

**Box List:** Heini Halberstam Papers, 1949 - 2008  
**Faculty Papers, UIUC**  
**ID:** 15/14/45

**Arrangement:** Series 1: Correspondence/Drafts/Talks  
 Series 2: Kindertransport: Correspondence/Notes/Publications/Lectures  
 Series 3: Publications

**Finding Aid:**

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**Series 1: Correspondence/Drafts/Talks**

Consists of Professor Heini Halberstam's correspondence, drafts, notes, and talks on mathematical theorems and research, departmental notes and memos, lectures and talks including "Sparse Sieves" and "From Friction to Smooth Numbers". This series is arranged alphabetically by title.

**Box 1:**

1. Additive Number Theory Draft, 1978
2. Colloquium on the Theory of Numbers: Scientific Program, 1968
3. Correspondence includes a menu from Chateau Palmer from October 25<sup>th</sup>, 1969, 1958 - 2012
4. "Four Asymptotic Formulae in the Theory of Numbers" and "On the Representation of Large Numbers as Sums of Squares, Powers, and Primes" Drafts, 1948
5. From Friction to Smooth Numbers Lecture, 1959
6. Landreau's Lenna Notes, 1991
7. Mathematisches Forschungsinstitut Oberwolfach, 1968
8. Mathematics Theorem Notes, undated
9. Sparse Sieves Lecture, undated
10. Sullivan's Theorem Notes, undated
11. These errata Draft, 1990
12. Thin Sieves Notes, undated
13. Untitled Draft on citation analysis, circa 1986 - 1972

**Series 2: Kindertransport: Correspondence/Notes/Publications/Lectures**

Consists of Professor Heini Halberstam's correspondence, research, publications and lectures on the topic of the Kindertransport (German for "children's transport"). Halberstam was sent to the UK via the Kindertransport in 1938. The Kindertransport was a British program prior to World War II that accepted nearly 10,000 mostly Jewish children refugees from Nazi Germany, Austria, Czechoslovakia, Poland, and Danzig. Also included are Halberstam's own experiences with the program including correspondence with survivors and research on the lives of children who had been rescued through the British program. Additionally, there are Halberstam's lecture notes and papers on this topic. This series is arranged alphabetically by title.

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**Series 2: Kindertransport: Correspondence/Notes/Publications/Lectures**

**Box 1:**

14. Kindertransport Correspondence, 2002
15. Kindertransport Notes from Interviews of Kindertransport Survivors, undated
16. Kindertransport Publications/talks/lectures, 1998 – 2003

**Series 3: Publications**

Consists of publications of Professor Heini Halberstam from the 1940s to the 2000s. This series is arranged chronologically.

