced by 40% of the 89 respondents, was that they felt they were only "cheap help".

It can be said, however, that preceptors as well as interns felt on the average, that the internship program had some value. Preceptors often welcomed the stimulus to keep up with the current developments in pharmacy; interns welcomed it as an educational experience. This was more often true in Wisconsin, where superimposed on the period of practical training was a system of requirements and standards entirely lacking in Ontario. In Ontario there were no standards of preceptorship, no required program of study during the period of training, no guidelines available for either preceptor or intern who would have liked to set up a program on their own. It is possible that the greater dissatisfaction experienced in Ontario was due at least in part to these factors. Indeed, the controlled period of practical training in Wisconsin and Ontario was instituted as a means of compensating for some of these shortcomings, as

well as augmenting the value of the decreasing period of practical experience.

In addition to the stimulus they provided, the majority of preceptors in Wisconsin (almost 75%) and 50% of those in Ontario felt that the intern provided an important supplementary benefit in that he made money for the pharmacy. One preceptor in Wisconsin and 21 in Ontario said that the intern lost money. Six Wisconsin preceptors said they probably broke even. Three Ontario preceptors (in group C-F) felt that there was no set rule, in that it depended on the student himself, how long he stayed with you and the amount of training he experienced. This was mirrored by the comments of several Wisconsin preceptors who felt that the intern's net value to the pharmacy was a slowly developing advantage: "In the first place, he loses money. As time progresses, he starts breaking even; finally toward the end you are making money. It depends on the type of intern."

From these comments it would appear that preceptors considered the average competent intern to be a definite asset, both as a source of professional information and stimulus, and as a financial asset. Whether for reasons of better training, mutual understanding, or better division of duties, the rewards to the preceptor seemed to be greater in Wisconsin than in Ontario. Greater insight into the causes of these and other differences in the mutual experiences under two different programs

of practical training can be gained by listening to the criticisms of the preceptors and interns on their respective programs.

#### Criticisms of the Internship Program

The two programs studied in Wisconsin and Ontario were at opposite poles with respect to their degree of formal structure. Each drew its own share of criticism from respondents which we here characterize; but to avoid confusion or unwarranted comparisons the criticisms are summarized in separate sections for Wisconsin and Ontario.

Wisconsin: Sixteen of 40 preceptors had no criticisms of the controlled internship program. They seemed satisfied with it, and often saw it as a step forward. Others said that any criticism would have to be of particular preceptors and interns, not the program as such: "The internship is a personalized thing. If the preceptor or the intern fall down, if they fall down together at the same time, it could be bad.... If there is any question about the qualifications of the preceptor, his right to act as a preceptor should be withheld."

Twelve of those preceptors who did criticize the program felt that its main weakness was inadequate communication between the preceptor and the State Board of Pharmacy. The comments below illustrated the feelings of these preceptors:

We need better communications with the director. We could do a better job if the preceptor was briefed more specifically on his duties. Now, the preceptor is on his own.

I want to be notified by the State Board about the exams, the results, and how satisfactory the notebook was. Perhaps in this way, we can learn where more can be done.

The program is as good as the preceptor. This is where the Bulletins can come in handy. Its very hard to send the preceptor to a two-day school. You must try to give him a more theoretical idea of what the program is about and let him work it into his own operation.

I think the internship program could be better improved by giving it some better guidance.

Changes occur of which you are not notified.... If you are going to have changes, it is their duty to inform all preceptors of these changes. After all, your license and the trainee's as well depends on your knowledge and obedience of the laws.

Two preceptors offered more nebulous criticisms concerning the spirit of the program, as indicated by the comment: "It [the program] needs life, heart and breath. The intern comes to you with two things: youth and enthusiasm.... Over time, pharmacists tend to become calloused, hardened. When they become preceptors, it is too easy for them to forget human aspects." Three preceptors thought the program was too regimented, did not

allow the intern to work on his own enough, and demanded that the intern put too much into his notebook.

As Sharp found,<sup>14</sup> so also our group of former interns objected to many aspects of the notebooks that they were required to maintain as a kind of work diary. They considered the verbatim recording of prescriptions particularly onerous and of limited value. This criticism and dissatisfaction with poorly informed or qualified preceptors are the most common complaints. Some interns (mainly those who rated their preceptors as superior) thought that the business aspect of a pharmacy's operation could have been better taught to them; others felt that the preceptors could have taught them more about the properties and uses of drugs.<sup>15</sup> Less common complaints centered on a presumed lack of close communications between the school and State Board, intern and preceptor, and on the lack of certain types of experience, such as in the hospital and wholesale fields of pharmacy.

Ontario: Without a structured program of practical training, preceptors in Ontario found different facets to

---

14. Ibid., p. 38.

15. Three interns mentioned their feeling that the State Board examination should be arranged so that it could be taken sooner after completion of their internship. Reasons for opposing such a suggestion are given in "Internship in Wisconsin," Mortar and Quill (Spring, 1965), 14.

be objectionable. The single most controversial feature was that of the time at which practical training was acquired. One-half of the Ontario preceptors in the sample said that there was not sufficient time in the day to be able to devote adequate attention to the trainee's needs. Two preceptors felt that the lack of a compulsory period of internship prior to entrance into the course of study at the university was detrimental to the student as it did not permit him to become familiar in a practical sense with the profession he had chosen. Other preceptors felt that the program lacked guidance from the Ontario College of Pharmacy, that there were no standards for preceptors and therefore many students were training under the influence of "poor examples of pharmacy." Five preceptors criticized the students themselves, on matters such as academic preparedness and lack of a proper attitude. Examples of this latter criticism are:

Many apprentices have an improper attitude toward apprenticeship. The relationship that should exist has never been established at the College.

They don't seem to be professionals totally, but seem to be immediately concerned with what is pharmacy going to do for me. They lack the feeling of status somehow.

Questioned further on the last statement, the preceptor indicated that he felt a trainee held a certain status somewhat beneath that of a registered pharmacist,

and he resented the fact that the student did not seem to want to conform to this lesser status.

Interns complained mainly that they did not experience enough "teaching" during their practical training period. Some felt that this was the fault of the preceptor. "In the last six months, more time could have been spent in teaching me pharmacy instead of trying to fill his pockets with money," whereas others implied that the fault lay with the Ontario College of Pharmacy. "Teaching and discussion. I had lots of practical experience but most of the theory was left to the Faculty. Putting the theory into practice requires guidance, at least initially, and this was lacking. More field direction and supervision by the College is needed." Many interns criticized certain aspects of their preceptor's behavior that detracted seriously from their practical training--either that the preceptor carried on a type of practice that set a poor example, or the preceptor required certain activities the intern did not deem professional, or he was prevented by his preceptor from carrying out certain functions. The comments of one intern who objected to his preceptor's practices, yet who justifies them were:

I was often left alone to run the store without supervision. I know this is improper but it is often done. Working under these conditions you are forced to make decisions that you are not capable of, both in Pharmacy fields

and economic fields. This causes undue pressure on the intern. This is not done by preceptors because they are lax; it results from economic pressures for a smaller corner store. An owner cannot afford to hire an apprentice or intern who demands the going rate of wages and then must stand and work with the apprentice while he learns... I realize that interns must receive practical experience but it can't be at the full expense of the small store owner.

Other interns criticized such aspects as the lack of opportunity to gain experience in other branches of pharmacy, such as hospital, industry and "detailing," the pharmacies in which they trained (some were too busy, others did not provide sufficient prescription experience,) and the lack of direction given to the practical experience requirement.

#### GENERAL COMMENTS

In the chapter, devoted largely to criticisms of various aspects of the program and preceptor in two different settings, some differences and similarities of views were particularly interesting due to the widely different nature of the two programs, but the similarity in purpose with which they functioned.

As a group, Wisconsin preceptors tended to view their role mainly as one of supervising the performance of the intern in his duties, whereas in Ontario, preceptors tended to conceive of their role in terms of

the example they provided, or in terms of a variety of functions depending on the individual conception of the preceptor. Regardless of this basic approach to the task, interns in both settings appreciated most the preceptor's personal interest and sympathetic understanding. That is, this is the way they felt if they thought the preceptor had any commendable qualities as a teacher. Such feelings may have affected the attitude of some interns toward becoming a preceptor themselves. Fewer Ontario interns wanted to qualify as preceptors than did their Wisconsin counterparts, but still, a larger number of them would want to improve on the performance of the preceptorial role over that displayed by their own mentors.

Preceptors in both settings divided in support and disapproval of specified changes suggested for the training programs: A majority in both settings favored institutes for interns, a visiting field advisor, a textbook for interns, and training bulletins but found impractical or unnecessary the idea of a two to three day institute for preceptors.

Both groups of preceptors used a similar approach in dealings with problems that face the intern, or in inculcating the proper ethical and professional attitude. Either the majority provided what they felt was the proper example, or discussed such matters with their

intern, or they did nothing at all. In criticizing the program, both groups agreed that poorly informed or qualified preceptors were major drawbacks to the program, but otherwise emphasized quite different shortcomings peculiar to the requirements (or lack of them) of the particular program. The work notebook, which drew such frequent criticism in the Wisconsin study, had no counterpart in the Ontario program. The 12 months of training required in both settings, served during and after the university course of studies, received most criticism from Ontario preceptors.

Some criticisms by both preceptors and interns, in both settings, may seem unrealistic; others may hold a potential for future progress (including some emphasis on better communications and the development of a controlled program where none existed previously). Interns and preceptors have concrete suggestions for making improvements, as mentioned below.

CHAPTER VII  
SUGGESTIONS FROM THE FIELD FOR IMPROVING  
THE EDUCATIONAL VALUE OF PRECEPTORSHIP

The Preceptors' Training Conference

Preceptors were asked to suggest methods of improving the internship program.<sup>1</sup>

Only one preceptor (a C-F rating) could recall anything specific learned at a preceptor's conference (Wausau) that he makes use of in his pharmacy: "They encouraged us to sit down and talk with the interns, and I have tried to do this." Though all other preceptors said they could not recall anything specific, some indicated that they probably did learn something useful at a conference, but with the passage of time they had forgotten.<sup>2</sup> However, nearly all preceptors being unable

1. In addition, many preceptors suggested improvements in responses to five test questions asked of them in the early part of the interview (see Appendix A, p. 316). These were also included in this report. Whereas no preceptors' conference was held in Ontario as part of the program studied, it was not possible to ask the respondents to comment on its value. However, a number of the Ontario preceptors sampled did feel that such a conference would be of considerable value, as expressed in Chapter VI, p. 247. The discussion below on the preceptor's training conference applies to the Wisconsin sample only.
2. The last preceptor's training conference attended by most preceptors (70%) in our sample was held in Milwaukee (April 1962). Seven preceptors attended their last conference in Wausau (1963), the remainder in Madison (1960), Eau Claire (1961), Milwaukee (1964). One preceptor could not recall.

to recall anything suggested that the training conferences did not strongly impress the preceptor; and the complaints voiced by some preceptors (illustrated below) raised a question whether these conferences had yet fulfilled their potential.

In fact, a negative impression frequently resulted from conferences, as indicated by comments of 18 preceptors. Representative comments that indicate dissatisfaction with the conferences were:

No, I can't remember anything; in fact the conference was hardly impressive.

After going so long, it gets to be old stuff. It might be okay for those younger preceptors.

What's discussed at a conference doesn't make much difference to me.

The last one was a repeat of the first, so nothing new was learned. They should change the program so that there would be more variety for us that are coming back for the second or third time now.

It stank. All they did was to read what happened in the first, second, third and fourth quarters.

That was the worst one they've ever had.

Not all preceptors felt that the conferences were unbeneficial. Seven preceptors (six in group A-B) specifically mentioned that they did gain some value from

the conference. Five said that they welcomed the opportunity to get together with other preceptors to exchange ideas, problems and suggestions. "I got more good out of that than any speaker they've ever had at a conference." One preceptor said that he learned about the manual of the NABP at a conference and another said that he was more impressed by his obligation to the intern as a result of a conference.

Whether they were satisfied with the conferences or not, preceptors offered many suggestions as to how they could be improved. Commonly mentioned suggestions were that the conferences should break up into smaller groups for purposes of discussion, and that the preceptor should be furnished with outlines and guides at the conferences.

Less commonly mentioned, but interesting suggestions are quoted below:

They should change the program so that there would be more variety for us that are coming back for the second or third time now.

They should give more practical lectures, such as lectures on the newer incompatibilities.

In one session they should have both preceptors and interns together. It would only have to last an hour or so, in order to find out if the interns have any questions while the preceptors are there to know what the problems are.

If they could get someone to talk on customer relations it would be a help (in setting an example for interns).

Incorporating a plan of points that should be covered in the store during the year, rather than spend time telling about laws, etc. would be an improvement.

I would also suggest that the conferences include more "practical" ideas for the preceptors. If you asked me to say what I mean by "practical," I'm sure I couldn't say.

They could go over some of the current regulations which have come in during the past year or two, both on the state and federal level.

They should have two training conferences--one for retail pharmacists and one for hospital pharmacists. If they had one for hospital pharmacists, I know I couldn't help but come away with something.

It can be seen that preceptors proffered both general and specific suggestions. If implemented, some would change the pattern of the conferences substantially; others would simply add new topics or new speakers to the present program. Comments by preceptors who had attended more than one conference seem to portend a developing attitude that would have to be changed if interest is to continue at a high level. Preceptors are becoming bored with the conferences--they would like more variety, a

change in format, less repetition from conference to conference. Sharp had concluded from his study (1964) "that preceptors are relatively well satisfied with Preceptor Training Conferences or do not wish to be bothered with suggesting new ideas which may never be implemented"<sup>3</sup>; there is at least now some evidence of dissatisfaction and of a felt need for more variety in format and content, including a constructive interest in improvement of the conferences by the typical preceptor. One inference that can be drawn from a few of the comments is that experienced preceptors would benefit from a conference different, and perhaps more specialized, than an orientation conference that must meet the needs of new preceptors.

#### The Intern's Preparation

Individual experiences of preceptors and interns produced different feelings as to how adequately prepared the interns were for the internship program after they left school, perhaps reflecting the usual rather marked differences in ability among graduates, and perhaps some of the influences that beneficially or adversely affect a

---

3. Sharp, Pharmacy Trainee Program, p. 93.

student prior to, or during his educational career.<sup>4</sup>

Between the two settings studied, there was a marked difference of opinion on the adequacy of the student's scholastic preparation for his continued education in the pharmacy environment. In Wisconsin, 28 preceptors (14 from each group) felt that their interns were well-prepared by their scholastic education to begin the practical training period, ten did not think so (seven in group A-B) and two were undecided. In the Ontario sample, conversely, the majority felt that the student was not

- 
4. In a study done on medical students, no relationship was found between a student's social class, average grade in college, Medical College Admission Test Scores, and his academic achievement. Marcel A. Fredericks and Paul Mundy, "The Relationship Between Social Class, Average Grade in College, Medical College Admission Test Scores and Academic Achievement of Students in a Medical School," The Journal of Medical Education, 42, no. 2 (February 1967), 133. In another study, competence in the student role appeared to be associated with preference for a more active student role. Thomas E. Drabek, "Student Preference in Professor-Student Classroom Role Relations," Sociological Inquiry, 36, no. 1 (Winter 1966), 96. In a second study of medical school graduates, it was found that cynical attitudes of medical students tended to decrease as they finished medical school and went into medical practice, and their humanitarian attitudes increased. Robert M. Gray, et al., "An Analysis of Physicians' Attitudes of Cynicism and Humanitarianism Before and After Entering Medical Practice," Journal of Medical Education, 40, no. 8 (August 1965), 766.

adequately prepared to begin his internship. Forty-one of the 60 preceptors felt this way, 14 of 18 of them from group A-B. Four preceptors from group C-F gave no reply.

Table XLII, p. 280, shows aspects of pharmaceutical practice in which preceptors thought interns could have been better prepared by the school. Many, particularly in the Ontario sample, who said that the student was not adequately prepared, could not give specific examples of the inadequacies, but rather expressed vague feelings of dissatisfaction. Preceptors who indicated that the school should be teaching more in the practical areas could not specify exact topics that should be emphasized, but felt that the school was stressing the theoretical at the expense of practical study of work he would be required to do. One Wisconsin preceptor felt that the school should prepare the intern better for the transition or "let-down" he would experience when moving from the academic world to that of community practice.

In looking at Table XLII, p. 280, the principal impression is one of a lack of general feeling that schools are remiss. In a few instances, however, Wisconsin interns were less proficient in some areas than their Ontario counterparts, and vice versa. For example, in relations with the public, only Wisconsin preceptors mentioned this as a deficiency noticed in their interns. The converse is true on the topic of product knowledge. However, numbers are small, and the open-ended manner in which the question

TABLE XLII

NUMBER OF PRECEPTORS SUGGESTING AREAS IN WHICH INTERN  
 COULD BE BETTER PREPARED BY THE SCHOOL OF PHARMACY PRIOR  
 TO THE INTERN'S PRACTICAL EXPERIENCE IN TWO DIFFERENT  
 SETTINGS

Suggested Area of Formal Instruction	Number of Preceptors Suggesting				Total
	Wisconsin		Ontario		
	Group A-B	Group C-F	Group A-B	Group C-F	
Pharmacy management	1	2	6	6	15
Product knowledge			1	10	11
Drug nomenclature	4			2	6
Relations with public	3	2			5
Teach more in practical area than theoretical	3	1			4
Prescription compounding and dispensing	1	1		2	4
Medical terminology		1	1	1	3
Personal deportment			2		2
Pharmacy law	1				1
Mathematics	1				1

was asked left some areas undoubtedly forgotten by the respondent at the time of the interview.

The majority of interns in both settings (Wisconsin - 83% of 52 interns, Ontario - 74% of 89 interns) felt that six months of experience prior to graduation, as permitted at the time of this study, is the optimal arrangement. A greater proportion of the interns in group A-B in both settings than those in group C-F felt this way. Interns in Wisconsin who expressed this view believed that to allow more practical experience prior to graduation would lower the effectiveness of the program, as they felt they needed to complete academic training before completing all of their practical training. Ontario interns who favored the six months prior to graduation as a maximum and who gave reasons for their reply, indicated that they saw this as enabling the student to gain a broader experience in various fields of pharmacy, thereby making a better career choice suited to his needs. Others felt that this encouraged the student to take some of the practical training prior to graduation, helping thereby with his academic work.

The minority who opposed the view of limited experience prior to graduation (17% in Wisconsin, 26% in Ontario) held the opinion that they could get an equally beneficial preparation if they were permitted to earn as much experience credit as they wished prior to graduation.

To the question of whether more experience could be permitted prior to graduation, there was a much greater percentage response from the Ontario sample than from their Wisconsin counterparts. Fifty-three per cent of the interns in Wisconsin and Ontario group A-B answered 'yes' to this question, 41% said 'no'. In group C-F, 30% said 'yes', 44% said 'no'. Reasons given to justify these attitudes varied so much that it was impossible to categorize them. Rather, selected responses are given below which seemed particularly meaningful. All comments are by Ontario interns.

