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# Guide to the Nathaniel Kleitman Papers 1896-2001



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## Descriptive Summary

<b>Identifier</b>	ICU.SPCL.KLEITMANN
<b>Title</b>	Kleitman, Nathaniel. Papers
<b>Date</b>	1896-2001
<b>Size</b>	37.25 linear feet (54 boxes)
<b>Repository</b>	Special Collections Research Center University of Chicago Library 1100 East 57th Street Chicago, Illinois 60637 U.S.A.
<b>Abstract</b>	Nathaniel Kleitman, recognized as the father of modern sleep research, served on the faculty of the University of Chicago's Department of Physiology. His papers include notes, experiment data, drafts of articles and books, academic reprints, newspaper clippings, photographs, artifacts, and audio-visual recordings.

## Information on Use

### Access

The collection is open for research.

### Restrictions on Use

Series V contains audio and video recordings. Due to the lack of listening access copies for recordings, researchers will need to consult with staff before using audio and visual material.

### Citation

When quoting material from this collection, the preferred citation is: Kleitman, Nathaniel. Papers, [Box #, Folder #], Special Collections Research Center, University of Chicago Library.

### Biographical Note

Nathaniel Kleitman was born in Kishinev, Russia on April 26, 1895 to Jewish parents, Nathaniel and Pesia Kleitman. Nathaniel Kleitman, Sr. died of tuberculosis a few months prior to his son's birth. Pesia Kleitman remarried in 1900, and Nathaniel spent much of his childhood living with his maternal grandparents. He attended a private high school (a Realschule) until 1912. Kleitman studied briefly at Syrian Protestant College in Lebanon, now the American University of Beirut, in 1914. Following the outbreak of World War I, Kleitman and other foreign students were evacuated to Turkey. From there, Kleitman travelled to Greece, and then to New York in August of 1915. He became a naturalized U.S. citizen in 1918. The following year, he earned his B.S. degree from what is now City College of New York. In 1920 he received his M.A. from

Columbia University, followed by two years as an instructor in physiology and pharmacology at the University of Georgia. In 1923 he became a research associate in physiology at the University of Chicago and earned his Ph.D. that same year. Upon graduation, Kleitman was the recipient of a National Research Council fellowship which allowed him to continue his research at the University of Utrecht, the University of Paris, and the University of Chicago until 1925.

He joined the faculty of the University of Chicago in 1925 as an assistant professor of physiology, and was named associate professor in 1929. He married Paulena Schweizer in 1927; they had two daughters, Hortense and Esther. Kleitman established the world's first sleep laboratory early in his career at the University of Chicago, and in 1939 published a seminal text on sleep research: *Sleep and Wakefulness as Alternating Phases in the Cycle of Existence* (revised and enlarged in 1963). Kleitman became a full professor at the University of Chicago in 1950.

Dr. Kleitman regularly used himself, family members, students, and assistants as research subjects. For several years, his daughters slept on beds designed to record sleep patterns. In 1938, Kleitman and post-graduate student Bruce Richardson lived for more than a month in Mammoth Cave in Kentucky to determine if humans could adapt to a twenty-eight-hour day in the absence of normal environmental cues of light and temperature change. They discovered that body temperatures fluctuate throughout the day, and that a person's peak efficiency coincides with peak body temperature. Kleitman continued this line of inquiry in 1948 when he spent two weeks aboard a submarine, the U.S.S. Dogfish, studying the relationship between mental alertness and temperature change. From May to July of 1951, Kleitman and his family lived in Tromsø, in northern Norway, where he studied how long periods of exposure to daylight affected the sleep patterns of inhabitants of the Arctic Circle.

These studies influenced the conception and scheduling of shift work for soldiers and industrial workers. Kleitman's research also greatly impacted scientists' understanding of circadian and ultradian rhythms. He proposed a regular, 90-minute cycle of rest and activity - in sleep and wakefulness - which he called the basic rest-activity cycle (BRAC).

In 1953, Dr. Kleitman and student Dr. Eugene Aserinsky famously reported their discovery of rapid eye movement (R.E.M.) during sleep in their paper "Regularly Occurring Periods of Eye Motility, and Concomitant Phenomena, During Sleep," published in the journal *Science*. They demonstrated the correlation between R.E.M. sleep and dreaming. A 1956 study of R.E.M. sleep with student William C. Dement dispelled the notion that dreams last for only a few seconds (the average person dreams for two hours a night).