**Box 2:**

1. Publications from the 1940s – 1950s
  - Halberstam, Heine. (1949). Four Asymptotic Formulae in the Theory of Numbers. Journal of the London Mathematical Society, Vol. 24, 1949
  - Halberstam, H. (1949). On The Representation of Large Numbers As Sums Of Squares, Higher Powers, And Powers. University College, London, 1949
  - Halberstam, H. (1950). Representations of Integers as Sums of a Square, a Positive Cube, and a Fourth Power of a Prime. Journal of the London Mathematical Society, Vol. 25, 1950
  - Halberstam, H. and Roth, K.F. (1951) On the Gaps Between Consecutive k-Free Integers, Journal of the London Mathematical Society, Vol. 26, 1951
  - Halberstam, H. (1949) Representations of Integers as Sums of a Square, a Positive Cube of a Prime, and a Fourth Power of a Prime, and a Cube. Proceedings of the London Mathematical Society, Ser. 2, Vol. 52, 1951
  - Halberstam, H. (1954). On the Distribution of Additive Number-Theoretic Function. Journal of the London Mathematical Society, Vol. 30, 1955
  - Halberstam H. (1956) Uber Additive zahlentheoretische Funktionen. Journal für die reine und angewandte Mathematik, 1956
  - Halberstam, H. (1954). On The Distribution of Additive Number-Theoretic Function (II). Journal of the London Mathematical Society, Vol. 31, 1956
  - Halberstam, H. (1955). On the Distribution of Additive Number-Theoretic Functions (III), Journal of the London Mathematical Society, Vol. 31, 1956
  - Halberstam, H. (1956). An Asymptotic Formula in the Theory of Numbers. Transactions of the American Mathematical Society, Vol. 84, No. 2, pp 338 – 351, 1957
  - Delange, H. and Halberstam, H. (1957). A Note on Additive Functions. Pacific Journal of Mathematics, Vol. 7, No. 9, 1957
2. Publications from the 1960s
  - Halberstam, H. and Laxton R.R. (1962). On Perfect Difference Sets. The Quarterly Journal of Mathematics: On Perfect Difference Sets, Vol. 14, No. 54, 1963
  - Halberstam, H and Laxton R.R. (1963). Perfect Difference Sets. Reprint from the Proceedings of the Glasgow Mathematical Association, Vol. 6, Part 4, 1964
  - Halberstam, H. (1965). The Uses of Arithmetic. University of Nottingham, 1965
  - Elliot P.D.T.A. and Halberstam, H. (1966). Some Applications of Bombieri's Theorem. Mathematika 13, 1966

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### Series 3: Publications

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- Davenport, H. and Halberstam, H. (1966). The Values of a Trigonometrical Polynomial at Well-Spaced Points. *Mathematika* 13, 1966
- Davenport, H and Halberstam, H. (1967) Corrigendum for Primes in arithmetic progression. *Michigan Mathematics Journal*. Vol, 13, 1966
- Davenport, H. and Halberstam, H. (1967). Corrigendum and Addendum for Multiplicative Number Theory in *Mathematika* 13, 1966. *Mathematika* 14, 1967
- Halberstam, H. (1966). Footnote to the Titchmarsh-Linnik Divisor Problem. *Proceedings of the American Mathematical Society*, Vol. 18, No. 1, 1967
- Halberstam, Heine (1967) Sieve methods and Applications. *Séminaire Delange-Pisot-Poitou, (Théorie des Nombres)*, 9e année, 1967/1968, No. 7
- Halberstam, Heine; Jurkat, Wolfgang; and Richert, Hans-Egon. (1967). *Théorie des Nombres – Un nouveau résultat de la method du crible*. C.R. Acad. Sc. Paris, t. 264, 1967
- Halberstam, H. and Rotkiewicz, A. (1968) A Gap Theorem for Pseudoprimes in Arithmetic Progression. *ACTA Arithmetica* XIII, 1968
- Collected Papers of G.H. Hardy, including Joint Papers with J.E. Littlewood and others. Edited by a Committee appointed by The London Mathematical Society. The London Mathematical Society Vol. 2, 1968
- Halberstam, H. (1968). The Large Sieve. The Hungarian Mathematical Society, 1968