Comments given by some who felt more time could be permitted prior to graduation:

I feel that the majority of apprenticeships are served in a commercially-oriented atmosphere befitting a department store career. If all apprentices were as fortunate as I was, in being employed in either a busy hospital or large medical-arts pharmacy, a great deal of experience could be gained, perhaps even replacing some out-moded courses within the Faculty of Pharmacy. (group A-B intern)

I feel his true professional functions can be taught and experienced in 12 months of summer employment in a controlled programme. (group A-B intern)

Practical experience provides the student with a picture of the goal toward which he or she is working. It adds to the academic course in that the reasons for certain subjects become more clear. (group C-F intern)

I believe that all of the practical experience should be served prior to graduation on an "hours" basis, i.e., Saturday and Xmas work should be counted, so that students would be forced to seek employment in pharmacy and therefore on graduation would have a reasonably good knowledge of over-the-counter products. This is the area where most new grads miss out--if they haven't had experience. (group C-F intern)

Comments given by some who felt more time could not be permitted prior to graduation:

I believe that though an undergraduate gets experience before graduate [sic] it takes a good two years afterwards to produce that breadth and maturity.... Experience before is helpful but half is about all he could possibly have under the heavy load of university studies. (group A-B intern)

I am one of those who completed the practical training required before graduation--and although licensed, I was not yet competent to "take over" for my employer. (group A-B intern)

Internship in hospital practice requires a year after graduation for full competency. No pharmacist should be permitted the self-embarrassment inherent in allowing one to practise immediately after graduation. (group A-B intern)

The responsibilities and seriousness is much more meaningful after graduation. During school it is just like a 3-month break. (group C-F intern)

Only continued experience with the public's problems and requests results in a B.Sc.Pharm. being ready to be left on his or her own. (group C-F intern)

To prepare for pharmacy as it is now practiced [sic], present educational and apprenticeship facilities are quite adequate. Should the future role of the pharmacist be one requiring greater use of professional knowledge, this should be provided for in the university curriculum, not through more complicated, or longer, apprenticeship!! (group C-F intern)

Need 6 month adjustment to business world. (group C-F intern)

One preceptor gave a qualified answer, saying that yes or no depended on the role expected of a pharmacist:

All three main roles of the Pharmacist as a merchandiser, as Professional consultant and as Rx-dispenser cannot be successfully executed without the application of integrated knowledge of all the courses especially those of the 3rd and 4th years. Even if a Pharmacy student is exposed to the best training in the world, his lack of knowledge of certain courses would certainly be a limiting factor in appreciating training and getting maximum benefit out of it. Well, exposing him to counting and pouring, etc. would help him but these mechanical functions are hardly the ones by which a Pharmacist as professional man intends to identify himself. (group A-B intern)

In Wisconsin, about one-half of the preceptors in each group felt that the full year of practical experience was necessary to prepare adequately the intern to practice on his own. Nine preceptors (four in group A-B) felt that

six to nine months would be adequate; four said that it depended on the individual; and six preceptors (three from each group) felt that interns often were not fully qualified to practice without supervision for at least one to three years after he received his license.

In the Ontario sample, one-third of the preceptors felt that the intern was ready to practice pharmacy before the time he ordinarily was licensed, one-third said only after. Four preceptors had no reply and the others said there was no set rule. As with their Wisconsin colleagues, the Ontario preceptors felt that the student was ready to practice pharmacy with as little as three months, to as much as two years of practical experience. A great deal, some expressed, depended on the caliber of the student concerned.

Table XLIII, p. 286, shows the areas in which former interns felt they could have been better prepared prior to completion of their internship. Most interns in both settings who felt that their knowledge of pharmacology and over-the-counter products could have been greater, suggested that the school was negligent in these respects, whereas in all other areas, they suggested that the preceptor could have done more. The frustration that goes with this lack of knowledge was clearly expressed by one intern from Ontario (group C-F): "Not nearly enough time spent on pharmacology and related

TABLE XLIII

NUMBER OF INTERNS SUGGESTING AREAS IN WHICH THEY COULD  
BE BETTER PREPARED PRIOR TO COMPLETION OF INTERNSHIP  
IN TWO DIFFERENT SETTINGS

Suggested Area of Formal Instruction	Number of Interns Suggesting				Total
	Wisconsin		Ontario		
	Group A-B	Group C-F	Group A-B	Group C-F	
Surgical, orthopedic appliances	3	2	6	21	32
Over-the-counter products	1	5		10	16
Pediatric care and products			1	9	10
Pharmacology	1	3	2	4	10
Veterinary products	1		1	5	7
Diabetes supplies	2	3			5
Poisons and antidotes		3	2		5
Pharmacy management	2	1	1		4
Public health				4	4
Relations with public	1	1	2		4
Typing				3	3
Product information			2		2
Cosmetics				2	2
First-aid, products			2		2
Prescription compounding and dispensing		2			2
Jurisprudence			1		1

TABLE XLIII - Cont.

Suggested Area of Formal Instruction	Number of Interns Suggesting				Total
	Wisconsin		Ontario		
	Group A-B	Group C-F	Group A-B	Group C-F	
Manufacturing			1		1
Vitamins				1	1
Skin problems				1	1
Knowledge of disease conditions			1		1

subjects. I gained nothing from fooling around with goddamn spectrophotometers and such in lab courses. Like grads before and after me, I knew (and still know) far too little about the effects of any drugs on the human body."

The comments of another Ontario intern also from group C-F, were considered very pertinent and are included here:

1. I did not have proper ability to evaluate comparatively different products offered for sale--i.e.--self-treatment medications, including proprietaries, specialties, medical supplies, etc.
2. did not receive a full awareness of socio-economic matters affecting health care and pharmacy. Had little awareness of different health organizations (government/industry), the literature they have and how it could effectively be used.
3. little awareness of how to recognize abuse (misuse of drugs and correct situation).

Since few pharmacies in the sample carried orthopedic and surgical appliances, it was not surprising that so many from each sample explicitly mentioned or implied that either the school or the teaching pharmacies should provide more adequate knowledge of such products to future practitioners.

Most preceptors and interns, it will be noted, were quite satisfied with the length of the programs, the

amount of time allowed prior to graduation, and the preparation the programs afforded to the interns. However, unprompted suggestions leave specific questions to be considered concerning improvement of instruction in such areas as over-the-counter products, pharmacology, surgical and orthopedic supplies, relations with the public. The apparent great dissatisfaction among many Ontario preceptors with the intern's preparation for his practical training merits further study into the adequacy of the scholastic curriculum.

#### Suggestions to Increase Effectiveness

When preceptors were asked to suggest ways of increasing effectiveness in four different areas of preceptorial instruction, results were disappointing, particularly in Wisconsin where approximately three-quarters of the preceptors offered no suggestions. In Ontario approximately one-half of the sample responded to at least two of the suggested areas.<sup>5</sup> Attempts to answer

- 
5. It was thought that perhaps the poor response was because the question came upon them suddenly, and required more thought than they could give it. At first asked towards the end of the interview, the question then was asked at the beginning of the interview of the last 12 preceptors in Wisconsin, the last 20 in Ontario. No appreciable difference in response was found. It is now felt that perhaps the questions are too difficult for many to answer, falling into an area with which they are mostly unfamiliar.

the question frequently were restricted to criticism of the school or of the internship program for allegedly not teaching interns adequately in such matters as pharmacy management, ethics and professional conduct, therapeutic properties of prescription drugs and over-the-counter products, or procedures of compounding and dispensing. If pressed for details, the preceptor's usual reaction was an expression of uneasiness, discomfort, sometimes impatience or a clear statement that he did not wish to go into the matter any further. Some preceptors would dismiss the whole question by saying that the intern could learn these things only by experience and by talking with him about the problems he encounters. Several preceptors used this opportunity to expound on the problems that exist, or have existed in the past in the four areas, but offered no suggestions for improvement.

Pharmacy Management: To improve the preceptorial teaching of pharmacy management, the suggestion made most frequently in both settings was that the intern should be permitted to assume greater responsibility in the actual operation of a pharmacy. This suggestion was given by six of the 41 Wisconsin preceptors (four rated as superior) and nine of the 60 Ontario preceptors (four rated as superior). Two other Ontario preceptors hinted at this approach as well when one suggested that the

preceptor should reveal all facets of the business operation, such as the record books, purchasing policy, etc. and the intern should be permitted to observe such activities as the interviewing of prospective employees, talking to salesmen, etc.. The other Ontario preceptor suggested that, under the guidance of a preceptor, the student should be encouraged to set up experimental approaches to pharmacy management and carry them through for a period of time. Two Wisconsin preceptors, both rated as superior, indicated that they already used such a plan of permitting the student to partake in management activities, depending on the individual's ability. Other variations of this main proposal offered by two Ontario preceptors included giving the intern responsibility over one department of the pharmacy only, with the goal of making such a department more efficient.

One Wisconsin superior-rated preceptor relied upon weekly bulletins he gave to his interns, to acquaint them with aspects of managerial decisions. Another Wisconsin preceptor suggested that a book should be published for the intern in the pharmacy to help guide him in a systematic and orderly way to learn gradually all phases of a pharmacy's operation. Ontario preceptors offered as suggestions in this vein, that the interns should be organized into discussion groups, thereby gaining the advantage of shared experience. Another felt that suggestions and information in this field could be

collected and disseminated by one of the several associations connected with pharmacy.

Five Ontario preceptors felt that the teaching of pharmacy management in the period of internship was either impossible due to the lack of time, or unnecessary as he would be adequately prepared by a four-year academic course. Two Ontario preceptors felt strongly that the foundations must be firmly established in an academic course, and the principles learned there could be demonstrated in practice. One of these preceptors (group C-F) was a hospital pharmacist who felt groups of interns should then be permitted to visit other hospitals to listen to the experiences of other preceptors. Two Wisconsin preceptors mentioned their belief that any discussion of pharmacy management should come only in the latter half of the year of practical training.

Ethics and Professional Conduct: Only five of the preceptors (four from Wisconsin) interviewed in both settings offered anything that could be considered as specific suggestions to improve the teaching of ethics and professional conduct. Most frequently mentioned as the best method of imparting high standards was that of the preceptor's personal example, coupled with discussions of problems as they come up. Others felt that the school should assume more responsibility, preferably through a

required course in ethics. One Wisconsin preceptor suggested that the intern be required to handle problems that arose in dealing with physicians and the public so that he could gain experience in these areas. Another superior-rated Wisconsin preceptor said, "I would like to be able to confront the intern with some awkward situations, but I haven't given it enough thought as to how I would do it." One Ontario preceptor mentioned the following: "I had the assistance of a close friend--an M.D.. The apprentice paid more attention to this doctor than to any words I said. His method of teaching consisted of sending a patient in with an Rx, then have the patient ask the pharmacist what the medicine was and what it was for. If the apprentice divulged the information, after a real tongue-lashing from the doctor he very seldom did it again. Rough treatment, but very effective, especially for the over-confident apprentice or new graduate."

Properties of Drugs, Compounding and Dispensing:

Concerning the properties of drugs, and procedures of dispensing (including compounding), the majority of those responding in both settings felt that the "school of experience" was the main route for training in these areas. Half of the preceptors in the Wisconsin sample and one-quarter in Ontario indicated that they let the interns learn these things themselves, or expected the

school to have taught them what they need to know. To supplement this experience and teaching, several preceptors suggested ways they found effective in the imparting of techniques and knowledge.

Two Wisconsin preceptors said that they procured product-information cards from drug companies to help the intern learn about drug properties and uses. In Ontario, one superior-rated preceptor used an analogous approach in that he allowed the intern to discuss product information with medical service representatives, then followed up afterwards with a discussion with the intern. Others encouraged their interns to read and refer frequently to reference books, such as the Compendium on Pharmaceuticals and Specialties, a reference text on drug products published annually by the Canadian Pharmaceutical Association. One superior-rated Ontario preceptor felt that their participation in one of the prepaid drug plans, in which they frequently have to help the patient state the use of prescribed medication for purposes of an insurance claim, was of great help to the intern.

Several Ontario preceptors, all rated as not-superior, suggested use of methods they found particularly effective. One required the intern to make a list each day of six or more "interesting" pharmaceuticals, listing such information as the indications, dosage, contraindications and side-effects. Another hospital preceptor had his

intern rearrange the pharmacy department stock under the therapeutic use of the drug, and gave the intern the responsibility of maintaining the hospital formulary and setting up a drug information center. The preceptor was particularly pleased with the competency with which the intern performed this task. Another preceptor suggested that the intern could be asked to set up his own index on new preparations, based on the literature and verbal information arriving daily at the pharmacy. One preceptor stressed the importance of having the intern learn the composition of over-the-counter and prescription medication and their uses, and felt that all inquiries regarding product information should be directed to the intern. One preceptor felt strongly that there was much to be gained by having the intern constantly compare products, particularly the advantages and disadvantages of basically similar products.

Allowing the intern to learn compounding by actual experience preceptors correct and guide the intern's attempts as the most frequently mentioned way to teach. Six preceptors (three from each setting) said that they required the interns to prepare, or at least examine, all prescriptions that pose special problems. One community pharmacist in Wisconsin suggested that the intern be required to work for a time in a hospital pharmacy so he could gain the compounding experience he felt is now

ordinarily minimal. An Ontario preceptor felt very strongly that, indeed, the amount of compounding required today was so minimal that he resented the stress I seemed to place on the importance of learning compounding techniques. He felt that the school should be able to teach all that is required in this area, and that any necessity for further experience in a practical training program was purely a "bureaucratic manipulation designed to create an impression of importance."

The majority of interns in both settings felt that the amount of compounding they were required to do in the school was about right (45 of 50 Wisconsin interns, 54 of 85 Ontario interns). Thirty-six of 60 Wisconsin interns felt that the amount of compounding required in the pharmacy was about right, although 12 interns (all having served their internship in a community pharmacy) felt that too little compounding was done in the teaching pharmacy. The Ontario regulations did not specify any number of prescriptions to be compounded during the training period.

When preceptors and interns are given a hypothetical unlimited authority and resources to alter the internship program, they offer a variety of suggestions for improving the programs in the two settings (see Tables XLIV and XLV, pp. 297 and 299). Though some of the suggestions offered in both settings were indeed similar,

TABLE XLIV

MAJOR CHANGES PROPOSED BY PRECEPTORS AND INTERNS FOR  
 INTERNSHIP PROGRAM: WISCONSIN

Suggestion	Preceptors		Interns		Total
	Group A-B	Group C-F	Group A-B	Group C-F	
Eliminate part or all of the notebook		1	10	7	18
Employ a director of internship training (b)	5	4			9
Require interns to work in different pharmacies (c)	1	1	4	2	8
Insist on better selection and training of preceptors (d)	1		2	4	7
Improve communications between State Board, preceptors and interns	3	1	2	1	7
Require some experience in hospital <sup>a</sup> (e)		2		3	5
Divorce supervision of program from State Board	1	1	3		5
Change time of State Board examinations	1		1	2	4
Relax supervision of intern (f)	1	2	1		4
Require intern to gain some practical experience before graduation (g)		1		2	3
Cut length of the program (h)	1		2		3
Have inspector come around regularly (i)				2	2
Require State Board to pay preceptors (j)				2	2

TABLE XLIV - Cont.

Suggestion	Preceptors		Interns		Total
	Group A-B	Group C-F	Group A-B	Group C-F	
Have panel or informal discussions between groups of preceptors and interns (k)				2	2
Require intern to attend more professional meetings	1				1
Require intern to take course in relations with the public	1				1
Reevaluate periodicals intern must read	1				1
Better guidance of intern into career field	1				1
Teach the intern to write more neatly	1				1
Require intern to read more abstracts				1	1
Require preceptors to obtain some written work from interns			1		1

<sup>a</sup>The two preceptors who made this suggestion are hospital pharmacists. Two of the interns served their internship in a hospital.

(b) - (k) = similar suggestions made by preceptors and/or interns in Ontario study, see Table XLV, p. 299.

TABLE XLV

MAJOR CHANGES PROPOSED BY PRECEPTORS AND INTERNS FOR  
INTERNSHIP PROGRAM: ONTARIO

Suggestion	Preceptors		Interns		Total
	Group A-B	Group C-F	Group A-B	Group C-F	
Change the time in which practical training must be served (g)	12	6	21	14	53
Require intern to work in different pharmacies (c)	4	4	16	19	43
Insist on better selection and training of preceptors (d)	6	8	13	14	41
Establish a formal program	2	5	8	12	27
Stricter supervision of program	3	2	6	12	23
Require some experience in hospital (e)	1	2	6	12	21
Better coordination of training with college education	4	2	3	5	14
Require examinations	2	2	3	6	13
Abolish all or portion of program (h)	2	1	5	4	12
Require better selection of training pharmacies	3	1	4	2	10
Depends on future role of pharmacist	1	1	2		4
Establish salary scale for interns	1		2		3
Have the program subsidized (j)		1		2	3
Institute a director for program (b)		1	2		3
Require interns to submit reports		2	1		3

TABLE XLV - Cont.

Suggestion	Preceptors		Interns		Total
	Group A-B	Group C-F	Group A-B	Group C-F	
Inspection of training pharmacies by College (h)		2		1	3
Require seminars with experienced preceptors (k)			2		2
Send out training bulletins	1				1
Base progress on number of prescriptions filled			1		1
Relax supervision of interns (f)				1	1
Establish a school for preceptors			1		1
Set up model dispensary			1		1
Require interns to take specialized courses			1		1
Require a professional oath			1		1

(b) - (k) = similar suggestions made by preceptors and/or interns in Wisconsin study, see Table XLIV, p. 297.

it was felt that they could best be discussed separately here, particularly in light of the differences in nature of the two programs.

Preceptors and interns in Wisconsin who suggested that the intern be required to spend time in different pharmacies had a dual purpose in mind: By serving three to four months in different types of pharmacies, the intern could become acquainted with different types of operation, and learn the difference between problems, methods of a clinic pharmacy, say, as compared with a community pharmacy in a shopping center. By moving from one establishment to another, the intern also would come under different preceptors, thereby presumably gaining advantage from each one's experience and views.<sup>6</sup>

Those who suggested that preceptors should be better selected and/or trained felt strongly that this could lead to unparalleled improvement, overcoming the presumed major limitation on the existing program.<sup>7</sup>

6. See J. Robert Jensen, "Is Retail Pharmacy the Only Suitable Form of Apprenticeship Experience?," Proceedings, N.A.B.P. and A.A.C.P., District No. 8, Arizona (November 15-17, 1964), 37-38.
7. For views on this point, see Morris M. Comer, "State Board Examinations: Qualifying the Preceptor," Proceedings, N.A.B.P. and A.A.C.P., District No. 8, Hawaii (September 29-October 4, 1963), 131-132; and Melvin W. Green, "Pharmaceutical Education Faces the Future," Journal, A.Ph.A., NS5, no. 4 (April 1965), 208-210.

The most frequent suggestion by preceptors (nine) to improve the internship program was that a director of internship training be employed. The majority of these preceptors explained that the director could foster better relations between preceptors and the State Board, could better explain the specific requirements of the controlled internship program, and could also improve the effectiveness of the program. The improved communications asked by some interns and preceptors occasionally went beyond better communications of the program's requirements as such: "I think that all the communications sent by the State Board to the intern," said one preceptor, "should be sent in duplicate to the preceptor. There may be discussion or controversy about reports which the preceptor should know about. When the State Boards [examinations] are finished, the preceptor should get a report, telling him whether the intern passed or failed and what the cause of failure was."

Those who suggested that the length of the program be cut, felt that all of the practical experience should be gained after graduation, and should last no longer than six months (one intern said three months). Those who felt that the time of the State Board examinations should be changed felt that the interns should not have to wait so long in many cases for licensure. One preceptor and one intern suggested that the examination

should be split in two: a theoretical part after graduation and a practical exam after completion of the internship.<sup>8</sup>

That many former interns suggested complete (three) or partial (14) elimination of the notebook is not surprising, as it has been a source of sporadic complaint for as long as it has been required. Most suggestions were not for its complete elimination, but rather for elimination of such parts as the prescription "write-ups" (eight interns), elimination of the interviews of members of other professions and the reports on them (five interns) and elimination of the written description of the pharmacy (one intern).

Preceptors and interns who suggested that the internship program should not be supervised by the Board of Pharmacy felt either that State Board control is too strict, or that a school, being more familiar with the educational process, could better administer a program of practical training.<sup>9</sup>

- 
8. See George W. Craft, "State Board Examinations: Examination of Interns Following Training," Proceedings, N.A.B.P. and A.A.C.P., District No. 8, Hawaii (September 29-October 4, 1963), 133-138.
  9. Richard A. Deno (Chairman), "Report of the Special Committee on Internship Training," Amer. J. Pharm. Educ., 29, no. 3 (August 1965), 413-414; Louis E. Kazin, "Pharmacy Internship Must Be a Post-Graduate Program," Amer. J. Pharm. Educ., 17, no. 3 (July 1953), 424-430; Rob S. McCutcheon, "Dynamic Curriculum," Journal, A.Ph.A., Practical Pharmacy Edition, 20, no. 6 (June 1959), 322-323.

Two former interns (who both had C-F preceptors) wished the State Board could pay preceptors to hire interns, thus preventing preceptors from being too money-conscious (e.g., from trying so hard to "get his money's worth out of us").<sup>10</sup>

Two interns proposed that a panel or informal discussion between groups of preceptors and interns in an area be held regularly. This suggestion illustrates a need various interns felt for gaining insight into attitudes and experiences of other preceptors. This suggestion had a purpose similar to the suggestion that interns be required to work in different pharmacies.

Among the Ontario preceptors and former interns, a major proposal for improving the program of practical training was that a formal program, administered by the Ontario College of Pharmacy, be established.<sup>11</sup> To most of the preceptors (four) and interns (15), "formal" implied some type of program in which definite training requirements were stipulated, and definite steps were

---

10. See George L. Webster (Chairman), "Report of the Special Joint Committee on Internship Training," Amer. J. Pharm. Educ., 31, no. 3 (August 1967), 349-352.