Dr. Kleitman remained active in his profession long after his retirement from the University of Chicago in 1960. He published his last article at the age of eighty-seven, and was a participant in D. L. Bliwise's study, "Sleep in a Nonagenarian: N. Kleitman" (*Archives Italiennes de Biologie*, 2001) from age eighty-six to ninety-four. In 1995, at the age of one-hundred, Kleitman was

a special guest at the American Professional Sleep Societies meeting in Nashville, Tennessee. There, he was accorded great respect for his impact on the field, and he interacted with other significant sleep researchers including Michel Jouvet, and former students William C. Dement and Eugene Aserinsky.

Kleitman died on August 13, 1999 in Los Angeles, California.

## **Scope Note**

This collection contains the papers of Nathaniel Kleitman, the father of sleep research. The collection is divided into 6 series.

Series I, Biographical, contains information on the life of Nathaniel Kleitman, including obituaries, interview texts, bibliographies and memorial publications.

Series II: Research and Writings, is organized by research topic and contains research data (charts, tables and graphs), article drafts, and notes of Nathaniel Kleitman. Here information from a wide variety of sleep research experiments can be found, including data collected both by Kleitman himself, as well as by his students and colleagues. Edited manuscripts of Kleitman's book *Sleep and Wakefulness* can be found in Boxes 4-7. This includes material from the 1962 revised edition. Oversized materials from this series are located in Boxes 35-46 of Series VI, containing Kleitman's bibliographic card catalog. A key to Kleitman's color code system used in his card catalog can be found in Box 15 Folder 8.

Series III: Print Publications is organized alphabetically and contains the printed materials Kleitman had collected. These include numerous clippings from newspapers and magazines containing references to sleep in articles, advertisements and cartoons. This series also contains Kleitman's collection of academic reprints, organized alphabetically. Boxes 16 and 17 contain reprints of Kleitman's writings. Oversized materials from this series have been moved to Series VI Boxes 47-49, including newspaper clippings from the Mammoth Cave experiment and other sleep articles.

Series IV, Artifacts and Memorabilia, is organized by format or document type. Here, Kleitman's travel documents, awards, certificates, graduation programs, medals and other memorabilia can be found. Oversized materials from this series have been moved to Series VI Boxes 50-54, including equipment used in Kleitman's research.

Series V: Audio-Visual and Photographs, is organized by format. The photographs in this series include family photographs of Kleitman throughout his life, as well as photographs from his research including ones documenting his time spent in Mammoth Cave. This series also includes

audio recordings of Kleitman lectures, videocassette interviews and sleep specials. Oversized materials from this series, including two LP records, have been moved from this series to Series VI Box 53.

Series VI: Oversized Materials contains materials transferred from Series I-V. Descriptive headings can be used to trace these materials to their original locations in Series I-V.

## **Related Resources**

The following related resources are located in the Department of Special Collections:

<http://www.lib.uchicago.edu/e/spcl/select.html>

Association for the Psychophysiological Study of Sleep. Records

University of Chicago. Department of Physiology. Records

## **Subject Headings**

- Kleitman, Nathaniel, 1895-
- University of Chicago. Department of Physiology
- Sleep -- Physiological aspects
- Sleep -- Research

## **INVENTORY**

### **Series I: Biographical**

#### **Box 1**

##### **Folder 1**

"A Tribute to Nathaniel Kleitman," Archives Italiennes de Biologie, A Journal of Neuroscience, 2001

#### **Box 1**

##### **Folder 2**

Bibliography and biographical information for Nathaniel Kleitman, 2000

#### **Box 1**

##### **Folder 3**

Bibliography for Nathaniel Kleitman, undated

#### **Box 1**

##### **Folder 4**

Interview by Mel Stuart, questions and correspondence, 1991

#### **Box 1**

##### **Folder 5**

Interview for archival purposes by Jerry Vogel, correspondence, 1989-1990

#### **Box 1**

##### **Folder 6**

Obituaries for Nathaniel Kleitman, 1999

**Box 1**

**Folder 7**

Autobiography, dictated by Nathaniel Kleitman to Paulena Schweizer Kleitman, circa 1970s.

