

**MEDICAL CENTER ARCHIVES
OF
NEWYORK-PRESBYTERIAN/WEILL CORNELL**

**1300 York Avenue # 34
New York, NY 10065**

**Finding Aid To
THE KEEVE BRODMAN, MD (1906-1979) PAPERS**

**Dates of Papers:
1918-1978**

**62 Linear Inches
(13 Boxes)**

**Finding Aid Prepared By:
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July 1982**

Biographical Note

Keeve Brodman was born August 5, 1906 in New York City. He attended Townsend Harris Hall, graduating in 1923, and then went on to the College of the City of New York. After his graduation from there in 1927, he entered Cornell University Medical College as a member of the Class of 1931. During his last year at Cornell, he was an Instructor of Physiology. After graduation, he joined the Department of Medicine at Bellevue Hospital as an Associate Attending Physician, an appointment which lasted until 1944. He was also employed in the Outpatient Dept. of the New York Hospital, starting in 1934. He remained connected to this Department until his retirement in 1971.

In 1942 Dr. Brodman was called to active service in the Army Medical Corps. He had the rank of Major and served briefly as the Director of the Medical Section of Station Hospital in Virginia. However, in 1944 he was forced to give up this position and retire from the Army due to the development of multiple sclerosis. At this time, Dr. Brodman returned to his position at New York Hospital and also joined the staff of Cornell University Medical College as Assistant Professor of Clinical Medicine. Here he began to pursue his interests in psychosomatic medicine, and began working with the team of doctors at Cornell (Harold G. Wolff, Bela Mittelman, Arthur Weider, and David Wechsler) who had created the Cornell Selectee Index and the Cornell Service Index. From these early efforts grew the Cornell Index (1945/46), the Cornell Medical Index (1947), the Medical Data Index (c1964) and the Medical Data Screen Method (c1966). These latter projects were mainly the work of Dr. Brodman, with the aid of Dr. Adrianus J. van Woerkom. (See below for a fuller description of the indices.)

Despite the multiple sclerosis, Dr. Brodman was very active in the medical profession for many years. This is witnessed by the private psychiatric practice he maintained at his home until his retirement in 1971, his work at Cornell and New York Hospital, and the numerous papers that grew from his research in computer-aided medical diagnosis. He belonged to several professional organizations, and received many honors in recognition of his contributions in this pioneering area of medicine.

Dr. Brodman died on March 18, 1979.

The Indices

The first health questionnaire developed at Cornell was the Cornell Selectee Index in 1944. It was designed for use with civilians as they were inducted into the service. The next year, the Cornell Service Index was developed as "A Method of Quickly Assaying Personality and Psychosomatic Disturbances in Men in the Armed Forces". Both were self-administered questionnaires that would elicit a neuropsychiatric history from the interviewee.

In 1946 there appeared the Cornell Index, which was based on Form N of the Cornell Selectee Index. Two forms of the CI were created: N2, which had one hundred and one (101) questions, and a shorter (sixty-two questions) N3. Again, this was to be used for "Quickly Assaying Personality and Psychosomatic Disturbances..."

The Cornell Medical Index Health Questionnaire (CMI) was announced in 1947. This has one hundred and ninety-five (195) simply phrased questions, with separate forms for men and women. Its purpose is to obtain important facts about a person's general medical history without the expenditure of the doctor's time. Having the completed questionnaire in hand, the physician will thus be better in-formed when conducting his own medical interview.

During the 1950's Dr. Brodman worked on computerizing the results of the questionnaires. In 1959, an article appeared called "The Interpretation of Symptoms with a Data-Processing Machine". This was the result of these efforts. Using data collected in the Outpatient Department of the New York Hospital in 1948-1949 and additional data elements, Dr. Brodman, et al. determined the sixty most frequently diagnosed diseases. This knowledge was then applied by the computer to the CMI's of patients from 1956 to obtain a machine diagnosis. Later, a 100 Diseases Edition was created. These computer diagnoses were intended to be used only as an adjunct to a physician's diagnosis, and as an aid when trying to give medical appraisals of large groups of people, such as in a company or in a health group.