11. The writing of Albert Edlin, "Preceptorship--Your Responsibility," Ohio Pharmacist (September 1956), 15, 20-21 is appropriate here.

taken to insure adherence to these requirements. Many of the suggestions offered by the respondents indicated a desire for a controlled program of training, as studied in Wisconsin and presently operating in Ontario, though their suggestions that there be a stricter supervision of the program (23 suggested), examinations (13 suggested), better selection of training pharmacies (10 suggested), better selection and training of preceptors (41 suggested), inspection of training pharmacies, etc.. An examination of Table XLV, p. 299 reveals many of the areas concerned as being closely linked to a supervised program.

The suggestion made most frequently by the respondents was that the time in which the practical training must be served should be changed. Some ideas were diametrically opposed to one another. Of the 60 preceptors, ten (six from group A-B) felt strongly that all or part of the practical training should be served some time before entrance to the College; three preceptors (two from group C-F) and 16 of the 80 former interns who replied to this question felt that the time should be served after graduation.<sup>12</sup> The remainder held the view that the training time should be in some intermediate period. Those who felt that the time should be served prior to entrance to the academic course felt that this

---

12. For supporting views of this latter proposal, see Roy A. Bowers, "Postgraduate Education," Amer. J. Pharm. Educ., 23, no. 1 (Winter 1959), 1-6 and Louis E. Kazin, "Pharmacy Internship," op. cit., pp. 424-430.

would help the student make a better decision on his career choice.<sup>13</sup> Others felt the early experience would help them with their academic work. Four interns felt that the best arrangement was to have all the practical experience served after graduation. Preceptors differed in their views here, as the experience of some was that the intern was not amenable to practical training after graduation ("he thinks he knows it all already")<sup>14</sup> and suggested that practical training should be held either concurrently with academic training (e.g., six weeks in school, six weeks in the pharmacy) or solely during the summers between academic years, one preceptor suggesting that the practical training should be completed before the student has finished his final year. One superior-rated preceptor suggested that the intern should complete one year of practical training after graduation, then return to school for six months.<sup>15</sup>

Reasons for suggesting that the Ontario intern be required to serve his practical training in different

- 
13. See Richard A. Ohvall and Robert W. Hammel, "Career Decisions of Pharmacy Undergraduates," Amer. J. Pharm. Educ., 27, no. 1 (Winter 1963), 81-86.
  14. H. C. McAllister (Chairman), "Symposium on Internship," Proceedings, N.A.B.P. (1967), 469-476.
  15. See Tom D. Rowe (Chairman), "Report of the Committee on Relations of Boards and Colleges," Amer. J. Pharm. Educ., 16, no. 4 (October 1952), 618-623.

pharmacies were similar to those proposed by their Wisconsin colleagues, but the relatively large number of interns who made this suggestion is significant. Several indicated dissatisfaction with the preceptor or the pharmacy in which they had trained and expressed the hope that selection and certification of pharmacies would help improve this situation. Three interns (all from group A-B) suggested that teaching pharmacies be required to comply with higher standards and that they contain a more extensive library and/or equipment than required by present regulations. Several preceptors and interns said that "discount stores" should not be certified as teaching pharmacies.

The suggestion that all or a portion of the training program be abolished is tied in some instances to the idea that future development of the internship program is contingent upon future development of the role of the pharmacist. "One could see," claimed one preceptor; "that the future practice of pharmacy may be such that practical training will be nothing, academic everything."<sup>16</sup>

- 
16. For comments on the relationship between educational requirements and the future practice of pharmacy, see William S. Apple, "Pharmacy's Future Role as a Profession," American Journal of Pharmacy, 135, no. 4 (April 1963), 116-126; Donald C. Brodie, "Pharmaceutical Education for Tomorrow's Society," Amer. J. Pharm. Educ., 30, no. 3 (August 1966), 317-325; Robert C. Fischelis, "To Be or Not To Be," Amer. J. Pharm. Educ., 13, no. 2 (April 1949), 271-275.

One student proposed that a model dispensary be set up for the training of students. This was tried extensively on an experimental basis in a number of centers a few years ago, but most were abandoned.<sup>17</sup>

A large majority of the preceptors and interns are interested in improving the training of the neophyte pharmacist, it becomes clear, and look for greater direction and control of the practical training period than provided in the past.

---

17. Readers are directed to Heber W. Youngken, Jr., "Student Externships in Pharmacy," op.cit., pp. 48-54; and Heber W. Youngken, Jr., "The Washington Experiment--Clinical Pharmacy," Amer. J. Pharm. Educ., 17, no. 1 (January 1953), 64-70 for an analysis of "The Washington Experiment."

## SUMMARY REMARKS

At a time when the worthwhileness of the legally-required experience, as usually offered, had been severely challenged and opened to change, it seemed timely to investigate the preceptorship as a teaching function in pharmacy. Wisconsin offered a particularly fertile ground for such a study because, among all the states, its preceptors have functioned under the broadest controls and long enough to develop a substantial group of former interns with informed opinions.

Geographically removed but demographically similar, Ontario provided a suitable setting for a comparative study between the trend-setting program of Wisconsin and the more traditional program in Ontario, which in many respects could serve as an example of the type of program from which Wisconsin's controlled program had emerged.

To explore the dyadic relationship between preceptor and intern, in terms of a learning experience, it was decided to distinguish two groups of pharmacists at different levels of preceptorship, on the basis of the impressions of some of their former interns. The combination of field studies and mail surveys applied to elucidate the meaning of "different levels" required adapting investigative techniques that probably have not hitherto been applied to preceptorship within a profession.

A former intern often recalled marked differences in the qualities of his preceptor; and the rating scale devised also showed an ability to indicate differences between interns in the impressions they hold of their former preceptors. These differences appear more disparate and, on the average, less favorable, than do the preceptors' self-evaluations. Comparing the use of the rating technique in Ontario and Wisconsin revealed that the scale utilized is acceptable and understood by the respondents; it is clear in its intent and elicits the desired response, but further investigations are necessary to determine whether or not the rating scale produces sufficiently reproducible results and whether or not it can be refined. The rating technique developed yielded the desired sample; two groups of preceptors divided according to their rated effectiveness as practical teachers, and identified as superior and less-than-superior in this respect. We then studied these groups in a two-fold capacity: to determine their views on the practical experience requirement, and to determine whether we had indeed identified a distinct group of superior preceptors. With the complex interplay of personality, temperament and environment impinging upon the preceptor in his practice and in his teaching, it is impossible within the limits of the present study to verify the results from our rating system. A preceptor rated as excellent by two former interns (and therefore

accepted as such for our study) might have received mixed ratings ranging from excellent to poor if rated by more than two interns, and thereby would have been excluded from our study. Our research points to the factors governing an intern's rating of his preceptor but further research is needed to be definitive. In addition, further development of objective tests of a preceptor's effectiveness is necessary to enhance the effectiveness of this investigational technique.

An attempt has been made to interrelate certain information about the temperament of preceptors in our sample, the environment in which they teach their trainees, some features that differentiate preceptors, and comparative views held by preceptors and interns concerning the controlled program.

The information provided by the preceptor's academic records, his experience as a pharmacist and as a preceptor, and more particularly by his score on a temperament survey give new insight into the pharmacist's performance as a practical teacher. We learned that the pharmacist differs little, in terms of patterns of temperament scores, from other college men in general. Within and between the samples of preceptors rated superior and less-than-superior in Wisconsin and Ontario, major and minor differences in trait scores were revealed when the data from the Guilford-Zimmerman

Temperament Survey were compared on different bases; but on the whole, it was impossible to conclude that superior-rated preceptors could be distinguished from their colleagues on the basis of their temperament pattern. This neither means that no differences exist nor that the temperament survey has no discriminatory value; it simply emphasizes the multiplicity of factors that affect the performance of a preceptor. When a seasoned methodology and refined tools are developed for screening potentially superior practical teachers in pharmaceutical practice, it may well be that a temperament survey similar to that used will prove to be one of the valuable screening devices.

A closer relationship was found between rated effectiveness as a practical teacher and the nature of the training environment than between rated effectiveness and personal qualities. The tools devised for this portion of the study were generally effective in enabling an objective evaluation of the preceptor's pharmacy. Superior-rated preceptorship did seem to bear some relationship to a more professional environment in a pharmacy that provided better teaching resources. Some findings were interesting in light of present-day trends in pharmaceutical practice. For example, it was seen that superior preceptorship was not necessarily found only in the smaller community pharmacies, which counters

a rather widely held belief in the profession that pressures of large-volume business severely restrict the time available for training. Further study will confirm or deny our interpretation that features which students often feel desirable in a training pharmacy are more frequently available in large-scale operations than has been commonly believed.

It was obvious from our study that the environment alone could not account totally for differences in rated preceptorial effectiveness. Even though a larger sample were available, it may be that the interplay of personalities between intern and preceptor, and the counterplay of differences in ability, education, experience, and work environment conspire to ever keep the exact formula for predicting or achieving "superior preceptorship" an enigma. Yet, even the present exploratory study has brought into view information and insight about the teaching relationship between preceptor and intern in their natural setting that hitherto has been obscure; and this may be an opening wedge into improved methods and concepts of analysis and control of the preceptorship that can benefit both the public and pharmacy itself.

Worthy of serious consideration are the views, reactions, opinions and suggestions of the preceptors and interns who experienced different training relationships,

influenced by such factors as the nature of the program, the enthusiasm and ability of the student and teacher, and the adequacy of the teaching environment. The implementation of these suggestions will depend largely on those who administer the practical training programs in various jurisdictions, but ultimately depends on the preceptors who carry out the training.

Few voluntary efforts in pharmacy require more organization and dedication than that of the preceptor who day by day leads a student to the door of the future of his profession, and by his guidance may influence the student to serve more responsibly and effectively as a part of medical care. To help assure the standard of pharmaceutical preceptorship this entails, justifies continuing study and continuing effort by the profession itself.

APPENDICES

APPENDIX A

FORMS, QUESTIONNAIRES, AND INTERVIEW GUIDES

SCHOOL OF PHARMACY  
Pharmacy Building  
425 North Charter Street

FIRST COVERING LETTER, WHICH ACCOMPANIED THE  
QUESTIONNAIRE TO ALL WISCONSIN INTERNS

October 26, 1964

Dear Fellow Pharmacist:

You recently completed one of the important experiences in preparation for your life work: the pharmacy internship. Some preceptors, and some techniques of preceptorship, are better than others -- just as some students work more effectively than others. By gaining more insight into the internship phase of pharmaceutical training, we hope to contribute toward making Wisconsin's notable internship program still better.

You can give indispensable assistance to one part of our research study, though it takes only a moment, by completing with all honesty the enclosed rating chart concerning the preceptor under whom you worked last after graduation. You do NOT need to sign your name nor the preceptor's name.

With best wishes and warm thanks for your cooperation,

Glenn Sonnedecker  
Professor

Bernard Des Roches  
Research Assistant

P.S. Perhaps you can take now the 60 seconds or so needed to rate your preceptor. Before tomorrow morning please return the score sheet -- just drop it in the enclosed envelope and mail. If you would like a copy of the results of our complete study (when eventually published), in return for your favor of marking the chart, please send a separate postcard with your name and address. The name of no pharmacist will be used in our report.

SCHOOL OF PHARMACY  
Pharmacy Building  
25 North Charter Street

SECOND COVERING LETTER, WHICH ACCOMPANIED THE  
QUESTIONNAIRE TO ALL WISCONSIN INTERNS

October 26, 1964

Dear Fellow Pharmacist:

You recently completed one of the important experiences in preparation for your life work: the pharmacy internship. Some preceptors, and some techniques of preceptorship, are better than others -- just as some students work more effectively than others. By gaining more insight into the internship phase of pharmaceutical training, we hope to contribute toward making Wisconsin's notable internship program still better.

You can give indispensable assistance to one part of our research study, though it takes only a moment, by completing with all honesty the enclosed rating chart concerning the preceptor under whom you worked last after graduation. You do NOT need to sign your name nor the preceptor's name.

With best wishes and warm thanks for your cooperation,

Glenn Sonnedecker  
Professor

Bernard Des Roches  
Research Assistant

P.S. Perhaps you can take now the 60 seconds or so needed to rate your preceptor. Before tomorrow morning please return the score sheet -- just drop it in the enclosed envelope and mail. If you would like a copy of the results of our complete study (when eventually published), in return for your favor of marking the chart, please send a separate postcard with your name and address. The name of no pharmacist will be used in our report.

If you have not yet returned the questionnaire, would you do so soon? Your cooperation would be greatly appreciated.

SCHOOL OF PHARMACY  
Pharmacy Building  
62 North Charter Street

MAILED FORM FOR WISCONSIN INTERNS  
TO RATE THEIR PRECEPTORS

Please think back on your internship with the preceptor under whom you worked last after graduation. Grade him honestly on each of the qualities listed below, using the grading scale shown at the right below:

YOUR IMPRESSIONS OF PRECEPTOR'S EFFECTIVENESS

DURING YOUR INTERNSHIP

	<u>GRADE</u>	<u>PLEASE USE THIS GRADING SCALE</u>
I. Effectiveness in imparting management techniques to you.._____		
II. Effectiveness in imparting professional information to you....._____		A - EXCELLENT
III. Effectiveness in transmitting to you standards of ethics, professional attitude and conduct....._____		B - GOOD
		C - FAIR
IV. Proficiency in stimulating your devotion to the profession....._____		D - POOR
V. Sympathetic understanding of, and attitude toward, your needs....._____		F - UNSATISFACTORY
VI. Devoting adequate time to your training needs....._____		



483 HURON STREET

TORONTO 5, ONTARIO

TELEPHONE 927-4861

FIRST COVERING LETTER, WHICH ACCOMPANIED THE  
QUESTIONNAIRE TO ALL ONTARIO INTERNS

March 6, 1967

Dear Fellow Pharmacist:

An extensive study of the practical training programme in Ontario is currently under way, and its success relies heavily upon the information you can provide. Some preceptors, and some techniques of preceptorship are better than others - just as some students work more effectively than others. By gaining more insight into the apprenticeship phase of pharmaceutical training, we hope to contribute toward making Ontario's new controlled internship programme a resounding success.

You can give indispensable assistance to one part of our research study, though it takes only a moment, by completing with all honesty the enclosed rating chart concerning the last preceptor under whom you worked continuously for 6 months or longer in Ontario. You do NOT need to sign your name nor the preceptor's name.

With best wishes and warm thanks for your cooperation,

Glenn Sonnedecker  
Professor of Social Studies  
of Pharmacy, University of  
Wisconsin

Bernard Des Roches  
Research Assistant

P.S. Perhaps you can take now the 60 seconds or so needed to rate your preceptor. Before tomorrow morning, please return the score sheet - just drop it in the enclosed envelope and mail. If you would like a copy of the results of our complete study (when eventually published), in return for your favor of marking the chart, please send a separate postcard with your name and address. The name of no pharmacist will be used in our report.



483 HURON STREET

TORONTO 5, ONTARIO

TELEPHONE 927-4861

SECOND COVERING LETTER, WHICH ACCOMPANIED THE  
QUESTIONNAIRE TO ALL ONTARIO INTERNS

March 6, 1967

Dear Fellow Pharmacist:

An extensive study of the practical training programme in Ontario is currently under way, and its success relies heavily upon the information you can provide. Some preceptors, and some techniques of preceptorship are better than others - just as some students work more effectively than others. By gaining more insight into the apprenticeship phase of pharmaceutical training, we hope to contribute toward making Ontario's new controlled internship programme a resounding success.

You can give indispensable assistance to one part of our research study, though it takes only a moment, by completing with all honesty the enclosed rating chart concerning the last preceptor under whom you worked continuously for 6 months or longer in Ontario. You do NOT need to sign your name nor the preceptor's name.

With best wishes and warm thanks for your cooperation,

Glenn Sonnedeker  
Professor of Social Studies  
of Pharmacy, University of  
Wisconsin

Bernard Des Roches  
Research Assistant

P.S. Perhaps you can take now the 60 seconds or so needed to rate your preceptor. Before tomorrow morning, please return the score sheet - just drop it in the enclosed envelope and mail. If you would like a copy of the results of our complete study (when eventually published), in return for your favor of marking the chart, please send a separate postcard with your name and address. The name of no pharmacist will be used in our report.

If you have not yet returned the questionnaire, would you do so soon? Your cooperation would be greatly appreciated.



483 HURON STREET

TORONTO 5, ONTARIO

TELEPHONE 927-4881

MAILED FORM FOR ONTARIO INTERNS TO RATE THEIR PRECEPTORS

Please think back on your apprenticeship with the last preceptor under whom you worked continuously for 6 months or longer in Ontario. Grade him honestly on each of the qualities listed below, using the grading scale shown at the right below:

YOUR IMPRESSIONS OF PRECEPTOR'S EFFECTIVENESS  
DURING YOUR APPRENTICESHIP

	<u>GRADE</u>	<u>PLEASE USE THIS GRADING SCALE</u>
I. Effectiveness in imparting management techniques to you.....	_____	A = EXCELLENT
II. Effectiveness in imparting professional information to you.....	_____	B = GOOD
III. Effectiveness in transmitting to you standards of ethics, professional attitude and conduct.....	_____	C = FAIR
		D = POOR
		F = UNSATISFACTORY
IV. Proficiency in stimulating your devotion to the profession.....	_____	
V. Sympathetic understanding of, and attitude toward, your needs.....	_____	
VI. Devoting adequate time to your training needs.....	_____	

SCHOOL OF PHARMACY  
Pharmacy Building  
43 North Charter Street

FIRST COVERING LETTER, WHICH ACCOMPANIED THE  
QUESTIONNAIRE SENT TO WISCONSIN INTERNS  
IN THE FINAL SAMPLE

January 12, 1965

Dear Fellow Pharmacist:

Your cooperation has permitted a study that promises to be of real usefulness to the internship program and to creating pharmacists for Wisconsin. Filling out the enclosed questionnaire is the last thing we have to ask of you and it is essential to the successful completion of the project.

You will see that this is information that only you, as a rather recent intern, can supply. If you will take this in hand, at your first chance (this evening?) we believe you will agree that what we ask you to do here is interesting, significant and crucial to the purpose at hand.

So you will feel no hesitation, no one is asked to sign one of these questionnaires and no one will be identified individually in our final report.

Along with our appreciation for your prompt cooperation comes our warm wishes to you for a satisfying New Year.

Sincerely,

Glenn Sonnedecker  
Professor

Bernard Des Roches  
Research Assistant

SCHOOL OF PHARMACY  
Pharmacy Building  
5 North Charter Street

SECOND COVERING LETTER, WHICH ACCOMPANIED THE  
QUESTIONNAIRE SENT TO WISCONSIN INTERNS  
IN THE FINAL SAMPLE

March 12, 1965

Dear Fellow Pharmacist:

Your cooperation has permitted a study that promises to be of real usefulness to the internship program and to creating pharmacists for Wisconsin. Filling out the enclosed questionnaire is the last thing we have to ask of you and it is essential to the successful completion of the project.

You will see that this is information that only you, as a rather recent intern, can supply. If you will take this in hand, at your first chance (this evening?) we believe you will agree that what we ask you to do here is interesting, significant and crucial to the purpose at hand.

So you will feel no hesitation, no one is asked to sign one of these questionnaires and no one will be identified individually in our final report.

Along with our appreciation for your prompt cooperation comes our warm wishes to you for a satisfying New Year.

Sincerely,

Glenn Sonnedecker  
Professor

Bernard Des Roches  
Research Assistant

P.S. Time is running short! If you have not yet returned your questionnaire, your immediate attention would be greatly appreciated.



483 HURON STREET

TORONTO 5, ONTARIO

TELEPHONE 927-4881

FIRST COVERING LETTER, WHICH ACCOMPANIED THE QUESTIONNAIRE  
SENT TO ONTARIO INTERNS IN THE FINAL SAMPLE

December 29, 1967

Dear Fellow Pharmacist:

In the early part of March this year, we asked for your cooperation in the initial phase of a research project on the practical training programme in Ontario. Progress to date indicates a study that promises to be of real usefulness to the internship programme and to creating pharmacists for Ontario. Filling out the enclosed questionnaire is the last thing we have to ask of you and it is essential to the successful completion of the project.