**Series II: Research and Writings**

**Box 1**

**Folder 8**

Effects of caffeine and narcotics on dogs, research charts and tables, 1922

**Box 1**

**Folder 9**

Sleeplessness in dogs, unpublished charts and tables, 1923

**Box 1**

**Folder 10**

Rabbits and MgSO<sub>4</sub>, research charts and tables, 1925

**Box 1**

**Folder 11**

Reflexes in dogs, unpublished research charts and tables, 1926

**Box 2**

**Folder 1-2**

Saliva references and results, 1927-1939

**Box 2**

**Folder 3**

Decorticated dogs, research charts, tables and references, 1929 1937

**Box 2**

**Folder 4**

Feiveson on goldfish and Carmile on dogs research notes, charts and tables, 1930-1931

**Box 2**

**Folder 5**

Salivation, morphine, thyroid research on dogs, unpublished charts and tables, 1930

**Box 3**

**Folder 1**

Goldfish learning research notes, charts and tables, 1931-1959

**Box 3**

**Folder 2**

Animal research charts and tables, 1939-1942

**Box 3**

**Folder 3**

Norway, perpetual day sleep cycle research, notes and correspondence, 1937-1951

**Box 3**

**Folder 4**

Norway research trip, correspondence, 1946-1951

**Box 3**

**Folder 5**

"Sleep Wakefulness Pattern in the Artic," article draft and research tables, 1949

**Box 3**

**Folder 6**

Motility, research tables and charts, 1932

**Box 3**

**Folder 7**

Orthogenic School, motility, research tables and charts, 1936

**Box 3**

**Folder 8**

Sleep patterns, Hortense and Esther Kleitman, research tables and charts, 1937-1938

**Box 3**

**Folder 9**

Sleep records, Hortense and Esther Kleitman, 1938-1940

**Box 4**

**Folder 1**

Sleep records, Hortense and Esther Kleitman, 1938-1940

**Box 4**

**Folder 2**

Sleep motility, bed board hammock, research charts and tables, 1939

**Box 4**

**Folder 3**

Motility board mattress, research charts and tables, 1942

**Box 4**

**Folder 4-5**

Mobility records, Hortense and Esther Kleitman, foot of bed raised, 1943-1944

**Box 4**

**Folder 6**

Mobility records, Hortense and Esther Kleitman, 1942

**Box 4**

**Folder 7**

Sleep and Wakefulness - first and revised edition - advertisements and reviews, 1938-1962

**Box 4**

**Folder 8**

Sleep and Wakefulness, handwritten manuscript, chapters 1-21, undated

**Box 4**

**Folder 9**

Sleep and Wakefulness, handwritten manuscript, chapters 22-36, undated

**Box 5**

**Folder 1-3**

Sleep and Wakefulness, typed manuscript, edited, bibliography and author index, undated