Finally, in 1964-65 the Medical Data Index-Health Questionnaire (MDI) and the Medical Data Screen Method (MDS) were created. The MDI contains one hundred and fifty questions, with separate forms for men and women, and is a direct descendent of the CMI. Once the questionnaire was filled in by the patient, it was sent to the Medical Data Corporation (MDC), and later to the Medata Foundation, to be screened by computer for any of the symptoms of one hundred common diseases (as diagnosed most frequently at the New York Hospital Outpatient Department from 1948-49 and 1956-58.) Reports were then sent back to the physician containing the computer's findings. Again, the MDS Method was to be used only as an aid to the doctor, and not as a complete medical diagnosis itself.

Scope and Content Note

Although the bulk of the Brodman Papers deals with the Medical Data Screen, there are still five clear series of records contained within this Collection: Subject Files, Correspondence, Personal Files, Reprints, and Data Sheets. Taken as a whole, the records say a great deal about their creator. The Correspondence and Subject Files document Dr. Brodman's interest in theory, mathematics, helping others in their research, a meticulous attention to detail, and always the constant refining of his own work with Dr. van Woerkom on computer diagnosis.

These records show his relations with the Medical Data Corporation and the Medata Foundation (Dr. Brodman was Director of Research for both groups) which did the computer screening and printed the physicians' reports. They also contain letters from Hoffmann-LaRoche regarding their interest in the Medical Data Screen and its possible applications nationwide. They surveyed the potential of marketing this service across the country, but decided suddenly in October of 1972 that the time was not right and withdrew their involvement.

An important part of the Brodman Papers is the Data Sheets. These represent the raw data that Dr. Brodman used in his various studies and to perfect the different health questionnaires and computer programs. Some of these data sheets contain personal names and are restricted. This is the only restriction on the Collection.

Series Descriptions

Subject Files, 1943-1974.

13 inches, (Box 1, 2, 3)

Arranged alphabetically

Correspondence; manuscripts; manuals and forms for the Cornell Index, Cornell Selectee Index, Cornell Medical Index, Medical Data Index and Medical Data Screen; foreign translations of CMI; Reports to Physicians; reports on projects; revisions of MDS Method.

Correspondence, 1948-1978 (mostly 1962-1972).

142 inches, (Box 3, 4, 5, 6)

Arranged chronologically

Correspondence regarding the CMI and MDS; requests for reprints of articles and forms; between employees of Medical Data Corp. and also with Roche Laboratories concerning the marketing of the MDS Method; with Dr. Adrianus van Woerkom regarding the work itself. Also contains computer printouts that are referred to in the correspondence of 1972.

Personal Files, 1918-1976

10 inches, (Box 7, 8)

Arranged alphabetically by folder title, with bound volumes boxed together by date.

Correspondence; artifacts; awards; membership cards; yearbooks; textbooks; sketchbook; miscellaneous biographical information.

Reprints, 1928-1968.

22 inches, (Box 9)

Arranged chronologically

Reprints of articles by Dr. Brodman and/or relating to the Cornell indices.

Data Sheets, 1948-1972.

182 inches, (Box 10, 11, 12)

Arranged chronologically by the date when the data was collected. Computer printouts and input sheets.

N.B. Some of these contain patients; names and are restricted.

Subjects

Cornell Medical Index

Wartime Activity/Military Medicine

Wolff, Harold G., M.D.

Psychiatry

Container List

Box 1:

- f.1 Articles Re: Computers and Medicine (not by Keeve Brodman).
- f.2 The Cornell Indices; a Bibliography, by Doris Lowe, 1974.
- f.3 CMI-Forms and Manuals.
- f.4 CSI, Forms and other early indices.
- f.5 Foreign Language CMI's.
- f.5a Arabic CMI
- f.6 CMI in Hindu (fragile).
- f.7 Grant Applications, 1946-1966.
- f.8 Grant Application and Correspondence (National Institute of General Medical Science), 1965-1966.
- f.9 "A History of the Medical Data Screen Method", n.d.
- f. 10 Manuscripts, Misc., 1943-1967.
- f.11 MDI, Forms and Manual, 1964, 1966