You will see that this is information that only you, as a rather recent graduate, can supply. If you will take this in hand, at your first chance (this evening?) we believe you will agree that what we ask you to do here is interesting, significant and crucial to the purpose at hand.

So you will feel no hesitation, no one is asked to sign one of the questionnaires and no one will be identified individually in our final report.

Along with our appreciation for your prompt cooperation comes our warm wishes to you for a satisfying New Year.

Sincerely,

Glenn Sonnedecker  
Professor of Social  
Studies of Pharmacy,  
University of Wisconsin

Bernard Des Roches  
Director of Education,  
Ontario College of  
Pharmacy



483 HURON STREET

TORONTO 5, ONTARIO

TELEPHONE 927-4861

SECOND COVERING LETTER, WHICH ACCOMPANIED THE QUESTIONNAIRE  
SENT TO ONTARIO INTERNS IN THE FINAL SAMPLE

December 29, 1967

Dear Fellow Pharmacist:

In the early part of March this year, we asked for your cooperation in the initial phase of a research project on the practical training programme in Ontario. Progress to date indicates a study that promises to be of real usefulness to the internship programme and to creating pharmacists for Ontario. Filling out the enclosed questionnaire is the last thing we have to ask of you and it is essential to the successful completion of the project.

You will see that this is information that only you, as a rather recent graduate, can supply. If you will take this in hand, at your first chance (this evening?) we believe you will agree that what we ask you to do here is interesting, significant and crucial to the purpose at hand.

So you will feel no hesitation, no one is asked to sign one of the questionnaires and no one will be identified individually in our final report.

Along with our appreciation for your prompt cooperation comes our warm wishes to you for a satisfying New Year.

Sincerely,

Glenn Sonnedeker  
Professor of Social  
Studies of Pharmacy,  
University of Wisconsin

Bernard Des Roches  
Director of Education,  
Ontario College of  
Pharmacy

P.S. Time is running short! If you have not yet returned your questionnaire, your immediate attention would be greatly appreciated.

FORM USED TO RECORD TOTAL SALES VOLUME OF THE  
PRECEPTOR'S PHARMACY - WISCONSIN AND ONTARIO

SALES VOLUME

STORE NO. \_\_\_\_\_

- \_\_\_\_\_ Below \$40,000
- \_\_\_\_\_ \$40,000-\$60,000
- \_\_\_\_\_ \$60,000-\$80,000
- \_\_\_\_\_ \$80,000-\$100,000
- \_\_\_\_\_ \$100,000-\$125,000
- \_\_\_\_\_ \$125,000-\$150,000
- \_\_\_\_\_ \$150,000-\$200,000
- \_\_\_\_\_ Over \$200,000

FORM USED TO RECORD VOLUME OF NEW PRESCRIPTIONS PER DAY  
FILLED IN PRECEPTOR'S PHARMACY - WISCONSIN AND ONTARIO

STORE NO. \_\_\_\_\_

VOLUME OF NEW PRESCRIPTIONS PER DAY

- |                |                |
|----------------|----------------|
| _____ Under 12 | _____ 50 - 60  |
| _____ 10 - 20  | _____ 60 - 70  |
| _____ 20 - 30  | _____ 70 - 80  |
| _____ 30 - 40  | _____ 80 - 90  |
| _____ 40 - 50  | _____ 90 - 100 |

Or approximate average no. \_\_\_\_\_

FORM USED TO RECORD DATA ON APPEARANCE OF  
PRECEPTOR'S PHARMACY - WISCONSIN AND ONTARIO

CHECK LIST FOR DESCRIPTION OF PHARMACY

STORE NO. \_\_\_\_\_

1. TYPE: Check one or more than one:

Community pharmacy

\_\_\_ Independent

\_\_\_ Chain

\_\_\_ Shopping centre

\_\_\_ Clinic

\_\_\_ Medical building (other  
than group clinic)

2. TYPE OF OWNERSHIP: Check one or more than one:

\_\_\_ Preceptor owns in whole or in part

\_\_\_ Principally absentee ownership

\_\_\_ Owned by hospital or other public or private institution

\_\_\_ Owned principally by one or more physicians  
(within 5 miles \_\_\_; beyond 5 miles \_\_\_).

\_\_\_ Other type of non-pharmacist principal owner

\_\_\_ Owned by pharmacist(s) other than preceptor

3. EXTERIOR:

A. Window displays:

\_\_\_ Totally commercial

\_\_\_ Mixed professional and commercial

\_\_\_ Totally professional

\_\_\_ None (open to interior view)

B. Advertising appearance:

\_\_\_ Three or more proprietary advertising signs

\_\_\_ No proprietary advertising signs

\_\_\_ Between 1 and 3 proprietary advertising signs





\_\_\_ Advertising features or imprecise claims probably inappropriate for a teaching pharmacy or an above-average pharmacy; Specify:

---

---

---

5. SPECIAL FEATURES:

\_\_\_ Truss-fitting or surgical or orthopedic garments and devices

\_\_\_ Display area for

\_\_\_ Professional literature (pharmacists and/or physicians)

\_\_\_ Public health pamphlets (laymen)

\_\_\_ Other; specify: \_\_\_\_\_

\_\_\_\_\_

FORM USED TO RECORD DESCRIPTION OF PRECEPTOR'S  
LIBRARY FACILITIES - WISCONSIN AND ONTARIO

## LIBRARY CHECK LIST

STORE NO. \_\_\_\_\_

1.  New and Nonofficial Drugs<sup>+</sup>  
 Merck Index  
 Modern Drug Encyclopedia  
 Facts and Comparisons  
 Remington's Practice of Pharmacy  
 Other \_\_\_\_\_
2.  Total number of professionally relevant volumes \_\_\_\_\_
3.  Total number of professionally relevant journals systematically saved for at least one full year \_\_\_\_\_
4.  Names of indexed saved journals: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## Method of indexing:

- Publisher's printed index  
 Pharmacist's alphabetical file
5.  Names of journals received by paid subscription:  
(NOT PART OF MEMBERSHIP DUES)  
 \_\_\_\_\_  
 \_\_\_\_\_
6.  Names of journals gone through systematically (not of course reading everything)  
 \_\_\_\_\_  
 \_\_\_\_\_
7.  During past 5 years, obtained any photostats or other photo-reproductions of any professional literature needed by either physician or pharmacist:  
 Yes;  No.

<sup>+</sup> In the Ontario List, New and Nonofficial Drugs and Facts and Comparisons were replaced by Physician's Desk Reference and Merck Manual.

8.  During past 5 years borrowed any professional books or journals:  Yes;  No.
9.  File of new product literature or clippings about newer drugs and health products:  Yes;  No.
10.  File of professional information or literature references:  Yes;  No.
11.  Approximate number of linear feet occupied by all such files  
\_\_\_\_\_
12.  Plan or method to encourage intern to use professional literature:  Yes;  No (other than internship regulations of Board)

## INTERVIEW GUIDE - THE WISCONSIN PRECEPTOR

You are one of a pretty small group that has helped to pioneer a controlled internship program in this country. That's quite an opportunity. You could help guide the thinking on how to make the internship still better, by answering some questions for us.... You won't be mentioned by name. There won't be any way of identifying you in our report.

1. I wonder how worthwhile you think the following suggestions would be in improving the internship as an educational experience -- Would you just score each of these five suggestions between 1 and 10, depending on how useful the idea seems to you:

1 would mean the least useful you can imagine

10 would mean the most useful you can imagine

- i) There would be orientation institutes for interns perhaps lasting two or three days just before they graduate. Experienced preceptors would review with the interns as a group what they should try to get out of the internship, what the preceptor expects of them and what the State Board's objectives and regulations are. \_\_\_\_\_
- ii) There would be longer institutes for preceptors than we have had before -- perhaps lasting two or three days. You could be expected to attend the institute every other year. Experts in practical training would help you get better organized and better informed on how to improve the internship as a learning experience. \_\_\_\_\_

- iii) A field advisor or supervisor would visit with you and the intern occasionally, in your pharmacy. He would try to help you both get and use the ideas, materials and procedures that might improve the internship as <sup>an</sup> learning experience. \_\_\_\_\_
- iv) There would be a textbook published for the interns, which he could study during his months with you. It would give outlines and practical information, and references covering the things we want interns to learn most about on the job under your guidance. \_\_\_\_\_
- v) There would be training bulletins sent to you and to other preceptors each month -- an exchange of ideas and information and experiences about the actual operation of a pharmacy. \_\_\_\_\_
2. Where was the last preceptor's training conference held that you attended? Do you remember something that you made use of in your pharmacy as a result of the conference? What ways of improving the conferences do you suggest?
3. In what ways do you think you can give an intern the most benefit as a practical teacher?
4. Should it be required that part of every internship be served in a fairly large hospital pharmacy? Yes \_\_\_\_\_ No \_\_\_\_\_ Why?
5. Have your interns been as well equipped for the transition from academic to practical work as you think they should be? Are there any skills now taught at school that would be better left to you to teach them? Should the school be teaching something that the intern now has to learn in the internship?

6. Have you had personal experience with this: Did you ever make it a practice to meet with an intern at set intervals, to discuss some of the various situations and problems that came up in recent work you were doing? By that I mean, did you sit down and talk with the intern, away from customer interruptions, rather regularly (say once a week or once a month)?
7. Do you have any systematic way of taking up with interns the specific requirements of the code of ethics -- either the state or national code? Have you found ways of going into standards of professional conduct with the intern as far as you think adequate for pharmacy's needs in the state?
8. The internship provides a planned program for supervised professional training to help the intern become a competent practitioner of pharmacy. In what ways do you think the internship as you have experienced it, still does not provide what pharmacy has a right to expect of it? How could this be remedied in your opinion?
9. Judging from the interns you personally have trained, when would you suppose the average graduate is ready or competent to practice pharmacy? Is it before or after the time he ordinarily is licensed?
10. Judging from your own experience in Wisconsin's internship, do you think the practical experience requirement has enough worth for professional purposes to justify the time you spent on it as a preceptor? (If not, why not?)
11. Have you yourself benefitted from being a preceptor? (I mean benefit other than the help your intern gave you as an employee?)

Can you recall a single constructive idea about the practice of pharmacy that you learned from an intern ? From the money angle, would you say that the interns had, in the end, lost money or earned money for your pharmacy ?

12. a) Since you will not be identified by name in our report, give me an honest evaluation of yourself as a preceptor.... This scale will make it easier to grade yourself. (Hand mimeo sheet)

b) An earlier study showed the preceptors and interns both mention four areas of training that should be especially emphasized. I wonder if you could make any suggestions, based on your experience, that might help the intern learn more in these areas... perhaps something you now do in working with the interns that works especially well -- or perhaps something you would like to try when you have all the time and information you need. Let's take them one at a time:

Pharmacy Management:

Ethics and Professional Conduct:

Therapeutic Properties of Prescription  
and "OTC" Products:

Procedures of Compounding and Dispensing.

13. Suppose you had complete authority and resources to make just one single improvement in Wisconsin's internship as a period of practical learning. Based on your experience, what change would you make ?

14. How long have you been a preceptor under the controlled internship program ?

## INTERVIEW GUIDE - THE ONTARIO PRECEPTOR

1. I wonder how worthwhile you think the following suggestions would be in improving the practical training of students as an educational experience. Would you just score each of these five suggestions between 1 and 10, depending on how useful the idea seems to you:

1 would mean the least useful you can imagine

10 would mean the most useful you can imagine

Any comments you would care to add would be greatly appreciated.

- i) There would be orientation institutes for apprentices perhaps lasting two or three days just before they begin their practical training. Experienced preceptors would review with the apprentices as a group what they should try to get out of the programme, what the preceptor expects of them and what the Ontario College of Pharmacy's objectives and regulations are. \_\_\_\_\_
- ii) There would be institutes for preceptors -- perhaps lasting two or three days. You could be expected to attend the institute every other year. Experts in practical training would help you get better organized and better informed on how to improve the practical training period as a learning experience. \_\_\_\_\_
- iii) A field advisor or supervisor would visit with you and the apprentice occasionally, in your pharmacy. He would try to help you both get and use the ideas, materials and procedures that might improve the apprenticeship as a learning experience. \_\_\_\_\_

iv) There would be a textbook published for the apprentices which he could study during his months with you. It would give outlines and practical information, and references covering the things we want the trainees to learn most about on the job under your guidance. \_\_\_\_

v) There would be training bulletins sent to you and to other preceptors each month -- an exchange of ideas and information and experiences about the actual operation of a pharmacy. \_\_\_\_

2. In what ways do you think you gave your apprentice the most benefit as a practical teacher ?

3. Should it be required that part of every apprenticeship be served in a fairly large hospital pharmacy ?

YES \_\_\_\_

NO \_\_\_\_

WHY?

4. Were your apprentices as well equipped for the transition from academic to practical work as you think they should have been?

5. Were there any skills taught at school that would have been better left to you to teach them ?

6. Should the school have been teaching something that the apprentice had to learn in the pharmacy under your tutorship ?

7. Have you had personal experience with this ? Did you ever make it a practice to meet with an apprentice at set intervals, to discuss some of the various situations and problems that came up in recent work you were doing ? By that I mean, did you sit down and talk with him, away from customer interruptions, rather regularly (say once a week or once a month)?

8. Did you have any systematic way of taking up with apprentices the specific requirements of the code of ethics ?
9. Have you found ways of going into standards of professional conduct with the apprentice as far as you think for pharmacy's needs in the province ?
10. The apprenticeship provides a programme of supervised professional training to help the apprentice become a competent practitioner of pharmacy. In what ways do you think the apprenticeship as you have experienced it, did not provide what pharmacy has a right to expect of it ?
11. How could this be remedied in your opinion ?
12. a) Since you will not be identified by name in our report, give me an honest evaluation of yourself as a preceptor.... This scale will make it easier to grade yourself. (Hand mimeo sheet).  
b) An earlier study showed that preceptors and apprentices both mention four areas of training that should be especially emphasized. I wonder if you could make any suggestions, based on your experience, that might help the apprentice learn more in these areas...perhaps something you now do in working with the apprentices that works especially well -- or perhaps something you would like to try when you have all the time and information you need. Let's take them one at a time:  
Pharmacy Management:  
Ethics and Professional Conduct:  
Therapeutic Properties of Prescription and "OTC" Products:  
Procedures of Compounding and Dispensing:

13. Judging from your own experience in the apprenticeship programme, do you think the practical experience requirement had enough worth for professional purposes to justify the time you spent on it as a preceptor ?  
(If not, why not ?)
14. Have you yourself benefitted from being a preceptor ? (I mean benefit other than the help your apprentice gave you as an employee).
15. Can you recall a single constructive idea about the practice of pharmacy that you learned from an apprentice ?
16. From the money angle, would you say that the apprentice had, in the end, lost money or earned money for your pharmacy ?

FORM USED BY WISCONSIN AND ONTARIO  
PRECEPTORS TO EVALUATE THEMSELVES

EFFECTIVENESS AS A PRECEPTOR

NO. \_\_\_\_\_

		<u>GRADE</u>	<u>PLEASE USE THIS GRADING SCALE</u>
I.	Effectiveness in imparting management techniques.....	_____	
II.	Effectiveness in imparting professional information...	_____	A = EXCELLENT
III.	Effectiveness in transmitting standards of ethics, professional attitude and conduct.....	_____	B = GOOD
			C = FAIR
			D = POOR
VI.	Proficiency in stimulating devotion to the profession.	_____	E = UNSATISFACTORY
V.	Sympathetic understanding of, and attitude toward intern's needs.....	_____	
VI	Devoting adequate time toward intern's training needs.....	_____	

+ In Ontario, apprentice replaced word intern on the forms.

## QUESTIONNAIRE SENT TO ALL WISCONSIN INTERNS IN THE FINAL SAMPLE

Please feel free to write on the back of the pages if you need more space.

1. In the time you spent with your last preceptor, what qualities, actions or specific traits did he display that were educational (teacher-function) as opposed to solely employer-function?
  
2. As you know, half of the Wisconsin practical experience requirement may be fulfilled before graduation. In view of your experience, does this seem about right? YES \_\_\_\_\_ NO \_\_\_\_\_

Could more experience be permitted before graduation and still produce enough professional breadth and maturity in the average newly licensed pharmacist? YES \_\_\_\_\_ NO \_\_\_\_\_

Please feel free to support your answer with comments:

3. Should it be required that part of every internship be served in a fairly large hospital pharmacy? YES \_\_\_\_\_ NO \_\_\_\_\_ WHY ?
  
4. Are you now authorized to serve as a preceptor in the state of Wisconsin? YES \_\_\_\_\_ NO \_\_\_\_\_

If answer to above was NO, do you want to qualify and serve as a preceptor in the foreseeable future? YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, would you personally be willing to put more effort into the practical instruction part of it than your preceptor did? YES \_\_\_\_\_ NO \_\_\_\_\_

If NO, why do you feel this way ?



9. Picture yourself serving twelve months of internship under your ideal preceptor: What qualities would he have ?
  
10. What part of your own internship could have been most improved, do you think ?  
How could that be best brought about, in your opinion ? \*
  
11. Suppose you had complete authority and resources to make just one single improvement in Wisconsin's internship as a period of practical learning. Based on your experience, what change would you make ? (Let your imagination run wild on this one !)

Additional comments on the internship program:

THANK YOU VERY MUCH

## QUESTIONNAIRE SENT TO ALL ONTARIO INTERNS IN THE FINAL SAMPLE

Please feel free to write on the back of the pages if you need more space.

1. In the time you spent with your last preceptor, what qualities, actions or specific traits did he display that were educational (teacher-function) as opposed to solely employer-function ?

2. As you know, half of the Ontario practical experience requirement may be fulfilled before graduation. In view of your experience, does this seem about right ? YES \_\_\_ NO \_\_\_

Could more experience be permitted before graduation and still produce enough professional breadth and maturity in the average newly licensed pharmacist ? YES \_\_\_ NO \_\_\_

Please feel free to support your answer with comments:

3. Should it be required that part of every apprenticeship be served in a ~~fairly~~ large hospital pharmacy ? YES \_\_\_ NO \_\_\_ WHY?

4. Are you now serving as a preceptor in the province of Ontario ? YES \_\_\_ NO \_\_\_

If answer to above was NO, do you want to qualify and serve as a preceptor in the foreseeable future ? YES \_\_\_ NO \_\_\_

If YES, would you personally be willing to put more effort into the practical instruction part of it than your preceptor did ? YES \_\_\_ NO \_\_\_

If NO, why do you feel this way ?



9. Picture yourself serving twelve months of apprenticeship under your ideal preceptor: What qualities would he have?
  
  
  
  
  
  
  
  
  
  
10. What part of your own apprenticeship could have been most improved, do you think?  
  
How could this have been best brought about, in your opinion?
  
  
  
  
  
  
  
  
  
  
11. Suppose you had complete authority and resources to make just one single improvement in Ontario's apprenticeship as a period of practical learning, based on your experience, what changes would you make? (Let your imagination run wild on this one!)

Additional comments on the apprenticeship program:

THANK YOU VERY MUCH

APPENDIX B

DETERMINATION OF THE SAMPLE

## DETERMINATION OF THE SAMPLE

## REASONS FOR USING MEDIAN RATINGS

The scale on which former interns rated their preceptor is an ordinal scale, and, according to Siegel, "the statistic most appropriate for describing the central tendency of scores in an ordinal scale is the median, since the median is not affected by changes of any scores which are above or below it as long as the number of scores above and below remains the same."<sup>1</sup> Nonparametric statistical treatment of such data is preferable, because, as Siegel points out, "When only the rank order of scores is known, means and standard deviations found on the scores themselves are in error to the extent that the successive intervals (distances between classes) on the scale are not equal. When parametric techniques of statistical inference are used with such data, any decisions about hypotheses are doubtful."<sup>2</sup>

- 
1. Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences, McGraw-Hill, New York (1956), 25.
  2. Ibid., p. 26. To some statisticians, the term "nonparametric" is a misnomer, for all research is based on certain parameters. A term suggested as an alternative is "nondistribution-based" statistics. Some statisticians maintain that using parametric statistical techniques on nondistribution-based samples is not invalid, merely affecting the power of the test used, to a degree not readily determinable.

## TREATMENT OF QUESTIONNAIRE RESULTS

Basis for Division of Preceptors into Groups

The median score was determined for each intern's six-factor rating of his preceptor. Since an A was assigned a value of 5, B a value of 4, and so on, down to F, with a value of 1, a median score of 5.0 corresponded to an A, 4.5 to a B, 3.5 to a C, 2.5 to a D and 1.5 to an F.