#### 3. Publications from the 1970s

- Elliot, P.D.T.A. and Halberstam, H. (1970). A Conjecture in Prime Number Theory. *Instituto Nazionale Di Alta Matematica Symposia Mathematica*, Vol, 4, 1970
- Halberstam, H. (1970). On Integers all of Whose Prime Factors are small. *Proceedings of the London Mathematical Society, Third Series*, Vol. XXI, 1970
- Halberstam, H. (1971). The Teaching of Pure Mathematics. *Institute of Mathematics and its Applications*, vol. 7, No. 4, 1971
- Halberstam, H. & Richert, H.-E. (1971). A New Look at Brun's Sieve. *Bulletin de la Société Mathématique de France. Supplément. Mémoires*. 25.
- Burgess, D.A. and Halberstam, H. (1971). Harold Davenport, 1907-1969. *Biographical Memoirs of Fellows of the Royal Society*, Vol. 17, 1971
- Halberstam, H. & Richert, H.-E. (1972). The Distribution of Polynomial Sequences. *Mathematika*. 19. 25 - 50. 10.1112/S0025579300004915.
- Halberstam, H. & Richert, H.-E. (1972). The Distribution of Polynomial Sequences. *Mathematika*. 19. 25 - 50. 10.1112/S0025579300004915.
- Halberstam, H. (1972). Should Mathematics be Taught to Non-mathematicians for other than Vocational Reasons?. *Institute of Mathematics and its Applications*, Vol. 8, No. 5, 1972
- Halberstam, H. & Richert, H.-E. (1973). Brun's Method and the Fundamental Lemma, II. *ACTA Arithmetica*. 24. 10.4064/aa-24-2-113-133.
- Halberstam, H. (1974). Communication of Results. *Institute of Mathematics and its Applications*, Vol. 10, No. 7/8, 1974
- Halberstam, H. (1974). Transcendental Numbers. *Mathematical Gazette*, LVIII, 1974
- Halberstam, H. & Richert, H.-E. (1975). Addendum and Corrigendum to the paper "Mean Value Theorems for a Class of Arithmetic Functions". *ACTA Arithmetica*. 28. 10.4064/aa-28-1-107-110.

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- Halberstam, Heine. (1975). A Proof of Chen's Theorem. Société Mathématique de France Astérisque 24 – 25, 1975
  - Halberstam, H. & Richert, H.. (1975). Brun's Method and the Fundamental Lemma, II. ACTA Arithmetica. 27. 51-59. 10.4064/aa-27-1-51-59.
  - Duncan, Ronald and Weston-Smith, Miranda. (1977). The Encyclopedia of Ignorance: Some Unsolved Problems in Higher Mathematics. Pregamon Press, 1977
  - Halberstam, H. & Richert, H.-E. (1979). On a Result of R. R. Hall. Journal of Number Theory.
4. Publications from the 1980s
- Book Reviews, 1981
  - Book Reviews, 1982
  - Halberstam, Heine. (1983). Gaps in Integer Sequences. Mathematics Magazine, Vol. 56, No. 3, 1983
  - Directions for Contributors: Dictionary of Scientific Biography. Edited under the auspices of the American Council of Learned Societies. Charles Scribner's Sons Publishers. Title: Charles Davenport. 1984
  - Halberstam, H. (1985). Application of a Method of Szemerédi. Glasgow Math. Journal, 27, 1985
  - Halberstam, H. & Richert, H.-E. (1985). A Weighted Sieve of Greaves' type I. Banach Center Publications. 17. 155-182. 10.4064/-17-1-155-182.
  - Halberstam, H. & Richert, H.-E. (1985). A Weighted Sieve of Greaves' type. II. Banach Center Publications. 17. 10.4064/-17-1-183-215.
  - Bulletin De La Société Mathématique de Belgique, 1985
  - Freiman, G. and Halberstam, H. (1988). On a Product of Sines. ACTA Arithmetica XLIX, 1988
  - Halbertams, H; Lou Shituo; and Qi, Yao. (1989) A New Upper Bound in the Linear Sieve. Academic Press, Inc., 1989
5. Publications from the 1990s
- Berndt, Bruce & Diamond, Harold & Halberstam, Heini & Hildebrand, Adolf. (1990). Analytic Number Theory: Proceedings of a Conference in Honor of Paul T. Bateman. 10.1007/978-1-4612-3464-7.
  - Diamond, Harold & Halberstam, H. & Richert, H-E. (1990). Sieve Auxiliary Functions: Proceedings of the First Conference of the Canadian Number Theory Association held at the Banff Center, Banff, Alberta, April 17–27, 1988. 10.1515/9783110848632-011.
  - Diamond, Harold and Halberstam, Heine. (1991). A Comparison of Two Sieves, II. University of Illinois, 1991
  - Diamond, Harold & Halberstam, H. (1992). Differential Difference Equations in Analytic Number Theory. 10.1090/conm/129/1174135.
  - Freiman, G.A. and Halberstam, H. (1991). Integer Sum Sets Containing Long Arithmetic Progressions. Journal of the London Mathematical Society, (2), 46, 1992