Box 2

- f.1 MDS, Forms and Manuals, 1966, 2nd edition.
- f.2 MDS, Reports to Physicians, 1965-1967.
- f.3 MDS, Reports to Physicians, (Holland), 1967.
- f.4 MDS, Reports to Physicians, Sept. 9, 1968.
- f.5 MDS, Reports to Physicians, October 28, 1968.
- f.6 MDS, Reports to Physicians, Dec. 3, 1968
- f.7 MDS, Revisions, 1965-1966.
- f.8 MDS, Revisions, 1968.
- f.9 MDS, Revisions, 1969.
- f.10 MDS, Revisions, 1971.

Box 3:

- f.1 MDS Revisions Regarding Patient Exaggeration of Symptoms, 1970-1971.
- f.2-3 MDS, Revision, 1972.
- f.4 Notes, Misc., 1967-1968.
- f.5 Oneonta Health Survey, Correspondence. and Forms, 1951-1952.
- f.6 Other Health Questionnaires.
- f.7 Report: CMI and Army Inductees, July, 1955.
- f.8 Report: Final Report on Project RG-4742, July, 1961.
- f.9 "Significant Items for the 100 Diseases", Feb. 1968.
- f.10 Correspondence, 1948-1951.
- f.11 " 1954-1955.
- f.12 " 1958-1962.
- f.13 " 1963-1965.

Box 4:

- f.1 Correspondence, 1966.
- f.2 " 1967.
- f.3 " 1968.
- f.4 " 1969.

Box 5:

- f.1 Correspondence, 1970-1973, 1976.
- f.2 Computer Printouts: Test Cases, October 1972.
- f.3* MDS Reports: Cases 1-55 (Dr. Baer), Nov. 3, 1972, 1st Run.
- f.4* MDS Reports: Cases 56-88 (Dr. Baer), Nov. 3, 1972, 1st Run.
- f.5* MDS Reports: Cases 1-88 (Dr. Baer), Dec. 1, 1972, 2nd Run.

Box 6:

- f.1 Correspondence, 1978.
- f.2 Correspondence regarding translations of CMI, 1953-54, 1962.
- f.3 Correspondence with Dr. Van Woerkom, 1955-1960, 1962.
- f.4 Correspondence with Dr. Van Woerkom, 1964-1967, 1970-1972.

Box 7:

- f.1 Army, 1940-1942.
- f.2 " 1943-1944, 1946-1947.
- f.3 Autograph book, 1920.
- f.4 Biographical and misc. personal items.
- f.5 Certificates, awards, programs, membership cards, c1918-1978.
- f.6 Correspondence, Personal.

Box 7 (cont)

- f.7 Yearbook: Townsend Harris Hall, 1923.
f.8 " College of the City of New York, 1927.

Box 8:

- f.1 "Laboratory Aid for the Study of Neuro-Anatomy", by J.H. Globus,
3rd edition, 1926.
f.2 Notes on the Clinical Aspects of Measles, Diphtheria, and Scarlet
Fever, Philip M. Stimson, 1927.
f.3 "Outline of Infant Feeding", c1930.
Rorschach Psycho diagnostic Tables.
Thematic Apperception Test, c1943.
f.4 Sketchbook, pp. 1-5.
f.5 " pp. 6-7.
f.6 " pp. 8-11.
f.7 " pp. 12-15.
f.8 " pp. 16-21.
f.9 " pp. 22-28.
f.10-13 Art ID. Plates I-XXV.
f.14-17 Art 2M Plates II-XVIII, XX, XXV.
f.18-19 Unidentified plates.

Box 9:

Salant, Wm., Nadler, Ernest J., and Brodman, Keeve, "Circulatory Reactions to Ergotamine and Effect Upon Them Produced by Adrenalectomy and the Blood pH," Proceedings of the Society for Experimental Biology and Medicine, 1928, xxv, pp. 361-364.