**Box 5**

**Folder 4**

Sleep and Wakefulness, typed manuscript, edited, chapters 1-9, 1962

**Box 5**

**Folder 5**

Sleep and Wakefulness, typed manuscript, edited, chapters 10-17, 1962

**Box 5**



**Folder 6**

Sleep and Wakefulness, typed manuscript, edited, chapters 18-26, 1962

**Box 5**

**Folder 7**

Sleep and Wakefulness, typed manuscript, edited, chapters 27-36, 1962

**Box 6**

**Folder 1**

Sleep and Wakefulness, typed manuscript, edited, legends to figures, 1962

**Box 6**

**Folder 2**

Sleep and Wakefulness, typed manuscript, edited, subject index, 1962

**Box 6**

**Folder 3**

Sleep and Wakefulness, typed manuscript, edited, chapters 1-8, undated

**Box 6**

**Folder 4**

Sleep and Wakefulness, typed manuscript, edited, chapters 9-19, undated

**Box 6**

**Folder 5**

Sleep and Wakefulness, typed manuscript, edited, chapters 20-28, undated

**Box 6**

**Folder 6**

Sleep and Wakefulness, typed manuscript, edited, chapters 29-36, undated

**Box 6**

**Folder 7**

Sleep and Wakefulness, typed manuscript, chapters 1-10, 1962

**Box 7**

**Folder 1**

Sleep and Wakefulness, typed manuscript, chapters 11-22, 1962

**Box 7**

**Folder 2**

Sleep and Wakefulness, typed manuscript, chapters 23-32, 1962

**Box 7**

**Folder 3**

Sleep and Wakefulness, typed manuscript, chapters 33-36, 1962

**Box 7**

**Folder 4**

Sleep and Wakefulness, reviews and comments, 1937-1941

**Box 7**

**Folder 5-6**

Sleep and Wakefulness, revised edition, reviews and comments, 1961-1972

**Box 8**

**Folder 1**

Body temperature fluctuations, research notes and articles, 1936-1946

**Box 8**

**Folder 2**

Unconditioned and conditioned galvanic skin responses, research by Ned Porte, 1938-1940

**Box 8**

**Folder 3**

Leg volume and body temperature, research notes and charts, 1940-1941

**Box 8**

**Folder 4-7**

Body temperature, research notes and charts, 1940-1942

**Box 8**

**Folder 8**

Body temperature, research notes and charts, Hortense and Esther Kleitman, 1941-1951

**Box 8**

**Folder 9**

Ramsaroop, research notes and tables, 1943-1944

**Box 8**

**Folder 10**

Research notes, charts, and tables, 1943-1945

**Box 9**

**Folder 1**

Variations of leg volume with activity, research charts and tables, 1944

**Box 9**

**Folder 2**

Body temperature, research by R. B. Frost, 1946

**Box 9**

**Folder 3**

YMCA volleyball championship research charts and tables, 1946

**Box 9**

**Folder 4**

YMCA volleyball research group, questionnaires and tables, 1946

**Box 9**

**Folder 5-6**

Skin temperature studies, research notes and charts, 1947

**Box 9**

**Folder 7**

Skin temperatures, hardy dermal radiometer, research notes and charts, 1947

**Box 10**

**Folder 1**

Koenig-Thyroid temperature research notes and tables, 1948-1949

**Box 10**

**Folder 2**

Critical Flicker Frequency (CFF) research notes, charts and tables, 1949

**Box 10**

**Folder 3**

Heart rate charts, 1954-1956

**Box 10**

**Folder 4**

Temperature recordings, 1959

**Box 10**

**Folder 5**

"Periodicity in Body Temperature and Heart Rate" article by N. Kleitman and A. Ramsaroop, typed draft, 1959

**Box 10**

**Folder 6-7**

Experimental work schedules, correspondence, 1941-1952

**Box 10**

**Folder 8**

Military sleep wakefulness efficiency, correspondence, 1942-1943

**Box 11**

**Folder 1**

USS Dogfish, notes and tables, 1948

**Box 11**

**Folder 2**

Naval Medical Research Institute (NMRI), correspondence, 1948-1956

**Box 11**

**Folder 3**

Submarine sleeping watch patterns, correspondence and questionnaires, 1949-1950

**Box 11**

**Folder 4**

Submarine trial of new sleep schedule, correspondence and questionnaire replies, 1949

**Box 11**

**Folder 5**

Submarine sleep pattern research, charts and correspondence, 1951-1953

**Box 11**

**Folder 6**

USS Scabbardfish, correspondence, 1952

**Box 11**

**Folder 7**

Experimental schedule, comments and correspondence, 1952-1958

**Box 11**

**Folder 8**

United States Army Engineer Research and Development Laboratories (ERDL), Tulane Symposium on Flicker, 1957

**Box 11**

**Folder 9**

"A Scientific Solution of the Multiple Shift Problem," article draft, undated

**Box 11**

**Folder 10**

Chlorides, phosphates and body temperature, research notes and charts, 1925

**Box 11**

**Folder 11**

Phosphates, research notes and charts, 1934

**Box 11**

**Folder 12**

Bromine research notes, charts and tables, 1936-1937

**Box 11**

**Folder 13**

Alcohol on reaction time and Critical Flicker Frequency (CFF), research notes and charts, 1937-1948