In considering the preceptor's ratings, it was assumed that the former interns who rated their preceptors would in general have in mind an approximate valuation<sup>3</sup> as follows: if the intern considered his preceptor as normally adequate or having medium performances on any one characteristic, he would rate him as "C". If he considered him as more than adequate, he would use either "A" or "B"; for a performance that he felt less than adequate for his needs, "D" or "F" would be used. On this basis, the preceptors in both settings were divided into groups according to their final median ratings. These two groups were called "group A-B" and "group C-F".

- 
3. The assumed values appeared to be substantiated by questioning six people, who were not connected with the survey, about the meaning they inferred from the rating scale.

Thus, those preceptors in group A-B had an overall rating of A or A-B or B and those in group C-F had a final rating of C, C-D, D, D-F or F.

#### Basis for Inclusion and Rejection of Ratings

For those preceptors who were rated by three or more interns, the following method of dealing with the scores was used. A single score for each preceptor was determined by taking the median of the several median scores derived from the six-factor ratings by the several interns. Hence, if three interns ranked a preceptor as "A," "A" and "C," respectively, the preceptor had an overall median score of "A," and was thus classed in group A-B.

Preceptors rated by only two interns were excluded from the sample if both interns did not clearly categorize their preceptors as belonging in the same group, either A-B or C-F. For example, if one intern rated a preceptor as "C," and the other as "A," this preceptor was excluded from the sample. If the two interns rated him as "A" and "B," respectively, he was included in group A-B; if both rated him as "C" or "D" or "F," the preceptor was put in group C-F. The distribution seems to be approximately normal (see graph 1, p. 71), even though there were two scores embraced by group A-B and three scores embraced by group C-F. The following table shows examples of how various combinations of median ratings were treated.

CLASSIFICATION OF SEVEN COMBINATIONS OF POSSIBLE  
RATINGS BY TWO TO FIVE INTERNS

	<u>Interns of Same Preceptor</u>					Categories
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
1	A	A	B	C	C	Group A-B
2	A	A	C	C	C	Group C-F
3	A	C				Rejected
4	B	C				Rejected
5	A	B				Group A-B
6	A	D				Rejected
7	D	D				Group C-F

Final Samples

This method produced the following numbers and distribution of preceptors, constituting the final samples:

Wisconsin:

<u>Group A-B</u>			<u>Group C-F</u>			<u>Rejected</u>
<u>A</u>	<u>A &amp; B</u>	<u>B</u>	<u>C</u>	<u>C &amp; D</u>	<u>D</u>	
7	5	11	12	5	1	18

Ontario:

<u>Group A-B</u>			<u>Group C-F</u>					<u>Rejected</u>
<u>A</u>	<u>A &amp; B</u>	<u>B</u>	<u>C</u>	<u>C &amp; D</u>	<u>D</u>	<u>D &amp; F</u>	<u>F</u>	
1	8	9	24	9	7	2	1	35

Note: Besides classifying the preceptors into one of two broad groups, A-B, or C-F, they were subgrouped more narrowly (A, A & B, B, etc.) within the specific letter-ratings assigned (six-factor median) by their interns. Thus a preceptor who receives ratings of "A" and "A" is in

group A-B, but is also sub-classified as "A" for use in certain comparisons.

APPENDIX C

HYPOTHESES

## HYPOTHESES

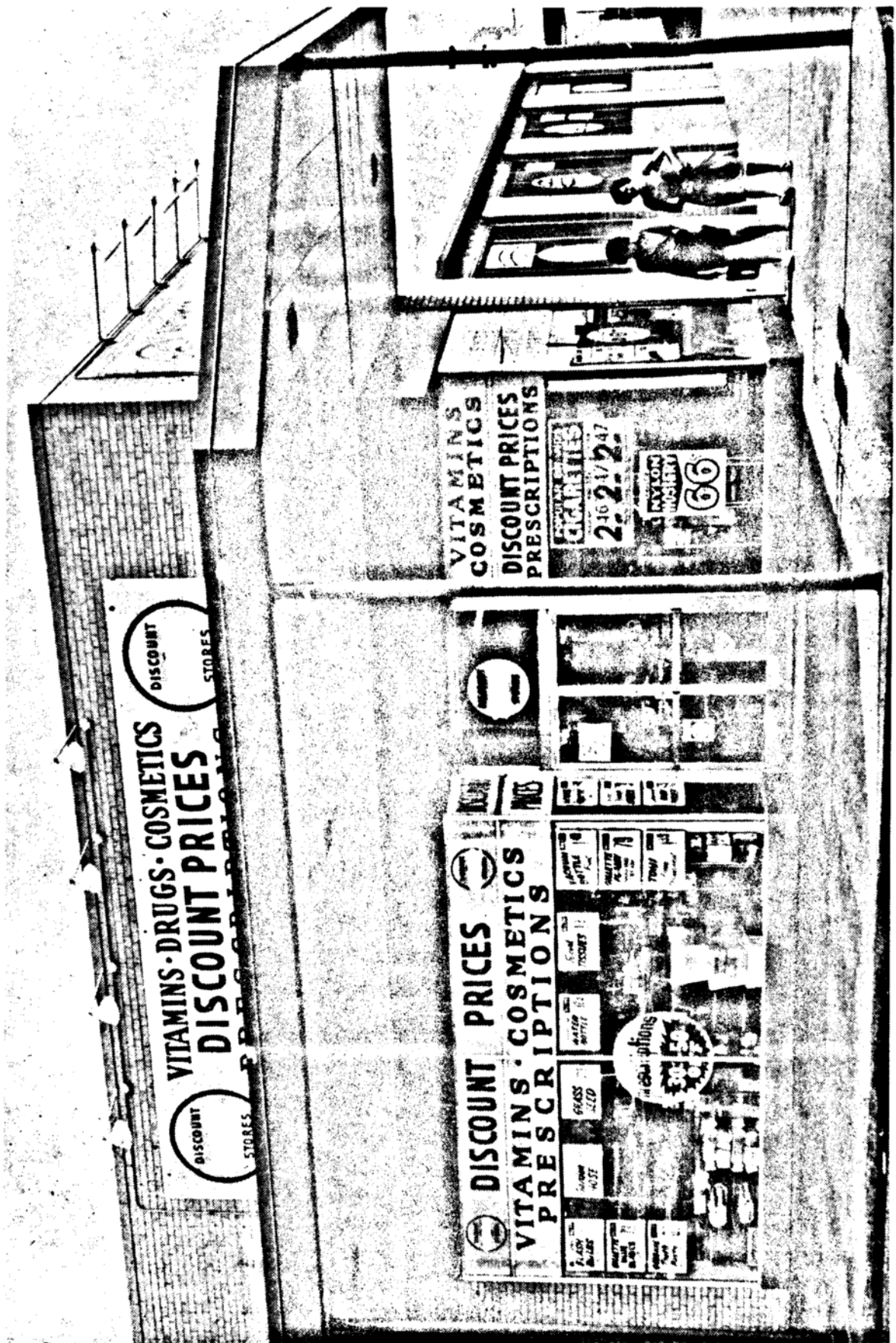
1. Preceptors who are rated as superior by interns recognize their superiority by self-rating on the same scale.
2. Interns who trained in a controlled system of practical training will tend to rate their preceptor higher than those who trained in an uncontrolled system.
3. Preceptors who trained their students in a controlled system of practical training will tend to rate themselves higher than those who trained their students in an uncontrolled system.
4. A group of preceptors rated superior were earlier superior academically as a group.
5. Pharmacists who maintain quantitatively superior literature resources are more likely to have qualities that former interns rate as superior preceptorship.
6. The rating of a group of pharmacists as superior preceptors has no discernible relationship to physical and administrative characteristics of the preceptorship setting.
7. The Guilford-Zimmerman Temperament Survey shows patterns of test scores that can help account for one

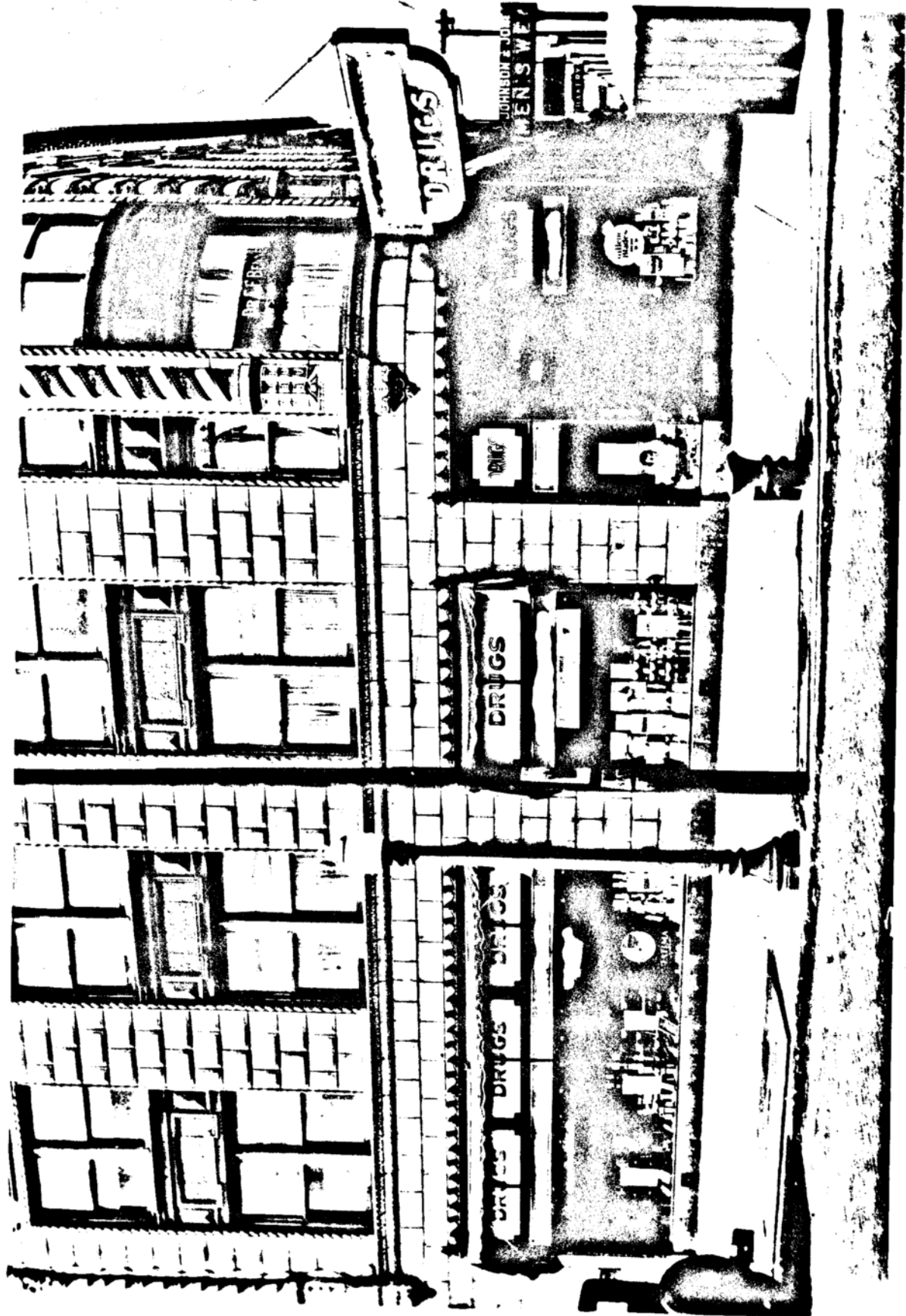
group of pharmacists having been rated superior rather than not-superior.

8. Preceptors rated as superior tend to be more accepting of proposals for improvement of the internship as a learning experience than are the preceptors rated not-superior.
9. The proportion of the preceptors having had four or more interns is larger in the group rated superior than in the group rated not-superior.
10. The proportion of hospital-preceptors in the group rated superior will be larger in the not-superior group.