Cattell, McKeen, and Brodman, Keeve, "The Influence of the Number of Active Fibers on the Heat-Tension Ratios of Striated Muscle," Journal of Physiology, v. LXX, no.2, Sept. 18, 1930.

Brodman, Keeve, and Cattell, McKeen, "Heat vs. Tension in Relation to the Problem of Plurisegmental Innervation," Journal of Physiology, v. LXX, no.3, Oct. 31, 1930.

Mittelman, Bela, M.D. "The Cornell Selectee Index: Short Form to be Used at Induction, at Reception and During Hospitalization," [paper] Given at Second Brief Psychotherapy Council, Chicago, Jan. 1944, Chicago Institute for Psychoanalysis.

Box 9 (cont)

- Brodman, Keeve, M.D., "Absenteeism, Working Efficiency and Emotional Maladjustments in Groups of Employees," Industrial Medicine, v. 14, no d, pp. 1-5, Jan.1945.
- Weider, Arthur, M.A., Brodman, Keeve, M.D., Mittelman, Bela, M.D., Wechsler, David, Ph.D., and Wolff, Harold G., M.D., "Cornell Service Index: A Method for Quickly Assaying Personality and Psychosomatic Disturbances in Men in the Armed Forces," War Medicine, v.7, April 1945-,pp. 209-213.
- Mittelman, Bela, Weider, Arthur, Brodman, Keeve, Wechsler, David, and Wolff, Harold G., "Personality and Psychosomatic Disturbances in Patients on Medical and Surgical Wards: A Survey of 450 Admissions," Psychosomatic Medicine, v.VII, no.4, July 1945.
- Brodman, Keeve, Major; Mittelman, Bela M.D.; Wolff, Harold G, M.D., "Psychologic Aspects of Convalescence: XX," JAMA, v. 129, Sept. 15, 1945, pp. 179-187.
- Mittelman; Weider; Vonachen, Harold A.; Kronenberg, Milton; Weider, Norma; Brodman; Wolff, "Detection and Management of Personality and Psychosomatic Disorders Among Industrial Personnel," Psychosomatic Medicine, v.VII, no.6. Nov. 1945.
- Vonachen; Mittelman; Kronenberg; Weider, Brodman; and Wolff, "A Comprehensive Mental Hygiene Program at Caterpillar Tractor Co.: Improving Human Relation-ships in Industry," Industrial Medicine, v.15, no.3, March 1946, pp. 179-184.
- Annals of the New York Academy of Sciences, "The Cornell Indices and the Cornell Word Form: 1. Construction and Standardization, by Bela Mittelman and Keeve Brodman; 2. Results, by Arthur Weider and David Wechsler; 3. Application by Harold H. Wolff", v. XLVI, Art .7, July 30, 1946, pp. 573-591.
- Abramson, Harold A.: Brodman; Harris, Harold J.; Killinger, George G.: Mittelman; Piotronski, Zygmunt A.; Rapaport, David; Schafer, Roy; Scheerer, Martin; Wechsler; Weider; Wolff; Wladkowsky, Edith; Zubin, Joseph, "Non-Projective Personality Tests," Annals of the New York Academy of Sciences, v. XLVI, Art.7, July 30, 1946, pp. 531-678.

Box 9 (cont)

Weider; Brodman; Mittelman; Wechsler and Wolff, "The Cornell Index: A Method for Quickly Assaying Personality and Psychosomatic Disturbances, to be Used as an Adjunct to Interview," Psychosomatic Medicine, v. VIII, no. 6, Nov.-Dec. 1946.

Brodman; Mittelman; Wechsler; Weider and Wolff, "The Incidence of Personality Disturbances and their Relation to Age, Rank and Duration of Hospitalization in Patients with Medical and Surgical Disorders in a Military Hospital," Psychosomatic Medicine, v. IX, no.1, Jan.-Feb. 1947.

Brodman; Mittelman; Wechsler; Weider and Wolff, "The Relation of Personality Disturbance to Duration of Convalescence from Acute Respiratory Infections," Psychosomatic Medicine, v. IX, no.1, Jan-Feb. 1947.