**Box 12**

**Folder 1-2**

Alcohol research notes and charts, 1947-1948

**Box 12**

**Folder 3**

MER-32 consultation, correspondence and brochure, 1959

**Box 12**

**Folder 4**

Sleep characteristics of infants, research notes and charts, 1940-1959

**Box 12**

**Folder 5**

Sleep patterns in infants, tables, charts and participant information, 1949-1950

**Box 12**

**Folder 6**

Sleep patterns in infants, lab notes and charts, 1949

**Box 12**

**Folder 7**

National Academy of Sciences, National Research Council, Environmental Protection Division, field sleeping, correspondence and reports, 1952-1955

**Box 12**

**Folder 8**

National Academy of Sciences, National Research Council, Environmental Protection Division, reports on sleep, 1955

**Box 12**

**Folder 9**

Inquiries concerning sleep research, correspondence, 1931-1989

**Box 12**

**Folder 10**

Sleep articles, correspondence, 1925-1945

**Box 12**

**Folder 11**

Sleep research, correspondence, 1936-1946

**Box 12**

**Folder 12**

Mammoth Cave, correspondence, 1938

**Box 13**

**Folder 1**

Sleep films, scripts, notes and correspondence, 1959-1966

**Box 13**

**Folder 2**

Article reprint requests, 1960-1996

**Box 13**

**Folder 3**

Biological rhythms and cycles, research notes, outline and bibliography, 1948-1959

**Box 13**

**Folder 4**

Sleep wakefulness cycle, notes and article drafts, 1953-1956

**Box 13**

**Folder 5**

Rest activity cycle, sleep records and research, 1964-1972

**Box 13**

**Folder 6**

Brain rest activity cycle (BRAC) and circadian rhythms, articles and notes, 1964-1979

**Box 13**

**Folder 7**

Syllabus for Physiology 101, prepared by Nathaniel Kleitman, 1942

**Box 13**

**Folder 8**

University of Chicago Board of Trustees, memorandum, 1944-1945

**Box 13**

**Folder 9**

Conferences and symposiums on sleep research, programs, abstracts and articles, 1958-1990

**Box 14**

**Folder 1**

Conferences and symposiums on sleep research, programs, abstracts and articles, 1958-1990

**Box 14**

**Folder 2**

Conferences and symposiums on sleep research, programs and correspondence, 1963-1970

**Box 14**

**Folder 3**

"The Pupillometer," experiment and instrument guide, undated

**Box 14**

**Folder 4**

Articles on sleep by Samuel Edwin Anderson and George Johnson, typescripts, 1916-1943

**Box 14**

**Folder 5**

Notes for articles and lectures, 1928-1955

**Box 14**

**Folder 6**

"Ocular Motility During Sleep and its Application to the Study of Rest Activity Cycles and Dreaming," by Eugene Aserinsky, 1953