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- Diamond, H.G. & Halberstam, H. & Richert, H.E. (1993). A Boundary Value Problem for a Pair of Differential Delay Equations Related to Sieve Theory, II. *Journal of Number Theory*. 45. 129–185. 10.1006/jnth.1993.1070.
  - Diamond, Harold & Halberstam, H. & Richert, H.-E. (1994). Sieve Auxiliary Functions. II. *Analysis*. Contemporary Mathematics, Vol. 143, 1993
  - Diamond, H.G. & Halberstam, H. & Richert, H.E. (1994). A Boundary Value Problem for a Pair of Differential Delay Equations Related to Sieve Theory III. *Journal of Number Theory*. 47. 300–328. 10.1006/jnth.1994.1039.
  - Diamond, Harold; Halberstam, H; and Richert, H.E. (1993) Estimation of the Sieve Auxiliary Functions  $\psi_k$  In the Range  $1 < k < 2$ . *Analysis* 14, 1994
  - Analytic Number Theory: Proceedings of a Conference in Honor of Heini Halberstam, Volume I, 1996
  - Diamond, H. and Halberstam, H. (1996). Some Applications of Sieves of Dimension Exceeding 1. Cambridge University Press, 1996
  - Diamond, Harold & Halberstam, H. (1997). On the Sieve Parameters  $\alpha_k$  and  $\beta_k$  for Large  $k$ . *Journal of Number Theory*, Vol. 67, No. 1, 1997
  - Editors: Gyory, Kalman; Iwaniec, Henryk; and Urbanoeicz, Jerzy. (1999). *Number Theory in Progress*. Walter de Gruyter, 1999
6. Publications from the 2000s
- H, G. & H, Halberstam. (2002). A comparison of two sieves, I. *Periodica Mathematica Hungarica*. 43. 1-13. 10.1023/A:1015247429200.
  - Halberstam, H. (2000). A Sieve Application. *Asian J. Math*. Vol. 4. No. 4, 2000
  - Ford, Kevin & Halberstam, H. (2000). The Brun-Hooley Sieve. *Journal of Number Theory - J NUMBER THEOR*. 81. 335-350. 10.1006/jnth.1999.2479.
  - Halberstam, H. (1998). Erdos and Brun's Sieve. *Bolyai Society Mathematical Studies*. 2001
  - A Comparison of Two Sieves, I, 2002
  - Halberstam, Heine. (2002) Book Review of: *Sieves in Number Theory* by Greaves, George. *Bulletin of The American Mathematical Society*, Vol. 40, No. 1, 2002
  - Halberstam, H. (1998). Erdos and Brun's Sieve. *Bolyai Society Mathematical Studies*. 2001
  - Diamond, Harold & Halberstam, Heini. (2007). Some Properties of the Ankeny-Onishi function. *Functiones et Approximatio Commentarii Mathematici*. 37. 10.7169/facm/1229618743.
  - Halberstam, Heine (2008) Book Review: *The Indian Clerk*, By: David Leavitt. *Notices of the American Mathematical Society*, Vol. 55, No. 8, 2008.
7. Publications: Undated
- Halberstam, H; Heath-Brown, D.R.; and Richert, H.E. Almost-primes in Short Intervals
  - Elliot, P.D.T.A and Halberstam, H. The Least Prime in an Arithmetic Progression, undated
  - Halberstam, Heine. On the Distribution of Strongly Additive Number Theoretic Function, University College, Exeter, England.
  - Halberstam, Heine. The Method of Differential Difference in Equation in Sieve Theory

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**Processing Note:**

There was no original arrangement to the papers, and an arrangement was imposed. Duplicates and secondary literature were weeded. Original folders and folder titles were maintained. Folders titled by the archivist are indicated in brackets [ ]. Processed by Vinny Bartholomew (September 2021) under the supervision of Susanne Belovari.