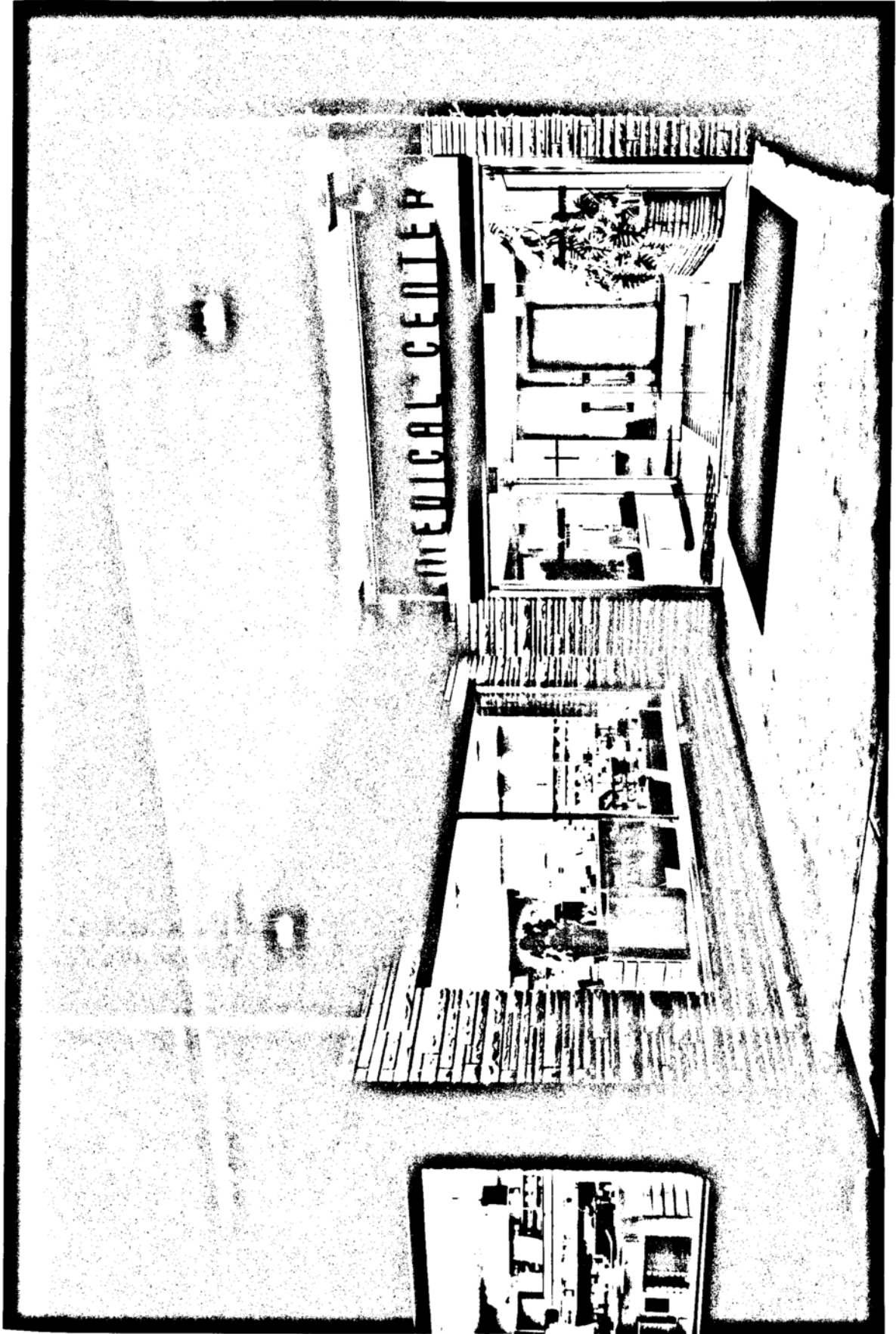
APPENDIX D

PHOTOGRAPHS

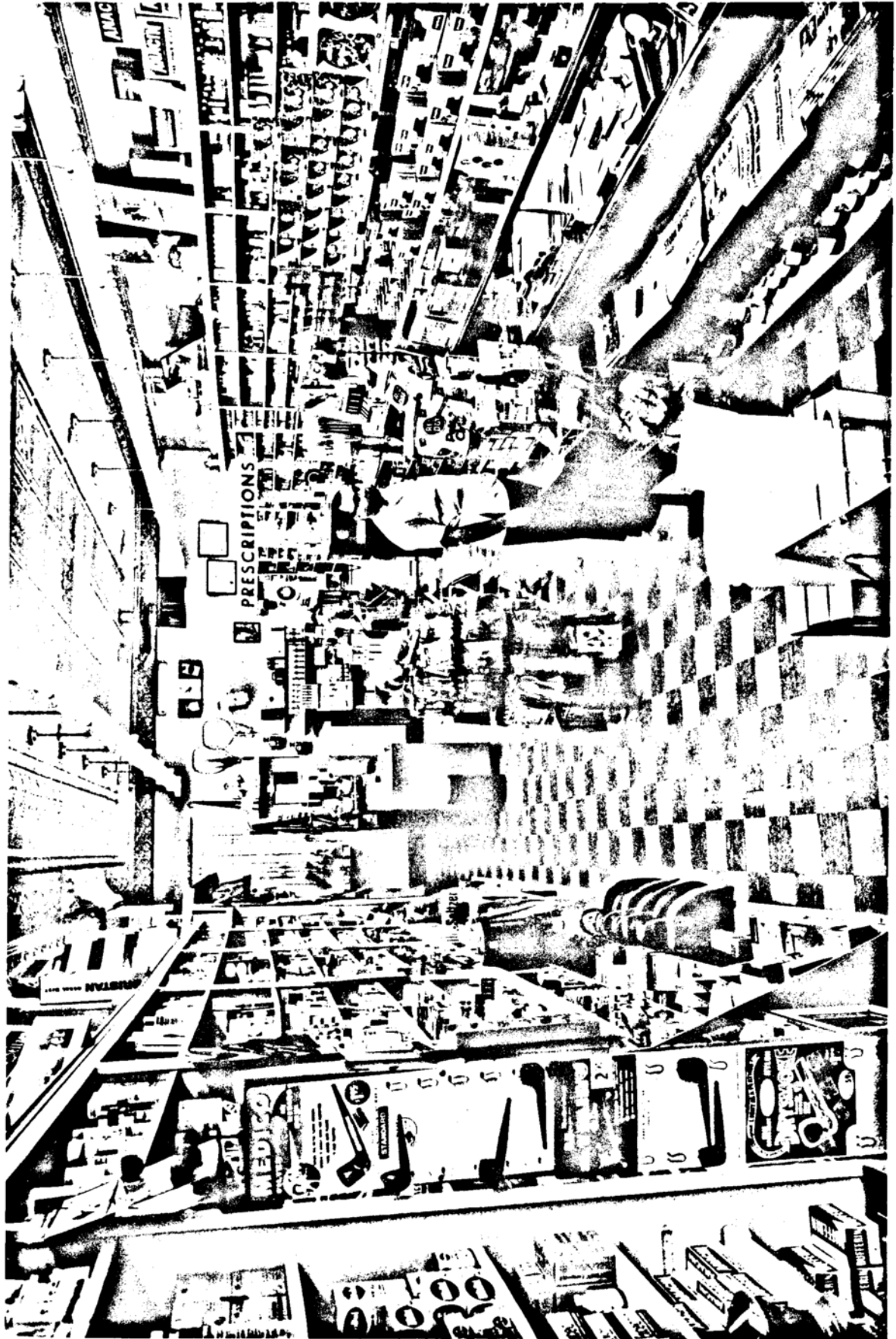


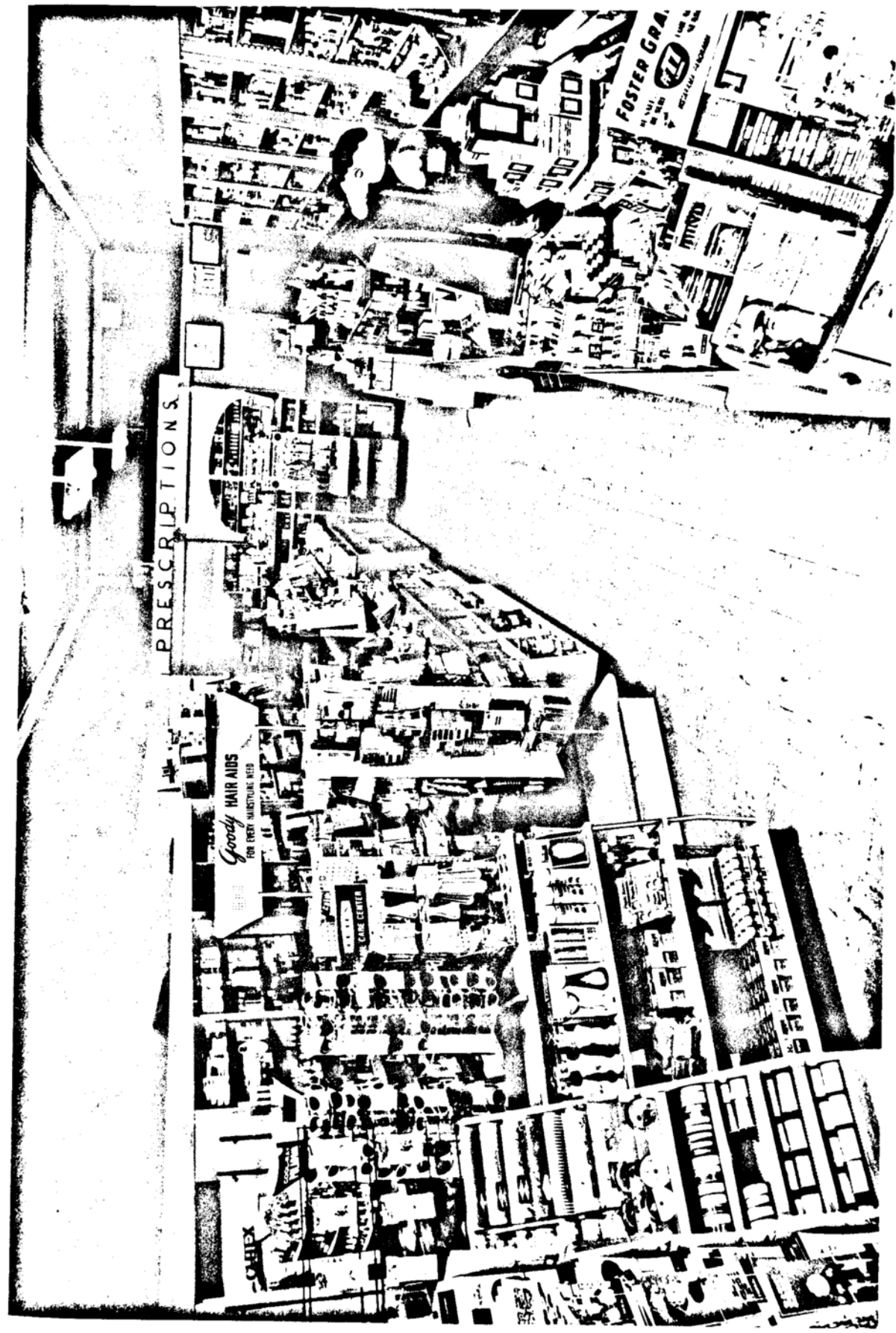


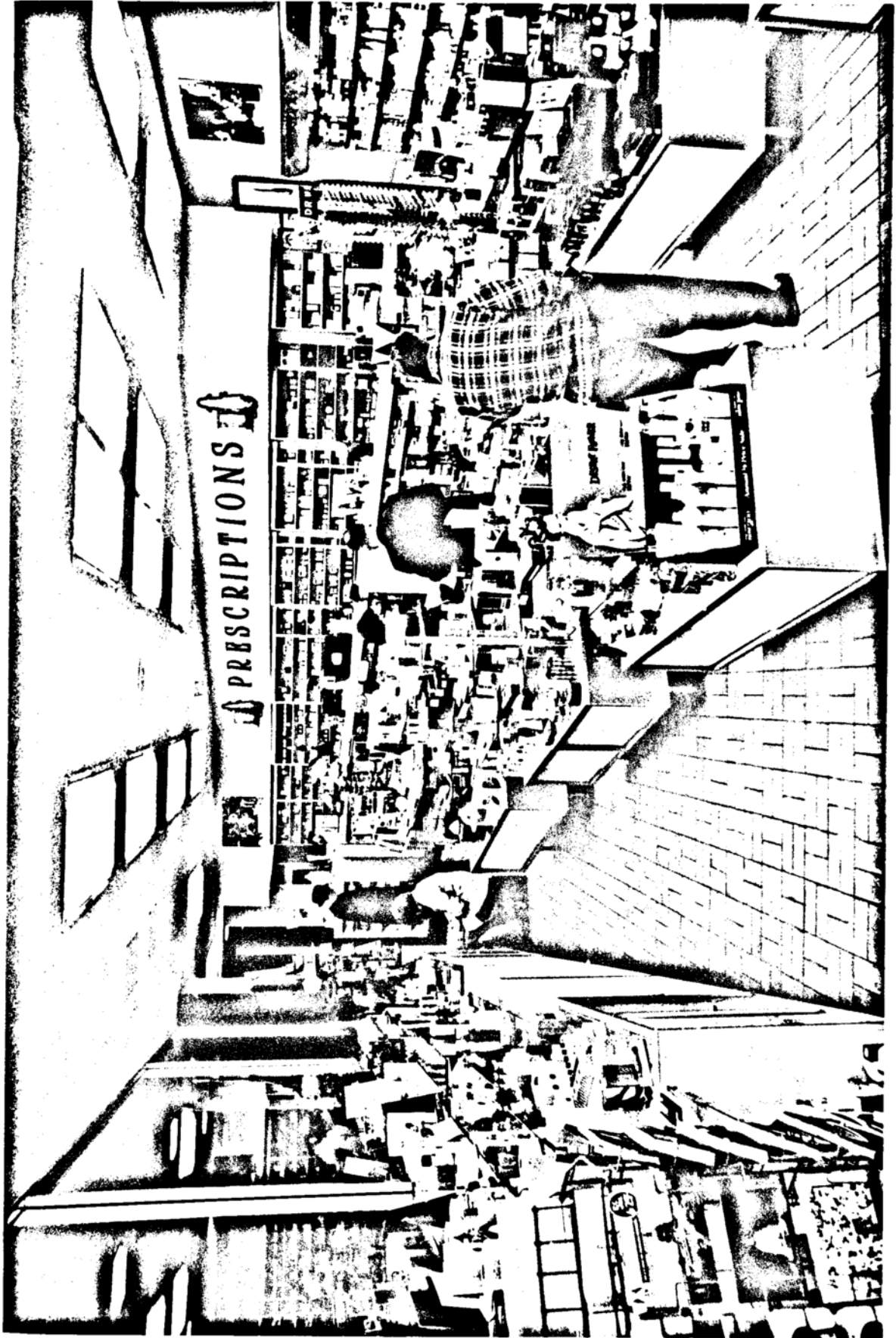
PHOTOGRAPH 3 - EXTERIOR



PHOTOGRAPH 4 - INTERIOR







APPENDIX E

THE GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY

## THE GUILFORD-ZIMMERMAN TEMPERAMENT SURVEY

## PURPOSES OF THE SURVEY

The Guilford-Zimmerman Temperament Survey is a condensation of three personality inventories developed by Guilford and co-workers.<sup>1</sup> Because of the time required to administer and score these three inventories a need was felt for a single inventory that would serve a similar purpose more efficiently.

"With these considerations in mind, a new inventory was constructed with the following objectives uppermost: (1) a single booklet of items; (2) a single answer sheet; (3) an efficient scoring method; (4) a coverage of the traits proven to have the greatest utility and uniqueness; and (5) condensations and omissions of trait scores where intercorrelations are sufficiently high."<sup>2</sup>

In developing this inventory, which was utilized in the present study, Guilford wanted to identify a number of relatively independent aspects of personality. The objective was to develop separate scales that are

---

1. These three inventories are: (1) The Guilford-Martin Personnel Inventory; (2) The Guilford-Martin Inventory of Factors GAMIN; and (3) An Inventory of Factors STDCR. All are available for professionally controlled applications, from Sheridan Supply Company, Beverley Hills, California.

2. Guilford and Zimmerman, Manual, p. 1.

internally coherent and that are relatively independent of each other.<sup>3</sup>

#### USES OF THE SURVEY

The term "Survey" in the title implies a first, general assessment of ten traits of an individual. The pattern of intensity of these traits provides clues to an individual's personality, and can be turned to practical purposes, such as providing one type of information helpful in the selection and placement of supervisory personnel.

In condensing the three earlier personality tests to form the Guilford-Zimmerman Temperament Survey, 595 questions were reduced to 300, arranged so that the ten traits are each represented by 30 items.<sup>4</sup> For scoring convenience, Guilford and Zimmerman weighted the responses either 0 or +1 only.<sup>5</sup>

- 
3. Thorndike and Hagen, Measurement, pp. 333, 336.
  4. J. P. Guilford and W. S. Zimmerman, "The Guilford-Zimmerman Temperament Survey," Journal of Consulting Psychology, 14 (1950), 162.
  5. Guilford and Zimmerman, Manual, p. 162.

Four characteristics of the Survey should be particularly noted:

1. It is based upon the responses of normal everyday people, not the overtly maladjusted or the institutionalized.
2. Its scales are set up by internal analyses, by study of the 'going together' of groups of items.
3. Responses are taken at face value. Their significance is assumed to be given by their obvious content.
4. The respondent may endorse as many or as few of the items as he wishes; his choices are not forced or constrained.<sup>6</sup>

The ten traits that are rated in the Survey are listed below (with the opposite or negative expression of each trait shown in parentheses):

1. General activity, Energy (Inactivity, Slowness)
2. Restraint, Seriousness (Impulsiveness, Rhathymia)
3. Accordance, Social boldness (Submissiveness)
4. Social interest, Sociability (Shyness, Seclusiveness)
5. Emotional stability (Emotional instability, Depression)
6. Objectivity, (Subjectivity, Hypersensitiveness)

---

6. Thorndike and Hagen, Measurement, p. 337.

7. Friendliness, Agreeableness (Hostility, Belligerence)
8. Thoughtfulness, Reflectiveness (Unreflectiveness)
9. Personal relations, Cooperativeness (Criticalness, Intolerance)
10. Masculinity, Feminity (Feminity, Masculinity)<sup>7</sup>

The blanks are scored by hand. "Profile sheets" are available, as well as a manual, to aid in recording and interpreting results.<sup>8</sup>

#### RELIABILITY AND VALIDITY OF THE SURVEY<sup>9</sup>

"Estimates of the total score reliabilities were made in various ways, based upon samples of 523 male college students and 389 female students. Kuder-Richardson formulas<sup>10</sup> were applied to the data for men and women separately and combined. Odd-even and first-half-second-half correlations were obtained for a random sample of 100."<sup>11</sup> "The reliabilities cluster about .80 and are

- 
7. Taken from the Profile Chart for The Guilford-Zimmerman Temperament Survey.
  8. Guilford and Zimmerman, Manual, pp. 1, 2.
  9. See J. P. Guilford, "New Standards for Test Evaluation," Educational and Psychological Measurement, 6 (1946), 427-428 for the author's views on reliability and validity in psychological tests.
  10. See Truman Lee Kelley, Fundamentals of Statistics, Harvard University Press, Cambridge, Mass. (1947), 404.
  11. Guilford and Zimmerman, Manual, pp. 1, 2.

adequate, though not strikingly high."<sup>12</sup>

Since the Survey attempted to identify a number of relatively independent aspects of personality, low correlations of different scores are required. "They tend to be. However, certain of the scores show rather substantial correlation;.... Ascendance and Sociability, Emotional Stability and Objectivity, Friendliness and Personal Relations, and Restraint and Thoughtfulness ... are far from independent, and the information provided by the scores is overlapping. In a sense, the inventory is only partially efficient because of the duplication in the different scores.... In most cases, however, each score provides information about a new and distinctive aspect of the individual."<sup>13</sup>

Guilford and Zimmerman themselves conclude: "The internal validity or factorial validity of the scores is fairly well assured by the foundation of factor-analysis studies plus the successive item-analyses directed toward internal consistency and uniqueness. It is believed that what each score measures is fairly well defined and that the score represents a confirmed dimension of personality and a dependable descriptive category."<sup>14</sup>

12. Thorndike and Hagen, Measurement, p. 336.
13. Ibid., pp. 336-337. Contrast this statement with that by Guilford and Zimmerman in the Manual, p. 6. See also Anne Anastasi, Psychological Testing, The Macmillan Company, New York (1961), 508.
14. Guilford and Zimmerman, Manual, pp. 7, 8.

The Temperament Survey, being a personality test, is subject to other factors that affect its reliability and validity. Since the questions may be answered with "?," the meaning attached by the respondent to this indecisive answer may affect the validity of the results. Too many such responses seriously cripples the validity of the test for any particular individual. Guilford conducted a study of this problem on the three personality tests which preceded the Guilford-Zimmerman Temperament Survey. The author's inconclusive results are reflected in his statement that "while the indecision score indicates something stable about individuals, it needs to be factor analyzed to be understood and test conditions that will assure better discriminations at the lower levels are needed for a score of practical use."<sup>15</sup>

There is also the problem that persons who complete the blank may realize what the test is attempting to determine, hence adjust their answers in an attempt to obtain a more favorable profile. It is possible to determine to a certain extent whether a respondent had some insight into the test, as the chance of obtaining a

---

15. J. P. Guilford, "The Validation of an 'Indecision' Score for Prediction of Proficiency of Foremen," The Journal of Applied Psychology, 38, no. 4 (1954), 226.

score about the median on eight of the ten traits is one in 20.<sup>16</sup>

It should be mentioned that various investigators have a view on the overall validity of personality tests. Albert Ellis, who conducted exhaustive research on the subject, concluded that "group-administered paper and pencil personality questionnaires are of dubious value in distinguishing between groups of adjusted and maladjusted individuals, and that they are of much less value in the diagnosis of individual adjustments or personality traits."<sup>17</sup>

Despite limitations that may be applicable to the Guilford-Zimmerman Survey, many competent workers have found it useful during the past 15 years or so, when used with discretion. It was selected for the present study as the most appropriate and practicable test of its kind known to us, for the purpose at hand.

- 
16. Guilford and Zimmerman, Manual, p. 11. J. A. Kimber studied the problem of insight on personality tests, and concluded that students differ greatly in the amount of insight shown, and that there was little relationship between intelligence and insight. J. A. Morris Kimber, "The Insight of College Students Into the Items on a Personality Test," Educational and Psychological Measurement, 7 (1947), 420.
  17. Albert Ellis, "The Validity of Personality Questionnaires," Psychological Bulletin, 43 (1946), 426.

# The Guilford-Zimmerman Temperament Survey

DO NOT WRITE IN THIS BOOKLET

**INSTRUCTIONS:** In this booklet you will find a number of statements. Read each statement carefully. If the statement seems to be true, or if you agree with it, mark answer "Yes" on your answer sheet. If the statement is more false than true, or if you disagree with it, mark "No." If you cannot decide between "Yes" and "No," you may mark answer "?" **BUT AVOID DOING THIS IF POSSIBLE.**

Be sure to answer every item.

There are no "right" or "wrong" answers in the usual sense of a high score being necessarily the best. The purpose of this Survey will be served best if you describe yourself and state your opinions as accurately as possible.

You may notice that many items are similar. Actually, no two items are exactly alike.

Notice that the numbering of items on the answer sheet follows across the rows rather than down the columns.

You may turn the page and begin with the items now unless the examiner tells you to wait.

1. You start to work on a new project with a great deal of enthusiasm.....
2. You would rather plan an activity than take part in it.....
3. You have more than once taken the lead in organizing a project or a group of some kind.....
4. You like to entertain guests.....
5. Your interests change quickly from one thing to another.....
6. When you eat a meal with others, you are usually one of the last to finish.....
7. You believe in the idea that we should "eat, drink, and be merry, for tomorrow we die".....
8. When you find that something you have bought is defective, you hesitate to demand an exchange or a refund.....
9. You find it easy to make new acquaintances.....
10. You are sometimes bubbling over with energy and sometimes very sluggish.....
11. You are happiest when you get involved in some project that calls for rapid action.....
12. Other people think of you as being very serious minded.....
13. In being thrown by chance with a stranger, you wait for him to introduce himself.....
14. You like to take part in many social activities.....
15. You sometimes feel "just miserable" for no good reason at all.....
16. You are often so much "on the go" that sooner or later you may wear yourself out.....
17. You like parties you attend to be lively.....
18. If you hold an opinion that is radically different from that expressed by a lecturer, you are likely to tell him about it either during or after the lecture.....
19. It is difficult for you to chat about things in general with people.....
20. You give little thought to your failures after they are past.....
21. You often wonder where others get all the excess energy they seem to have.....
22. You are inclined to stop to think things over before you act.....
23. You avoid arguing over a price with a clerk or salesman.....
24. You would dislike very much to work alone in some isolated place.....
25. You often find it difficult to go to sleep at night because you keep thinking of what happened during the day.....
26. You find yourself hurrying to get places even when there is plenty of time.....
27. You like work that requires considerable attention to details.....
28. You are satisfied to let some one else take the lead in group activities.....
29. You enjoy getting acquainted with people.....
30. It takes a lot to get you emotionally stirred up or excited.....
31. You work more slowly and deliberately than most people of your sex and age.....
32. You are a carefree individual.....
33. When a person does not play fair you hesitate to say anything about it to him.....
34. It bothers you to have people watch you at your work.....
35. You have usually been optimistic about your future.....
36. You like to have plenty of time to stop and rest.....
37. You take life very seriously.....
38. You enjoy applying for a job in person.....
39. You would like to be a host or hostess for parties at a club.....
40. You often feel grouchy.....
41. You are the kind of person who is "on the go" all the time.....
42. You often crave excitement.....
43. The thought of making a speech frightens you.....
44. You find it easy to start conversation with strangers.....
45. You often feel guilty without a very good reason for it.....
46. People think you are a very energetic person.....

- 91. You are less energetic than many people you know.....
- 92. You often stop to analyze your thoughts and feelings.....
- 93. You speak out in meetings to oppose those who you feel sure are wrong.....
- 94. You are so shy it bothers you.....
- 95. You are sometimes bothered by having a useless thought come into your mind over and over.....
- 96. You get things done in a hurry.....
- 97. It is difficult for you to understand how some people can be so unconcerned about the future.....
- 98. You like to sell things (that is, to act as a salesman).....
- 99. You are often the "life of the party".....
- 100. You find daydreaming very enjoyable.....
- 101. At work or at play other people find it hard to keep up with the pace you set.....
- 102. You can listen to a lecture without feeling restless.....
- 103. You would rather work for a good boss than for yourself.....
- 104. You can express yourself more easily in speech than in writing.....
- 105. You keep in fairly uniform spirits.....
- 106. You dislike to be hurried in your work.....
- 107. You sometimes find yourself "crossing bridges before you come to them".....
- 108. You find it somewhat difficult to say "no" to a salesman who tries to sell you something you do not really want.....
- 109. There are only a few friends with whom you can relax and have a good time.....
- 110. You usually keep cheerful in spite of trouble.....
- 111. People sometimes tell you to "slow down" or "take it easy".....
- 112. You are one of those who drink or smoke more than they know they should.....
- 113. When you think you recognize someone you see in a public place, you ask him whether you have met him before.....
- 114. You prefer to work alone.....
- 115. Disappointments affect you so little that you seldom think about them twice.....
- 116. You are slow and deliberate in movement.....
- 117. You like wild enthusiasm, sometimes to a point bordering on rowdiness, at a football or baseball game.....
- 118. You feel self-conscious in the presence of important people.....
- 119. People think of you as being a very social type of person.....
- 120. You have often lost sleep over your worries.....
- 121. You can turn out a large amount of work in a short time.....
- 122. You keep at a task until it is done, even after nearly everyone else has given up.....
- 123. You can think of a good excuse when you need one.....
- 124. Other people say that it is difficult to get to know you well.....
- 125. Your daydreams are often about things that can never come true.....
- 126. You often run upstairs taking two steps at a time.....
- 127. You seldom let your responsibilities interfere with your having a good time.....
- 128. You would like to take on important responsibilities such as organizing a new business.....
- 129. You have hesitated to make or to accept "dates" because of shyness.....
- 130. Your mood is very easily influenced by people around you.....
- 131. Others are often amazed by the amount of work you turn out.....
- 132. You generally feel as though you haven't a care in the world.....
- 133. You find it difficult to get rid of a salesman to whom you do not care to listen or give your time.....
- 134. You are a listener rather than a talker in social conversations.....
- 135. You almost always feel that life is very much worth living.....