**Box 14**

**Folder 7**

Rapid eye movement articles by William Dement, 1955-1958

**Box 14**

**Folder 8**

Mademoiselle magazine, article on sleep by Nathaniel Kleitman, 1962-1963

**Box 14**

**Folder 9**

Scripts and speeches, 1970-1985

**Box 14**

**Folder 10**

Life and physiology, article drafts for encyclopedia, undated

**Box 15**

**Folder 1**

Sleeplessness experiments, research findings, notes and charts, 1922-1923

**Box 15**

**Folder 2**

Lee and Kleitman, research notes, tables and charts, 1923

**Box 15**

**Folder 3-5**

Sleep research, notes, tables and charts, 1925-1947

**Box 15**

**Folder 6**

Dream transcripts and sleep record sheets, 1942-1954

**Box 15**

**Folder 7**

Sleep, writing drafts, undated

**Box 15**

**Folder 8**

Key for color-coded system used on bibliographic cards, undated

**Series III: Print Publications**

**Box 15**

**Folder 9**

"An Annotated Bibliography of Flicker Fusion Phenomena," 1953

**Box 15**

**Folder 10**

Articles on sleep and body temperature, faculty news, 1937-1999

**Box 15**

**Folder 11**

"Chicago" anthology on the World's Fair, 1933

**Box 16**

**Folder 1-2**

Infant and child care, article reprints, 1945-1963

**Box 16**

**Folder 3**

Kleitman's writings, photocopies of published articles, 1921-1924

**Box 16**

**Folder 4-6**

Kleitman's writings, reprints and copies of articles, 1924-1993

**Box 17**

**Folder 1-2**

Kleitman's writings, reprints and copies of articles, 1924-1993

**Box 17**

**Folder 3-6**

Reprints and articles, A-B, 1922-1962

**Box 18**

**Folder 1-7**

Reprints and articles, B-F, 1922-1962

**Box 19**

**Folder 1-7**

Reprints and articles, G-J, 1922-1962

**Box 20**

**Folder 1-6**

Reprints and articles, J-L, 1922-1962

**Box 21**

**Folder 1-8**

Reprints and articles, M-R, 1922-1962

**Box 22**

**Folder 1-5**

Reprints and articles, R-W, 1922-1962

**Box 23**

**Folder 1-2**

Reprints and articles, V-Z, 1922-1962

**Box 23**

**Folder 3**

Sleep publications, notes, 1958

**Box 23**

**Folder 4-7**

Sleep references in magazine articles, 1938-1959

**Box 24**

**Folder 1-3**

Sleep references in magazine articles, 1955-1992

**Box 24**

**Folder 4-5**

Sleep references in advertisements, newspaper and magazine clippings, 1936-1958

**Box 25**

**Folder 1-7**

Sleep references in articles and advertisements, newspaper and magazine clippings, 1924-1959

**Box 26**

**Folder 1-6**

Sleep references in articles and advertisements, newspaper and magazine clippings, 1938-1996

**Box 27**

**Folder 1-6**

Sleep references in articles and advertisements, newspaper and magazine clippings, 1938-1996

**Box 28**

**Folder 1-5**

Sleep references in articles and advertisements, newspaper and magazine clippings, 1938-1996

**Box 29**

**Folder 1**

Sleep references in cartoons, newspaper clippings, 1941-1949

**Box 29**

**Folder 2**

University of Chicago, publications, 1921-1932

**Box 29**

**Folder 3**

War ration material, newspaper clippings, 1943

**Series IV: Artifacts and Memorabilia**

**Box 29**

**Folder 4**

American Men and Women of Science, correspondence, 1988

**Box 29**

**Folder 5**

Awards in honor of Nathaniel Kleitman, 1982-1995

**Box 29**

**Folder 6**

Commencement Ceremony programs, Nathaniel Kleitman graduations, 1919-1923

**Box 29**

**Folder 7**

Conferences, invitations and souvenirs, 1929-1949

**Box 29**

**Folder 8**

Identification cards, University of Chicago and Naval Medical Research Institute, circa 1950

**Box 29**

**Folder 9**

Travel papers, 1915-1949

**Box 29**

**Folder 10**

Travel papers and identification, 1905-1948

**Box 29**

**Folder 11**

Special Submarine Deck, playing cards, undated

**Box 30**

**Folder 1**

American Physiological Society 50 Year Member Award, medal and correspondence, 1992



**Box 30**

**Folder 2**

International Physiological Congress Medal, undated

**Box 30**

**Folder 3**

The Thomas W. Salmon Medal for Distinguished Service in Psychiatry, 1966

**Box 30**

**Folder 4**

Townsend Harris Medal, 1947

**Series V: Audio-Visual Material and Photographs**

**Box 30**

**Folder 5**

Film on reflex action for physiology students, correspondence and 16mm film reel, 1932

**Box 31**

**Folder 1**

First annual Nathaniel Kleitman prize award ceremony, audiocassette tape, 1981

**Box 31**

**Folder 2**

Archival video histories of sleep researchers, "An Interview with Nathaniel Kleitman," videocassette tape, 1990

**Box 31**

**Folder 3**

Kleitman Cave Marathon Dancing, correspondence and videocassette tape, 2001

**Box 31**

**Folder 4**

Talk delivered by Nathaniel Kleitman at Sepulveda VA Hospital, 7 inch audio reel, 1971