Brodman and Hellman, Louis P., M.S., "Absenteeism and Separation in Relation to Length of Employment," Industrial Medicine, v. 16, no.5, May 1947, pp. 219-222

Brodman; Erdmann, Albert J., Jr., M.D.; Lorge, Irving, Ph.D. and Wolff, "The Cornell Medical Index: AN Adjunct to Medical Interview," JAMA, v.140, June 11, 1949, pp. 530-534.

Brodman; Erdmann; Lorge and Wolff, "The Cornell Medical Index-Health Questionnaire: II. As a Diagnostic Instrument," JAMA, v. 145, Jan. 20, 1951, pp. 152-157.

Brodman; Erdmann; Lorge; Gershenson, Charles P., Ph.D. and Wolff, "The Cornell Medical Index-Health Questionnaire: III. The Evaluation of Emotional Disturbances," Journal of Clinical Psychology, v. VIII, no.2, April 1952, pp. 119-124.

Erdmann; Brodman; Lorge; and Wolff, "Cornell Medical Index-Health Questionnaire: V. Outpatient Admitting Department of a General Hospital," JAMA, v. 149, June 7, 1952, pp. 550-551.

Brodman, Erdmann; Lorge; Gershenson and Wolff, "The Cornell Medical Index-Health Questionnaire: IV. The Recognition of Emotional Disturbances in a General Hospital," Journal of Clinical Psychology, v.VIII, no.3. July 1952, pp. 289-293.

"The Patient tells His Story," The British Medical Journal, Dec. 6, 1952. "Check Your Own Health," Coronet, April 1953, pp. 61-66.

Box 9 (cont)

Brodman; Erdmann; Lorge and Wolff, "The Cornell Medical Index-Health Questionnaire: VII. The Relation of Patients' Complaints to Age, Sex, Race, and Education," Journal of Gerontology, v.8, no.3, July 1953.

Erdmann; Rodman; Deutschberger, Jerome, M.A. and Wolff, "Health Questionnaire Use in an Industrial Medical Department," Industrial Medicine and Surgery, v.22. no.8, August 1953, pp. 355-357.

Brodman; Erdmann; Lorge; Deutschberger and Wolff, "The Cornell Medical Index-Health Questionnaire: VII. The Prediction of Psychosomatic and Psychiatric Disabilities in Army Training," American Journal of Psychiatry, v.III, no.1, July 1954.

Brodman; Deutschberger; Erdmann; Lorge and Wolff, "Prediction of Adequacy for Military Service - Use of the Cornell Medical Index-Health Questionnaire," U.S. Armed Forces Medical Journal, v. V, no.12, Dec. 1954.

Weider; Mittelman; Wechsler and Wolff, "Further Developments of the Cornell Word Form," Psychiatric Quarterly, v.29, Oct. 1955, pp. 588-594.

Erdmann, Albert J., Jr., M.D., "Experiences in Use of Self-Administered Health Questionnaire," A.M.A. Archives of Industrial Health, v. 19, March 1959, pp. 339-344.

Brodman; Van Woerkum, Adrianus J., Ph.D.; Erdmann and Goldstein, "Interpretation of Symptoms with a Data-Processing Machine," A.M.A. Archives of Internal Medicine, v.103, May 1959, pp. 776-782.

Brodman, Keeve, "Diagnostic Decisions by Machine," IRE Transactions on Medical Electronics, v. ME-7, July 1960.

Van Woerkum, Adrianus J. and Brodman, "Statistics for a Diagnostic Model," Biometrics, v.17, no.2, June 1961.

Brodman; Van Woerkum, Goldstein, "An Operational Diagnostic Model," Digest, International Conference on Medical' Electronics, 1961.

Abramson, J.H.B., "The Cornell Medical Index as an Epidemiological Tool," AJPH, v.56, no.2, Feb. 1966.

Brodman and Van Woerkum, "Computer-Aided Diagnostic Screening for 100 Common Diseases," JAMA, v. 197, Sept. 12, 1966, pp. 901-905.