183. You make it a policy to evaluate your past actions carefully.....
184. In most places the traffic laws are in great need of improvement.....
185. You would rather study mathematics and science than literature and music.....
186. You get into scrapes which you did not seek to stir up.....
187. You resent having friends or members of your family give you orders.....
188. You are philosophically inclined, that is, inclined to philosophize about things.....
189. Most people keep to the "straight and narrow path" only because of the fear of being caught.....
190. You especially dislike to get your hands dirty or greasy.....
191. You are inclined to think about yourself much of the time.....
192. You have frequently felt like telling "nosey" people to mind their own business.....
193. You are frequently "lost in thought".....
194. Far too many people try to take as much as they can and give as little as possible back to society.....
195. You like to read true stories about love and romance.....
196. You get over a humiliating experience very quickly.....
197. In group undertakings you almost always feel that your own plans are best.....
198. You like to discuss the more serious questions of life with your friends.....
199. Most people today try to do an honest day's work for a day's pay.....
200. You pay little attention to styles in clothing.....
201. Almost everything that happens seems to have some relationship to you.....
202. When people become bossy or domineering, you want to do the opposite of everything they tell you to do.....
203. You often would like to know the underlying reasons behind the actions of other people.....
204. There are far too many useless laws which hamper an individual's personal freedom.....
205. You would rather be a forest ranger than a dress designer.....
206. Certain people deliberately say or do things to annoy you.....
207. Some people become so rude that you feel the urge to "sit on them" or to "tell them off".....
208. You sometimes have a peculiar feeling that you are not your old self.....
209. Most people who get ahead today do so because they have "pull".....
210. The sound of foul language disgusts you.....
211. There are many kinds of work that you would not think of doing because they are not good enough for you.....
212. You get into fights or arguments in defense of your friends or members of your family.....
213. You enjoy thinking out complicated problems.....
214. Most people learn quickly to avoid making the same mistake twice.....
215. You are only mildly disturbed when you see or hear of animals being treated cruelly.....
216. People offend you without knowing it because you hide your feelings from them.....
217. You get a lot of satisfaction from making other people do as you want them to.....
218. You often take time out just to meditate about things.....
219. You have received about all the rewards in life that you deserve.....
220. You would rather be an interior decorator than an architectural engineer.....
221. You have felt that certain persons are secretly trying to get the better of you.....
222. You are likely to talk back to a policeman or other person in authority over you if you feel like it.....
223. You find it very interesting to watch people to see what they will do.....
224. The number of "two-faced" individuals you have known is actually very small.....
225. You feel very badly if someone does not approve of what you are wearing.....
226. You very often seek the advice of other people.....
227. When someone is not playing fair, you like to see him beaten at his own game.....
228. You are constantly alert to ways of improving yourself.....
229. Most groups of people behave like a bunch of sheep, that is, they blindly follow a leader.....

ORD-ZIMMERMAN TEMPERAMENT SURVEY

10	9	8	7	6	5	4	3	2	1	0	Inactivity		Impulsiveness		Rhythmia		Submissiveness		Shyness		Emotional Instability		Subjectivity		Hostility		Unreflectiveness		Criticalness		Inference		Femininity		Masculinity											
											30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29
10	9	8	7	6	5	4	3	2	1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29
9	8	7	6	5	4	3	2	1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29	
8	7	6	5	4	3	2	1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29		
7	6	5	4	3	2	1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29			
6	5	4	3	2	1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29				
5	4	3	2	1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29					
4	3	2	1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29						
3	2	1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29							
2	1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29								
1	0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29									
0	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	30	29	30	29	30	29										
75	70	65	60	55	50	45	40	35	30	25	99	95	90	80	60	50	40	30	20	10	5	1	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F						

Name \_\_\_\_\_ Date \_\_\_\_\_ Comment \_\_\_\_\_

FORD-ZIMMERMAN TEMPERAMENT SURVEY

- 31 Yes ? No
- 32 Yes ? No
- 33 Yes ? No
- 34 Yes ? No
- 35 Yes ? No
- 36 Yes ? No
- 37 Yes ? No
- 38 Yes ? No
- 39 Yes ? No
- 40 Yes ? No
- 41 Yes ? No
- 42 Yes ? No
- 43 Yes ? No
- 44 Yes ? No
- 45 Yes ? No
- 46 Yes ? No
- 47 Yes ? No
- 48 Yes ? No
- 49 Yes ? No
- 50 Yes ? No
- 51 Yes ? No
- 52 Yes ? No
- 53 Yes ? No
- 54 Yes ? No
- 55 Yes ? No
- 56 Yes ? No
- 57 Yes ? No
- 58 Yes ? No
- 59 Yes ? No
- 60 Yes ? No
- 61 Yes ? No
- 62 Yes ? No
- 63 Yes ? No
- 64 Yes ? No
- 65 Yes ? No
- 66 Yes ? No
- 67 Yes ? No
- 68 Yes ? No
- 69 Yes ? No
- 70 Yes ? No
- 71 Yes ? No
- 72 Yes ? No
- 73 Yes ? No
- 74 Yes ? No
- 75 Yes ? No

BE SURE YOUR MARKS ARE HEAVY AND BLACK. ERASE COMPLETELY ANY ANSWER YOU WISH TO CHANGE.

- 76 Yes ? No
- 77 Yes ? No
- 78 Yes ? No
- 79 Yes ? No
- 80 Yes ? No
- 81 Yes ? No
- 82 Yes ? No
- 83 Yes ? No
- 84 Yes ? No
- 85 Yes ? No
- 86 Yes ? No
- 87 Yes ? No
- 88 Yes ? No
- 89 Yes ? No
- 90 Yes ? No
- 91 Yes ? No
- 92 Yes ? No
- 93 Yes ? No
- 94 Yes ? No
- 95 Yes ? No
- 96 Yes ? No
- 97 Yes ? No
- 98 Yes ? No
- 99 Yes ? No
- 100 Yes ? No
- 101 Yes ? No
- 102 Yes ? No
- 103 Yes ? No
- 104 Yes ? No
- 105 Yes ? No
- 106 Yes ? No
- 107 Yes ? No
- 108 Yes ? No
- 109 Yes ? No
- 110 Yes ? No
- 111 Yes ? No
- 112 Yes ? No
- 113 Yes ? No
- 114 Yes ? No
- 115 Yes ? No
- 116 Yes ? No
- 117 Yes ? No
- 118 Yes ? No
- 119 Yes ? No
- 120 Yes ? No
- 121 Yes ? No
- 122 Yes ? No
- 123 Yes ? No
- 124 Yes ? No
- 125 Yes ? No
- 126 Yes ? No
- 127 Yes ? No
- 128 Yes ? No
- 129 Yes ? No
- 130 Yes ? No
- 131 Yes ? No
- 132 Yes ? No
- 133 Yes ? No
- 134 Yes ? No
- 135 Yes ? No
- 136 Yes ? No
- 137 Yes ? No
- 138 Yes ? No
- 139 Yes ? No
- 140 Yes ? No
- 141 Yes ? No
- 142 Yes ? No
- 143 Yes ? No
- 144 Yes ? No
- 145 Yes ? No
- 146 Yes ? No
- 147 Yes ? No
- 148 Yes ? No
- 149 Yes ? No
- 150 Yes ? No

G-Z SURVEY OF OPINIONS OR G-Z TEMP.

NAME FIRST MIDDLE LAST

YOUR GROUP DATE

G	R	A	S	F
---	---	---	---	---

## APPENDIX F

PERIOD OF PRACTICAL TRAINING AS PART OF QUALIFYING  
AS A PHARMACIST IN SOME REPRESENTATIVE EUROPEAN  
COUNTRIES AS OF 1963

PERIOD OF PRACTICAL TRAINING AS PART OF QUALIFYING  
AS A PHARMACIST IN SOME REPRESENTATIVE EUROPEAN  
COUNTRIES AS OF 1963<sup>1</sup>

Albania:	1-1/2 months
Austria:	2 years
Belgium:	1 year (concurrent with final year of study)
China:	3 months (during third year summer vacation)
Czechoslovakia:	2 months plus one semester. As of 1968, total of 6 weeks <sup>2</sup>
France:	6 months (prior to and during final year of study)
Germany (West):	2 years prior to university, 1 year after <sup>3</sup>
Greece:	3 months
Hungary:	9 months (3 months during summer vacations, 6 months after final year)
India:	2-4 months
Italy:	6 months (during third and fourth years of study)
Netherlands:	4 months
Norway:	4-1/2 months (concurrent with course of study)
Poland:	1-2 months
Switzerland:	18 months (prior to course of study at school of pharmacy)
U.S.S.R.	27-1/2 weeks (in divided periods following semesters)

1. Data taken from World Directory of Schools of Pharmacy, 1963, World Health Organization, Geneva (1966), 301 pp.
2. Letter from Dr. M. Salava, Faculty of Pharmacy, Comenius University, Bratislava (February 20, 1968).
3. According to new revised statutes, the two years practical experience prior to university will be dropped in 1970 or 1971. "Bundes-Apotheker-Ordnung," Pharmazeutische Zeitung, 113, no. 25 (June 20, 1968), 889-891.

- Allport, Gordon W. Pattern and Growth in Personality. Holt, Rinehart and Winston, Inc., New York (1961), 593 pp.
- \_\_\_\_\_. Personality and Social Encounter. Beacon Press, Boston (1960), 386 pp.
- Anastasi, Anne. Psychological Testing. The Macmillan Company, New York (1961), 657 pp.
- Apple, William S. "In-Service Training for Pharmacists, an Analysis of the Survey's Recommendations for," American Journal of Pharmaceutical Education, 19, no. 2 (Spring 1955), 327-340.
- \_\_\_\_\_. "Pharmacy's Future Role as a Profession," American Journal of Pharmacy, 135, no. 4 (April 1963), 116-126.
- Banton, Michael P. Roles, An Introduction To the Social Relations. Tavistock Publications Limited, London (1965), 224 pp.
- Barr, A. S. "The Measurement and Prediction of Teaching Efficiency, a Summary of Investigations," Journal of Experimental Education, 16, no. 4 (June 1948), 203-283.
- \_\_\_\_\_, et al. "Wisconsin Studies of the Measurement and Prediction of Teacher Effectiveness: A Summary of Investigations," Journal of Experimental Education, 30 (September 1961), 5-156.
- Benne, K. D. and P. Sheats. "Functional Roles of Group Members," Journal of Social Issues, 4, no. 2 (1948), 41-49.
- Bennett, Carson M. and Robert E. Hill, Jr. "A Comparison of Selected Personality Characteristics of Responders and Nonresponders To a Mailed Questionnaire Study," Journal of Educational Research, 58, no. 4 (December 1964), 178-183.
- Bennett, John W. and Melvin M. Tumin. Social Life, Structure and Function. Alfred A. Knopf, New York (1948), 725 pp.
- Biddle, Bruce T. The Present Status of Role Theory. Social Psychology Laboratory, University of Missouri, Columbia, Missouri (August 1961), 143 pp.

- \_\_\_\_\_ and William J. Ellena. Contemporary Research on Teacher Effectiveness. Holt, Rinehart and Winston, New York (1964), 352 pp.
- Blauch, Lloyd E. The Pharmaceutical Curriculum. American Council on Education, Washington, D.C., 257 pp.
- Bouvet, Maurice. Histoire de la Pharmacie en France des Origines à nos Jours. Editions Occitania, Paris (1937), 445 pp.
- Bowers, Roy A. "Postgraduate Education," American Journal of Pharmaceutical Education, 23, no. 1 (Winter 1959), 1-6.
- Brodie, Donald C. "Pharmaceutical Education for Tomorrow's Society," American Journal of Pharmaceutical Education, 30, no. 3 (August 1966), 317-325.
- Brown, V. Jean. "The Year of Apprenticeship, Its Use and Misuse," American Journal of Pharmaceutical Education, 26, no. 1 (Winter 1962), 39-51.
- "Bundes-Apotheker-Ordnung," Pharmazeutische Zeitung, 113, no. 25 (June 20, 1968), 889-891.
- Bunnell, Kevin P. "Liberal Education and American Pharmacy," American Journal of Pharmaceutical Education, 23, no. 1 (Winter 1959), 59-73.
- Busse, Louis W. "Pharmacy Internship Training," Journal of the American Pharmaceutical Association, Practical Pharmacy Edition, 18, no. 10 (October 1957), 612-613.
- \_\_\_\_\_. "A Philosophy of Internship Programming," Journal of the American Pharmaceutical Association, Practical Pharmacy Edition, 17, no. 7 (July 1956), 459-460, 476.
- "By-Laws," Proceedings of the National Association of Boards of Pharmacy (1967), 577-578.
- Caldwell, C. B. "Intern Notebooks--Uniformity, Size, Content," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 5, South Dakota (October 3-4, 1965), 26-27.
- \_\_\_\_\_. "Requirements for Pharmacy Intern-Trainee and Preceptors," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 5, Nebraska (September 30-October 1, 1962), 19-22.

- Caldwell, George G. (Chairman). "Report of Committee on Education," Minutes of the Meeting of the Council, The Ontario College of Pharmacy (June 19-21, 1961), 1825.
- \_\_\_\_\_. "Report of the Special Committee on Minimum Standards," Minutes of the Meeting of the Council, The Ontario College of Pharmacy (November 7-11, 1960), 1724.
- "Canadian Pharmaceutical Society of Toronto," Canadian Pharmaceutical Journal, 1, no. 3 (July 1868), 41.
- "Canadian Pharmaceutical Society of Toronto," Canadian Pharmaceutical Journal, 2 (1869), 52-53.
- "Canadian Pharmaceutical Society of Toronto," Canadian Pharmaceutical Journal, 3 (1870), 9.
- Chambers, M. A. "Is Practical Experience on Education?," Carolina Journal of Pharmacy, 45, no. 2 (1964), 7-9.
- "Changes in the College Curriculum," Canadian Pharmaceutical Journal, 21, no. 4 (November 1887), 41-42.
- "Chapter 351, Laws of 1965, an Act," Wisconsin Pharmacist, 34, no. 12 (December 1965), 503, 513.
- Cogan, Morris L. "The Problem of Defining a Profession," Annals of the American Academy of Political and Social Science, 297 (January 1955), 105-111.
- Comer, Morris M. "State Board Examinations: Qualifying the Preceptor," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 8, Hawaii (September 29-October 4, 1963), 131-132.
- "Commission Is Quickly, Smoothly Activated," Wisconsin Pharmacist, 34, no. 11 (November 1965), 453.
- Craft, George W. "State Board Examinations: Examination of Interns Following Training," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 8, Hawaii (September 29-October 4, 1963), 133-138.
- Davis, Kingsley. Human Society. The Macmillan Company, New York (1950), 655 pp.

- Deno, Richard A. (Chairman). "Report of the Special Committee on Internship Training," American Journal of Pharmaceutical Education, 29, no. 3 (August 1965), 413-414.
- Dickinson, Walter L. "The Educator's View on the Preceptorship and Selection of Preceptors," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 6, Texas (November 17-19, 1963), 59-63.
- Dieckmann, Hans. "Geschichte und Probleme der Apothekerausbildung," International Society for the History of Pharmacy, Veröffentlichungen, 5 (1954), 263 pp.
- Drabek, Thomas E. "Student Preferences in Professor-Student Classroom Role Relations," Sociological Inquiry, 36, no. 1 (Winter 1966), 87-97.
- Edlin, Albert. "Preceptorship--Your Responsibility," Ohio Pharmacist (September 1956), 15, 20-21.
- Edwards, Allen L. Experimental Design in Psychological Research. Rinehart and Co., New York (1951), 446 pp.
- Eisenbrandt, L. L. "Evaluation of Selection of Preceptors for Pharmacy Internships," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 6, Texas (November 17-19, 1963), 57-58.
- Elliott, Edward C. General Report of the Pharmaceutical Survey, 1946-1949. American Council on Education, Washington, D.C. (1950), 240 pp.
- Ellis, Albert. "The Validity of Personality Questionnaires," Psychological Bulletin, 43 (1946), 385-440.
- Fenney, Nicholas W. "The Obligations of the Pharmacy Intern," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 1, Connecticut (October 12-13, 1960), 59-64.
- Fischelis, Robert P. "Education in Pharmacy," American Druggist, 88, no. 4 (October 1933), 72-73, 148-149, 154, 156, 160, 162.
- \_\_\_\_\_. "Pharmacy Internship Control," Journal of the American Pharmaceutical Association, Practical Pharmacy Edition, 17, no. 7 (July 1956), 432.

- \_\_\_\_\_. "Regulations Regarding Practical Experience in New Jersey," New Jersey Journal of Pharmacy, 9, no. 8 (August 1936), 9-12.
- \_\_\_\_\_. "To Be or Not To Be," American Journal of Pharmaceutical Education, 13, no. 2 (April 1949), 271-275.
- Fredericks, Marcel A. and Paul Mundy. "The Relationship Between Social Class, Average Grade in College, Medical College Admission Test Scores, and Academic Achievement of Students in a Medical School," Journal of Medical Education, 42, no. 2 (February 1967), 126-133.
- Fromm, Erich. Man For Himself. Holt, Rinehart and Winston, New York (1947), 254 pp.
- Gerson, Bernard L. (Chairman). "Report of Committee on Practical Experience Requirements," Proceedings of the National Association of Boards of Pharmacy (1956), 154-159.
- Gray, Robert M., et al. "An Analysis of Physicians' Attitudes of Cynicism and Humanitarianism Before and After Entering Medical Practice," Journal of Medical Education, 40, no. 8 (August 1965), 760-766.
- Green, Melvin W. "Pharmaceutical Education Faces the Future," Journal of the American Pharmaceutical Association, NS5, no. 4 (April 1965), 208-210.
- Gross, Neal, Ward S. Mason and Alexander W. McEachern. Explorations in Role Analysis: Studies of the School Superintendency Role. John Wiley and Sons, Inc., New York (1958), 379 pp.
- Guilford, J. P. "New Standards for Test Evaluation," Educational and Psychological Measurement, 6 (1946), 427-438.
- \_\_\_\_\_. "The Validation of an 'Indecision' Score for Prediction of Proficiency of Foremen," Journal of Applied Psychology, 38, no. 4 (1954), 224-226.
- \_\_\_\_\_ and H. G. Martin. "The Guilford-Martin Inventory of Factors GAMIN," Psychological Abstracts, 18 (1944), 83.
- \_\_\_\_\_ and W. S. Zimmerman. "The Guilford-Zimmerman Temperament Survey," Journal of Consulting Psychology, 14 (1950), 162.

- \_\_\_\_\_ and \_\_\_\_\_. The Guilford-Zimmerman Temperament Survey Manual of Instructions and Interpretations. Sheridan Supply Company, Beverly Hills, California (1949), 12 pp.
- Hall, Alvah (Moderator). "Panel Discussion: The Duration and Integration of an Optimal Pharmacy Intern Program," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 8, Colorado (October 29-31, 1961), 61-76.
- Hampton, Richard J., et al. "Panel Discussion: The Pharmacy Preceptor's Guide," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 3, Mississippi (August 29-31, 1965), 36-49.
- Hare, Alexander P. Handbook of Small Group Research. Free Press of Glencoe, New York (1955), 666 pp.
- Hauper, Peter J. "The Role of the Preceptor and the Use of the Preceptor's Manual in the Internship Training," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 5, Nebraska (September 30-October 1, 1962), 36-39.
- Hoel, Paul G. Elementary Statistics. John Wiley and Sons, New York (1963), 261 pp.
- Hughes, R. O. Pharmacy Apprenticeship Studies; in Three Books. The University of Toronto Press, Toronto (1934-1937), 83, 158 and 307 pp.
- Husband, R. W. "Cooperative versus Solitary Problem Solution," Journal of Social Psychology, 11 (1940), 405-409.
- Hyman, Herbert H. Survey Design and Analysis. Free Press, Glencoe, Illinois (1955), 425 pp.
- Jahoda, Marie, et al. Research Methods in Social Relations. Dryden Press, New York (1951), 759 pp.
- Jensen, J. Robert. "Is Retail Pharmacy the Only Suitable Form of Apprenticeship Experience?," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 8, Arizona (November 15-17, 1964), 37-38.
- Joint Committee on Preceptor's Guide of the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy. Pharmacy Preceptor's Guide: A Manual for Internship. National Association of Boards of Pharmacy, Chicago (1964), 60 pp.