**Box 32**

Encyclopaedia Britannica "The Human Brain," 7 inch film reel

**Box 33**

**Folder 1**

Drs. Kleitman, Dement, Aserinsky and Jouvet - Letter and photograph, 1995-1996

**Box 33**

**Folder 2**

Faculty, photographs, undated

**Box 33**

**Folder 3-4**

Mammoth Cave, photographs, 1938

**Box 33**

**Folder 5**

Nathaniel Kleitman, photographs, 1927-1956

**Box 33**

**Folder 6**

Nathaniel Kleitman and family, photographs, 1896-1984

**Box 33**

**Folder 7**

Nathaniel Kleitman and sleep experiments, photographs, 1959-1973

**Box 33**

**Folder 8**

Pharmacology Institute of the University of Utrecht, Netherlands - Laboratories and faculty, 1923

**Box 33**

**Folder 9**

Sleep and Wakefulness, negatives of draft, undated

**Box 33**

**Folder 10**

Data charts and graphs, photographs and negatives, 1962

**Box 33**

**Folder 11**

Murray, illustrations and negatives, 1962

**Box 34**

Data charts and figures, glass slides, undated

**Series VI: Oversized Materials**

**Box 35**

Research and writing, bibliographic card catalog, index cards, A-C, undated

**Box 36**

Research and writing, bibliographic card catalog, index cards, C-G, undated

**Box 37**

Research and writing, bibliographic card catalog, index cards, G-K, undated

**Box 38**

Research and writing, bibliographic card catalog, index cards, K-M, undated

**Box 39**

Research and writing, bibliographic card catalog, index cards, N-S, undated

**Box 40**

Research and writing, bibliographic card catalog, index cards, S-Z, undated

**Box 41**

Research and writing, bibliographic card catalog, index cards, A-Z, undated

**Box 42**

Research and writing, bibliographic card catalog, index cards, A-K, undated

**Box 43**

Research and writing, bibliographic card catalog, index cards, K-M, undated

**Box 44**

Research and writing, bibliographic card catalog, index cards, M-Z, undated

**Box 45**

Research and writing, name index, index cards, undated

**Box 46**

Research and writing, reprint requests, postcards, 1945-1978

**Box 47**

Print publications, articles on Kleitman and other sleep experiments, newspaper and magazine clippings, 1938-1951

**Box 48**

Print publications, magazines containing sleep articles, 1932-1966

**Box 49**

Print publications, sleep references in articles, scrapbooks containing newspaper and magazine clippings, 1936-1941

**Box 50**

Artifacts and memorabilia, 3 wooden boxes containing surgical tools, undated

**Box 50**

Artifacts and memorabilia, Counter Dot Photo Interpreter tool, undated

**Box 50**

Artifacts and memorabilia, pen light, undated

**Box 50**

Artifacts and memorabilia, unidentified geological samples, undated

**Box 50**

Artifacts and memorabilia, magnifying spectacles, undated

**Box 51**

Artifacts and memorabilia, goggles on wooden mount, undated

**Box 52**

Artifacts and memorabilia, award certificates and diplomas, 1919-1947

**Box 53**

**Folder 1**

Artifacts and memorabilia, American Sleep Disorders Association Honorary Fellowship certificate, 1989

**Box 53**

**Folder 2**

Artifacts and memorabilia, Distinguished Service Award of the Thomas W. Salmon Committee on Psychiatry and Mental Hygiene, certificate and correspondence, 1966-1967

**Box 53**

**Folder 3**

Artifacts and memorabilia, sleep posters, 1929-1951

**Box 53**

**Folder 4**

Artifacts and memorabilia, Thames River Navy certificate, 1948

**Box 53**

**Folder 5**

Artifacts and memorabilia, University of Chicago Alumni Association Professional Achievement Award, certificate, program, correspondence, 1970

**Box 53**

**Folder 6**

Artifacts and memorabilia, University of Chicago Club of Greater Los Angeles Distinguished Alumnus Award, certificate and correspondence, 1969

**Box 53**

**Folder 7**

Audio visual and photographs, "We The People," Professor Kleitman spot, LP record, July 1st, 1947

**Box 53**

**Folder 8**

Audio visual and photographs, Time To Sleep, LP record and correspondence, 1947

**Box 54**

Artifacts and memorabilia, ammunition box, undated

**Box 54**

Audio visual and photographs, data charts and figures, glass slides, undated