
Descriptive Summary**Creator:** Balke, Bruno**Title:** Bruno Balke Papers,**Date (inclusive):** 1937 - 1982**Extent:** 0.20 linear feet(1 archives box)**Abstract:** Writings of Bruno Balke, a physician and researcher specializing in the areas of sports medicine and the impact of environmental factors on work performance of humans. Covering the years 1937-1982, the collection includes Balke's 1937 doctoral dissertation in sports medicine, his 1945 Ph.D. thesis about physical performance at high altitude, and various articles about the impact of altitude and deep space on human physiology. Some of the early writings are in German, while all items written after 1945 are in English.**Repository:** University of California, San Diego. Geisel Library. Mandeville Special Collections Library.

La Jolla, California 92093-0175

Collection number: MSS 0468**Language of Material:** Collection materials in English**Access**

Collection is open for research.

Acquisition Information

Not Available

Preferred Citation

Bruno Balke Papers, MSS 0468. Mandeville Special Collections Library, UCSD.

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Biography

German emigre and researcher in sports medicine and environmental factors influencing human work performance. Balke was educated in the University of Berlin medical school, receiving his degree in sports medicine in 1937. In 1938, he was recruited as team physician for the German expedition to the summit of Nanga Parbat, a Himalayan mountain cresting at 26,700 feet. His experiences on the mountain inspired his life-long interest in human performance under extreme environmental conditions.

During WWII Balke served on the Russian front until he contracted infectious hepatitis. As a result he was relocated to the School of Mountain Rescue in Tyrol, where he was asked to establish two physiology laboratories, one at 2,000 feet above sea level and the other at 10,000 feet. At these sites, Balke studied the impact of environmental factors such as cold, heat, and altitude, in addition to the impact of exercise and nutrition. In collaboration with Ulrich Luft, who was also a member of the 1938 Nanga Parbat expedition team, Balke developed a test for determining functional adaptability and limitations to work capacity.

In 1945, Balke submitted a Ph.D. thesis on physical performance capacity at high-altitude, which was accepted by the University of Leipzig. Though never published, the thesis was instrumental in Balke's being recruited to join the staff of the United States Air Force School of Aviation Medicine in San Antonio, Texas. While on staff there from 1950 to 1960, Balke worked in the Human Performance Laboratory, investigating human adaptation to high altitude, in-flight stress, and simulated deep space.

In 1960, Balke left the USAF School of Aviation Medicine to accept a position as Professor of Physical Education and Physiology at the University of Wisconsin, Madison. Balke currently resides in Grand Junction, Colorado.

Indexing Terms

The following terms have been used to index the description of this collection in the library's online public access catalog.

Subjects

Balke, Bruno -- Archives

Stress (Physiology)
Altitude, Influence of
Stress (Physiology) -- Testing
Adaptation (Physiology)
Acclimatization
Mountain sickness
Aviation Medicine
Exercise -- Physiological aspects
Physical fitness

WRITINGS

- box 1, folder 1 **"Ueber lungenblutungen kardialen Ursprungs, besonders bei der Mitralstenose" 1937**
- Note**
- Reprint of Balke's doctoral dissertation for his medical degree. In German.
- box 1, folder 2 **"Zusammenfassunguber die Habilitationsarbeit" 1945**
- Note**
- Photocopy of Balke's Ph.D. Thesis. In German.
- box 1, folder 3 **Early research on impact of high altitude 1943 - 1944**
- Note**
- Reprints and typescripts, in German, of research. "Bergkrankheit" (1943); "Hochgebirgslaboratorien" (1943); "Energiebedarf im Hochgebirge" (1944); and "Hohenfestigkeitssteigerung durch körperliches Training" (1944).
- box 1, folder 4 **Physical training 1958 - 1971**
- Note**
- "Ceiling Altitude Tolerance following Physical Training and Acclimatization" (1958); "Increased Tolerance to Pressure Breathing by Utilizing Adequate Breathing Mechanics" (1958); "Maximum Performance Capacity at Sea-Level and at Moderate Altitude before and after Training at Altitude" (1965); "Training for Maximum Performance at Altitude" (1966); "The Physiological Effects of Altitude Training" (1967); "Variation in Altitude and Its Effects on Exercise Performance" (1968); and "Training at Altitude for Performance at Sea Level" (1971).
- box 1, folder 5 **Exercise testing in stress situations 1952 - 1956**
- Note**
- "Correlation of Static and Physical Endurance" (1952); "Work Capacity after Blood Donation and after Exposure to Prolonged, Mild Hypoxia" (1953); "Work Performance at Altitude after Adaptation in Man and Dog" (1956); and "Own Involvement in Exercise Testing" (n.d.).
- box 1, folder 6 **Respiration and cardiac performance at high altitude 1964 - 1982**
- Note**
- "Cardiac Performance in Relation to Altitude" (1964); "Physiology of Respiration at Altitude" (1972); and "Seminar at the Given Institute" (1982)
- box 1, folder 7 **Factors limiting performance 1962 - 1981**
- Note**
- "Work Capacity and Its Limiting Factors at High Altitude" (1962); "Human Tolerances" (1963); "Summary of Magglingen Symposium on Sports at Medium Altitude" (1965); "Limiting Factors of Physical Performance" (1973); and "Limitations to Work at Altitude" (1981).
- box 1, folder 8 **Work performance and aging 1963**
- Note**
- "Work Tolerance: Age and Altitude" (1963); and "Respiratory Responses to Exercise as Related to Age" (n.d.).

box 1, folder 9

Performance in deep space 1959

Note

"Experimental Studies on the Conditioning of Man for Space Flight" (1959); "Progress Report #1: Man in Space" (1959); and "Medico-Biological Research on the Problem "Man in Space Flight" (n.d.).

box 1, folder 10

Hyperventilation 1956 - 1958

Note

"Effect of Hyperventilation on Performance" (1956); "In-Flight Hyperventilation during Jet Pilot Training" (1957); and "Adaptive Responses to Hyperventilation" (1958).