- Kazin, Louis E. "Pharmacy Internship Must Be a Post-Graduate Program," American Journal of Pharmaceutical Education, 17, no. 3 (July 1953), 424-430.
- Kelly, Truman Lee. Fundamentals of Statistics. Harvard University Press, Cambridge, Massachusetts (1947), 755 pp.
- Kimber, J. A. Morris. "The Insight of College Students Into the Items of a Personality Test," Educational and Psychological Measurement, 7 (1947), 411-420.
- Komarowsky, Mirra. "Cultural Contradictions and Sex Roles," American Journal of Sociology, 52 (1946), 184-189.
- Kremers, Edward. "The State Universities and Pharmaceutical Education," Proceedings of the American Conference of Pharmaceutical Faculties, 4th annual meeting (1903), 4-17.
- \_\_\_\_\_ and George Urdang. History of Pharmacy. 2nd ed. J. B. Lippincott Company, Philadelphia (1951), 622 pp.
- \_\_\_\_\_ and \_\_\_\_\_. History of Pharmacy. 3rd ed., Revised by Glenn Sonnedeker. J. B. Lippincott Co., Philadelphia (1963), 464 pp.
- Lambert, J. M. Two Thousand Years of Guild Life. A. Brown and Sons, London (1891), 414 pp.
- Latiolais, Clifton J. "Revised Minimum Standard for Pharmacy Internship," American Journal of Hospital Pharmacy, 15, no. 3 (March 1955), 228-231.
- Lemberger, Max A. "Are You a Good Preceptor?" American Professional Pharmacist, 34, no. 2 (February 1968), 30-35.
- \_\_\_\_\_. "Internship Commission Report," Wisconsin Pharmacist, 37, no. 9 (September 1968), 337-339, 361.
- Litchin, J. Leon. "Pharmaceutical Apprenticeship: The State Board's Views and Regulations," American Journal of Pharmaceutical Education, 20, no. 2 (Spring 1956), 200-205.
- Linton, Ralph. The Cultural Background of Personality. D. Appleton-Century Company, New York (1945), 157 pp.

- \_\_\_\_\_. The Study of Man. D. Appleton-Century Company, New York (1936), 503 pp.
- Luongo, Guy (Chairman). "Report of Committee on Internship Requirements," Proceedings of the National Association of Boards of Pharmacy (1957), 83-88.
- Lyman, Rufus A. "The Aims of Pharmaceutical Education," Pharmaceutical Era, 44 (December 1911), 542-543.
- McAllister, H. C. (Chairman). "Report of the Committee on Internship Training," Proceedings of the National Association of Boards of Pharmacy (1968), 406-435.
- \_\_\_\_\_. "Symposium on Internship," Proceedings of the National Association of Boards of Pharmacy (1967), 469-476.
- McAllister, Joy. "Canadian Pharmaceutical Journal Completes 100 Years of Publication," Canadian Pharmaceutical Journal, 101, no. 1 (January 1968), 11-20.
- McCutcheon, Rob S. "Dynamic Curriculum," Journal of the American Pharmaceutical Association, Practical Pharmacy Edition, 20, no. 6 (June 1959), 322-323.
- McLean, P. G. "Oregon State Board of Pharmacy Internship Regulations," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 7, Montana (October 13-15, 1963), 41-49.
- \_\_\_\_\_. "Uniform Pharmacy Internship," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 7, Montana (October 13-15, 1963), 37-41.
- Mann, Sister M. Jacinta. "A Study in the Use of the Questionnaire," The Sixteenth Yearbook of the National Council on Measurements Used in Education, National Council on Measurements Used in Education, New York (1959), 171-179.
- "Max Lemberger Appointed Director of Internship," Wisconsin Pharmacist, 35, no. 7 (July 1966), 278.
- Meyer, N. H. "Pharmacy and Pharmaceutical Education," American Journal of Pharmaceutical Education, 21, no. 1 (Winter 1957), 6-8.
- Miller, C. E. "The Preceptorship Training Program--When--How Long?," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 5, Nebraska (September 30-October 1, 1962), 22-25.

- Miller, Delbert C. Handbook of Research Design and Social Measurement. David McKay Company, New York (1964), 332 pp.
- Miller, Genevieve. "Medical Apprenticeship in the American Colonies," Ciba Symposia, 8, no. 10 (January 1947), 502-510.
- "Minimum Standards for Evaluating Practical Experience," Proceedings of the National Association of Boards of Pharmacy (1947), 234-236.
- Moin, Arthur C. (Chairman). "Report of Committee on Internship Requirements," Proceedings of the National Association of Boards of Pharmacy (1959), 228-231.
- \_\_\_\_\_. "Report of Committee on Internship Requirements," Proceedings of the National Association of Boards of Pharmacy (1960), 214-217.
- Morton, Thomas G. and Frank Woodbury. History of the Pennsylvania Hospital, 1781-1895. Times Printing House, Philadelphia (1897), 591 pp.
- Nemec, Dolores. "The Pharmacist's Reference Shelf," Bulletin, School of Pharmacy, University of Wisconsin (Summer 1962-1963), 20.
- Newcomb, Theodore M. Social Psychology. The Dryden Press, New York (1951), 690 pp.
- Newman, Lawrence E. "These Books Form the Nucleus of a Useful Reference Library," American Professional Pharmacist, 27, no. 3 (March 1961), 46-51.
- Nielsen, C. N. "Report of Committee on Practical Experience Requirements," Proceedings of the National Association of Boards of Pharmacy (1954), 190-198.
- Norman, Ralph D. "A Review of Some Problems Related to the Mail Questionnaire Technique," Educational and Psychological Measurements, 8 (1948), 234-245.
- O'Brien, Francis J. "Implementation of the Pharmacists Preceptors' Guide, Panel Discussion," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 2, Maryland (October 21-23, 1965), 133-141.

- Ogrinz, Alexander J., Jr. (Moderator). "Pharmacy Apprenticeship--Is Community Pharmacy Experience the Only Suitable Form of Internship for Licensure?, Panel Discussion," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 2, New York (October 15-17, 1964), 68-93.
- Ohvall, Richard A. "A Study of the Need and Feasibility of Establishing Differential Guidance Standards for Pharmacy Undergraduates in the Extended Curriculum," unpublished Ph.D. thesis, University of Wisconsin, Madison (1952), 324 pp.
- \_\_\_\_\_ and Robert W. Hammel. "Career Decision of Pharmacy Undergraduates," American Journal of Pharmaceutical Education, 27, no. 1 (Winter 1963), 81-86.
- Orr, Jack E. "Uniform Internship Requirements," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, Districts No. 7 and No. 8, Nevada (November 6-8, 1960), 116-124.
- Osborne, George E. "Toward a More Meaningful Experience Requirement," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 1, Rhode Island (February 17-18, 1958), 30-33.
- Parsons, Talcott. "Age and Sex in the Social Structure of the United States," American Sociological Review, 7 (1942), 604-616.
- \_\_\_\_\_. Social Structure and Personality. Free Press, New York (1965), 376 pp.
- \_\_\_\_\_. The Social System. The Free Press, Glencoe, Illinois (1951), 575 pp.
- \_\_\_\_\_, Edward A. Shils and James Olds. "Values, Motives, and Systems of Action," in Toward a General Theory of Action (Talcott Parsons and Edward A. Shils, eds.), Harvard University Press, Cambridge, Massachusetts (1951), 506 pp.
- Paterson, G. R. "The History of Pharmacy in Ontario," Canadian Pharmaceutical Journal, 100, no. 2 (February 1967), 3-8.
- Peszczyński, Mieczysław. "Preceptor Selection for Residents in Physical Medicine and Rehabilitation," American Journal of Physical Medicine, 45 (August 1966), 196.

- "The Pharmacy Act Amendments," Canadian Pharmaceutical Journal, 22, no. 9 (April 1889), 123-124.
- "The Pharmacy Act Amendments," Canadian Pharmaceutical Journal, 26, no. 10 (May 1893), 155-156.
- "The Pharmacy Act of 1871," Canadian Pharmaceutical Journal, 4, no. 33 (1871), 19.
- Pirenne, Henri. Medieval Cities; Their Origins and the Revival of Trade. Doubleday and Co., Inc., Garden City, New York (1925), 185 pp.
- Prescott, Albert B. "Pharmaceutical Education," Proceedings of the American Pharmaceutical Association, 19 (1871), 425-429.
- "President's Annual Address," Proceedings of the National Association of Boards of Pharmacy (1909), 6-11.
- "Proposed Rules and Regulations for Internship Program," Minutes of the Meeting of the Council, The Ontario College of Pharmacy (October 15-17, 1962), 2010-2016.
- Pumpian, Paul A. "Report of the Wisconsin State Board of Pharmacy," Wisconsin Pharmacist, 32, no. 2 (February 1964), 38-39, 40-42.
- Rabe, John F. "Report of Committee on Practical Experience," Proceedings of the National Association of Boards of Pharmacy (1952), 102-105.
- \_\_\_\_\_. "Report of Committee on Practical Experience Requirements," Proceedings of the National Association of Boards of Pharmacy (1950), 149-150.
- \_\_\_\_\_. "Report of Committee on Study and Correlation of Practical Experience Requirements," Proceedings of the National Association of Boards of Pharmacy (1948), 141-142.
- Regulation 480, The Pharmacy Act, as amended to August 31, 1968.
- Remington, Joseph P. "On the College Training of Students in Pharmacy," Proceedings of the American Pharmaceutical Association (1889), 285-290.
- "Requirements for Initial State Licensure of Pharmacists," NABP Indicator, 1, no. 1 (June 1969), 3.

- "Resolutions Adopted at the 83rd Annual W.Ph.A. Convention," Wisconsin Pharmacist, 31, no. 10 (October 1963), 350-352.
- "Role Call Vote of Wisconsin Legislature on Bill 314-S," Wisconsin Pharmacist, 34, no. 11 (November 1965), 452.
- Rose, Arnold M. "The Adequacy of Women's Expectations for Adult Role," Social Forces, 30 (1951), 69-77.
- Rose, Henry J. "Annual Report of the President of the Council of the Ontario College of Pharmacy, July 1872," Canadian Pharmaceutical Journal, 6, no. 2 (September, 1872), 43-47.
- Rosenfeld, Howard and Alvin Zander. "The Influence of Teachers on Aspirations of Students," Journal of Educational Psychology, 52, no. 1 (February 1961), 1-11.
- Rowe, Tom D. (Chairman). "Report of the Committee on Relation of Boards and Colleges," American Journal of Pharmaceutical Education, 16, no. 4 (October 1952), 618-623.
- \_\_\_\_\_. "Report of the Committee on Relation of Boards and Colleges of Pharmacy," American Journal of Pharmaceutical Education, 17, no. 4 (October 1953), 592-596.
- Ryans, David G. "Assessment of Teacher Behavior and Instruction," Review of Educational Research, 33, no. 4 (October 1963), 415-441.
- \_\_\_\_\_. Characteristics of Teachers. American Council on Education, Washington, D.C. (1960), 416 pp.
- Salisbury, Rupert (Chairman). "Report of Committee on Internship Requirements," Proceedings of the National Association of Boards of Pharmacy (1962), 77-86.
- \_\_\_\_\_. "Report of the Committee on Internship Requirements," Proceedings of the National Association of Boards of Pharmacy (1964), 178-182.
- \_\_\_\_\_. "Report of the Internship Requirements Committee," Proceedings of the National Association of Boards of Pharmacy (1963), 217-219.

- Santies, Lourdes and Kathleen Cultar. "How Hospitals Implement Menu Systems," Hospitals, 38, no. 10 (May 16, 1964), 93-96, 140.
- Sarbin, Theodore R. "Role Theory," in Handbook of Social Psychology, vol. 1 (Gardner Lindzey, ed.). Addison-Wesley Publishing Co., Cambridge, Massachusetts (1954), 588 pp.
- Sargant, S. Stansfeld. "Concepts of Role and Ego in Contemporary Psychology," in Social Psychology at the Crossroads (John Rohrer and Muzafer Sherif, eds.). Harper and Brothers, New York (1951), pp. 355-370.
- Saunders, W. "Pharmacy in Canada," Proceedings of the American Pharmaceutical Association, 19 (1872), 429-436.
- Shaffer, Laurence F. The Psychology of Adjustment. Houghton Mifflin Co., New York (1936), 672 pp.
- Sharp, William T. "An Analysis of the Wisconsin Trainee Program in Wisconsin," unpublished master's thesis (Pharmacy Administration). University of Wisconsin, Madison (1964), 113 pp.
- Shuttleworth, E. B. "Ontario College of Pharmacy," Canadian Pharmaceutical Journal, 15, no. 8 (March 1882), 266.
- Siegel, Sidney. Nonparametric Statistics for the Behavioral Sciences. McGraw-Hill, New York (1956), 312 pp.
- Slater, Philip E. "Role Differentiation in Small Groups," in Small Groups (A. Paul Hare, Edgard F. Borgatta, Robert F. Bales, eds.). Alfred A. Knopf, New York (1955), pp. 498-515.
- Smith, Harry A. and Irwin J. Sternberg. "Views on Internship," Kentucky Pharmacist, 25, no. 2 (February 1962), 16-17.
- Smith, Joshua Toulmin. English Guilds. N. Trubner and Co., London (1820), 483 pp.
- Sonnedecker, Glenn A. "American Pharmaceutical Education Before 1900," unpublished Ph.D. thesis. University of Wisconsin, Madison (1952), 752 pp.

- \_\_\_\_\_ and George Urdang. "Pharmaceutical Education," Higher Education, 9, no. 12 (February 15, 1953), 133-141.
- Staley, Edgecumbe. The Guilds of Florence. A. C. McClung and Co., Chicago (1906), 622 pp.
- Steele, Robert E. "The Report of President Robert E. Steele at the 1965 W.Ph.A. State Convention," Wisconsin Pharmacist, 34, no. 9 (September 1965), 370, 372.
- \_\_\_\_\_. "The Wisconsin Internship Program," Wisconsin Pharmacist, 32, no. 5 (May 1964), 158, 160, 179.
- Taylor, H. A. The Practice of Pharmacology in Europe (collated reprint from the Midland Druggist and Pharmaceutical Review [n.p.c. 1910]), 64 pp.
- Thompson, J. W. Economics and Social History of Europe in the Later Middle Ages, vol. 2. F. Ungar Publishing Co., New York (1965), 545 pp.
- Thorndike, Robert L. and Elizabeth Hagen. Measurement and Evaluation in Psychology and Education. 2nd ed. John Wiley and Sons, New York (1961), 602 pp.
- Tice, Linwood F. "Apprenticeship and Preceptorship--Your Responsibility," American Professional Pharmacist, 21, no. 4 (April 1955), 351-352, 382-383.
- \_\_\_\_\_. (Chairman). "Education," Journal of the American Pharmaceutical Association, NS8, no. 7 (July 1968), 387-390.
- \_\_\_\_\_. "Specialization in Pharmaceutical Education," American Journal of Pharmaceutical Education, 24, no. 4 (Fall 1960), 427-430.
- Tyler, Leona E. Tests and Measurements. Prentice-Hall, Inc., New Jersey (1963), 116 pp.
- Tyler, Louise L. "The Concepts of an Ideal Teacher-Student Relationship," Journal of Educational Research, 58, no. 3 (November 1964), 112-117.
- Unwin, George. Industrial Organization in the Sixteenth and Seventeenth Centuries. A. M. Kelly, New York (1963), 277 pp.

- Wakefield, Howard. "The Preceptor-Intern Relationship," American Journal of Pharmaceutical Education, 25, no. 2 (Spring 1961), 227-238.
- Waters, Kenneth (Moderator). "Panel Discussion: The Pharmacy Internship Notebook," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 3, Georgia (August 23-25, 1964), 23-29.
- Webster, George L. "Report of the Special Joint Committee on Internship Training," American Journal of Pharmaceutical Education, 31, no. 3 (August 1967), 349-352.
- White, Allen I. "The Development of Professional Morality in Pharmacy Students," American Journal of Pharmaceutical Education, 17, no. 2 (April 1953), 222-225.
- Wiley, Ken T. (Chairman). "Report of Committee on Education," Minutes of the Meeting of the Council, The Ontario College of Pharmacy (April 13-15, 1964), 2277.
- \_\_\_\_\_. "Report of Committee on Education," Minutes of the Meeting of the Council, The Ontario College of Pharmacy (October 21-23, 1963), 2199-2201.
- Wisconsin Administrative Code, Rules of Wisconsin State Board of Pharmacy, 3.06 (March 1964).
- "Wisconsin's Pharmacy Internship Commission," Wisconsin Pharmacist, 35, no. 3 (March 1966), 82-84.
- World Directory of Schools of Pharmacy 1963. World Health Organization, Geneva (1966), 301 pp.
- Xavier, Sister Mary Frances (Welhoefer). "Statutes of the Guild of Physicians, Apothecaries and Merchants in Florence (1313-1316)," unpublished Ph.D. thesis. University of Wisconsin, Madison (1935), 385 pp.
- Youngken, Heber W., Jr. "Student Externships in Pharmacy," Proceedings of the N.A.B.P.-A.A.C.P. Joint Meeting, District No. 1, Connecticut (October 24-26, 1965), 48-54.
- \_\_\_\_\_. "The Washington Experiment--Clinical Pharmacy," American Journal of Pharmaceutical Education, 17, no. 1 (January 1953), 64-70.
- Znaniacki, Florian. The Social Role of the Man of Knowledge. Columbia University Press, New York (1940), 212 pp.

A COMPARATIVE STUDY OF THE PHARMACIST AS PRECEPTOR  
IN WISCONSIN AND ONTARIO

by BERNARD PAUL DES ROCHES

(Under the supervision of Professor Glenn Sonnedecker)

Since the advent of the controlled internship program in pharmaceutical training, there has been little extensive research conducted on the effects of this innovation. The purposes of our study were to i) study the pharmacist as a practical teacher; ii) characterize as far as possible the circumstances of superior preceptorship; iii) uncover and interrelate certain information about the temperament of these preceptors and the environment in which they teach; iv) study features that differentiate preceptors; v) examine the views of preceptors and interns on the controlled internship program; vi) test the usefulness of certain methods for expanding our resources for assessing the preceptor-intern relationship; and vii) locate areas susceptible to change in the direction of enhancing the quality of the internship.

To explore the dyadic relationship between preceptor and intern, in terms of a learning experience, it was decided to distinguish two groups of pharmacists at different levels of preceptorship, on the basis of the impressions of some of their former interns. Our sample consisted of 41 preceptors in Wisconsin rated by 100 of their former interns on six factors related to their

preceptorial effectiveness, and 60 preceptors in Ontario rated by 149 of their former interns. The preceptors were interviewed and interns surveyed by mail-questionnaire (returned by 52 Wisconsin and 89 Ontario interns). The Guilford-Zimmerman Temperament Survey was completed by 36 Wisconsin and 56 Ontario preceptors, and various forms were used to characterize the pharmacies according to their appearance and teaching facilities.

Comparing the use of the rating technique in Ontario and Wisconsin revealed that the scale utilized is acceptable and understood by the respondents; it is clear in its intent and elicits the desired response, but it is impossible, within the limits of the present study, to verify the results from our rating system. Our research points to the factors governing an intern's rating of his preceptor but further research is needed to be definitive.

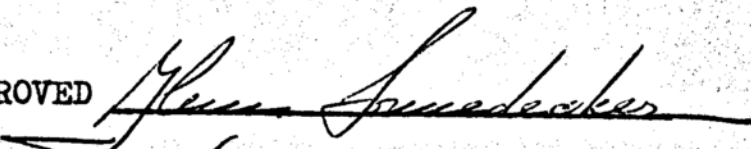
The information provided by the preceptor's academic records, his experience as a pharmacist and as a preceptor, and more particularly by his score on a temperament survey give new insight into the pharmacist's performance as a practical teacher, but on the whole, it was impossible to say on the basis of the data that the superior-rated preceptors differed significantly from their colleagues in terms of effectiveness as practical teachers. A closer relationship was found between rated effectiveness as a practical teacher and the nature of the training environment. Superior-rated preceptorship

did seem to bear some relationship to a more professional environment in a pharmacy that provided better teaching resources. Further study will confirm or deny our interpretation that features which students often feel desirable in a training pharmacy are more frequently available in large-scale operations than has been commonly believed. The exact formula for predicting or achieving "superior preceptorship" probably must remain enigmatic, but the present study is an opening wedge into improved methods and concepts of analysis and control of the preceptorship that can benefit both the public and pharmacy itself.

GRADUATE SCHOOL

DEC 1 1969

APPROVED



DATE