Box 9 (cont)

U.S. Congressional Record, 89th Congress, 2nd Session, "Medical Data: Extension of Remarks of Hon. Maurine B. Neuberger of Oregon in the Senate of the United States", Oct. 22, 1966.

Brodman; Goldstein and Baer, Ralph, MD., "Automated Diagnostic Screening for Comprehensive Medicine," presented at the 52nd Meeting of the Industrial Medical Association, April 10-13, 1967, NY, NY.

Brodman and Goldstein, "The Medical Data Screen: AN Adjunct for the Diagnosis of 100 Common Diseases," Archives of Environmental Health, v.14, June 1967.

"Computers Programmed to Sort Routine Symptoms," Medical World News, Feb 16, 1968.

Brodman and Hellman, "The Relation of Group Morale to the Incidence and Duration of Medical Incapacity in Industry," Psychosomatic Medicine, v. IX, no.6, Nov.-Dec. 1947.

Van Woetom, Adrianus J., "Program for a Diagnostic Model," IRE Transactions on Medical Electronics, v. ME-7, July 1960.

f.1 Rache Psychiatric Service Institute: MMPI Kit, 1969

f.2" Rache Psychiatric Service Institute: MMPT Informational material, 1968-1971
Brodman, Keeve, Men At Work: The Supervisor and His People, Chicago: Cloud, Inc., 1947.

f.3 Men At Work: --Abstracts and Reviews, 1947-1949
" --Manuscript, (Typed)

Reprints Added:

Brodman, Keeve, "Rates of Absenteeism and Turnover in Personnel-In Relation to Employees' Work Attitudes," Industrial Medicine, 14:12, 953-957

Hellman, Louis P. and Keeve Brodman, "Minor Illness, Short Medical Absenteeism, Lateness and Separation in a Mail Order Firm-The Firm as a Whole," Industrial Medicine, 16:1, 14-17

Brodman, Keeve and Louis P. Hellman, "The Relation of a Group Morale to the Incidence and Duration of Medical Incapacity in Industry," Psychosomatic Medicine, v. IX, No. 6 Nov-Dec, 1947.

On January 13, 1984, the Medical Archives received additional material from the Wood Library. It was added to Box 9.

Box 10

- f.1 1948 Data: Comp. of models, Cond. Probability and Sig. Values
- f.2 " Factor Analysis
- f.3 " Self Learning Model.
- f.4 " Probability Groups (Men), 60 Dxs.
- f.5 " Item x Age
- f.6 " Probability Groups (Men) Dxs by organ systems.
- f.7 " Probability Groups (Female), 60 Dxs
- f.8 " Book 1 [Female]
- f.9 " Book 2 "
- f.10 " Book 3 "
- f.11 " Book 1 [Men].
- f.12 " Book 2 "
- f.13 " Book 3 "
- f.14 " Book 4 "
- f.15 " Psychoneurosis for Women (PSN)
- f.16 1956 Data Females-Correct Dxs. (Book 1)
- f.17 " " " " (Book 2).
- f.18 " Females-Machine Dxs. (Book 3),
- f.19 " Males-Correct Dxs. (Book 1).
- f.20 " " " " (Book 2).
- f.21 " " " " (Book 3).
- f.22 " Psychoneurosis for Male and Female (PSN).
- f.23 " Spec. Study 10/59-Age x A-L x M-R x Sel Dxs.
- f.24 " 350 General Medical Cases-Comaprisan Model to M.D.
- f.25 " "Study of Complaints made frequently by patients with Dx
requiring criteria not often needed by internists,"
3/1959
- f.26 " Special Sample-General Medicine, 350 Cases (Males).
- f.27 1959 Data: Dx Made by Computer-Men (Book 1).
- f.28 " " (Book 2)
- f.29 " " (Book 3)
- f.30 " " (Book 4).
- f.31 " Dx Made by Hospital and by Computer-Women (Book 1).
- f.32 " " (Book 2).
- f.33 " " (Book 3).
- f.34 " No. of cases available and no. of cases identified at each
cutoff level, 9/1969.

