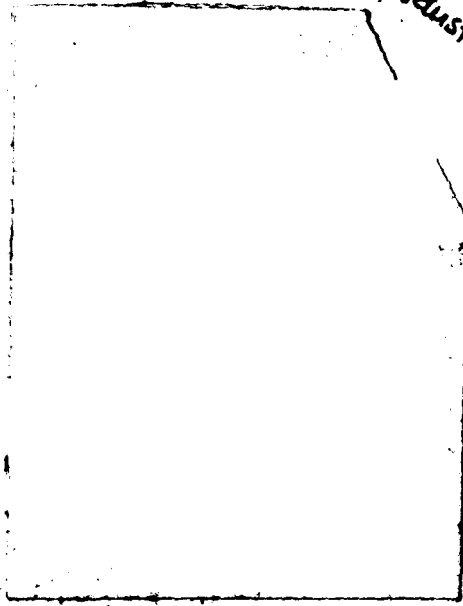


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**LOCATION THEORY AND THE
SHOE AND LEATHER
INDUSTRIES**

BY

EDGAR M. HOOVER, JR.

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PREFACE

IN RECENT years various causes have combined to bring the locational aspects of economics into greater prominence. On the one hand, revolutionary changes in the techniques of production, transportation, distribution of energy, and marketing have altered old patterns of geographical specialization, and there has been a growing disposition to assume control over this as over other aspects of economic life. An understanding of the way in which locational forces act has thus been more and more urgently needed. On the other hand, rapid strides have been made in extending the theory of economics into a sort of No Man's Land which the geographers were not equipped to explore. It is at last realized that the economic relations between man and the scattered resources at his command can be adequately analyzed only in terms of economic principles.

It is natural, then, that this study should reflect both 'practical' and 'theoretical' approaches. In it I have examined historically the location of two important American industries, and, drawing on this and other factual material, have attempted to develop a set of tools for attack on a whole range of locational problems.

This book is not a complete history of the American shoe and leather industries, since I have tried to bring into the discussion only such matters as are relevant to the question of geographic distribution. Still less is it a study of current problems in those industries; for one of the conclusions I have reached is that short-run questions of locational adjustment require a rather special kind of analysis for which the kind developed in this book is merely the groundwork.

On the other hand, I must disclaim any attempt to provide an exhaustive treatment of the theory of location. The aim has been, rather, to present enough of the outlines of the theory to acquaint the reader with progress in this still somewhat esoteric field, and

to place the historical matter relating to the shoe and leather industries in its proper setting.

My motives in making this study were two, of which one was ordinary curiosity about the workings of locational forces. The second was a realization of the need for such investigation as a basis for eventual judgment on the desirability of migrations of population and industry and possible lines of public policy. In that direction, of course, this study is but a small first step. No matter how well acquainted we may become with the workings of locational factors, the question of social desirability is likely to remain a subject of debate. Economics does not settle the question of right and wrong; the task of the economist is to tell us what results will follow from given causes. But where an economic process is concerned, the more we know about its workings the better we are fitted to pass judgment on matters of policy, and, possibly, even to agree on some things as being unequivocally bad or good.

The present book is perhaps subject to the criticism that it pays little attention to monopoly elements or to imperfections of competition. As a matter of fact, I have gone even further than that for the sake of simplifying the chapters relating to theory, and have practically ignored such important factors as the influence of overhead and joint costs. The only answer to the anticipated criticisms is that it seemed important to set forth in a preliminary work of this kind the locational working of the price system under the simplest reasonable assumptions.

A current view is that spatial separation of markets is itself a 'monopoly' element in competition, which takes the form of oligopoly if we consider the various sellers as being separated into small groups, or that of product-variation if we consider location to be one of the variable aspects of the product on a par with price, quality, reputation, and the like. But such a view of the nature of spatial competition is not incompatible with the policy of taking our difficulties one at a time, and isolating the effects of distance for independent consideration. It may also be remarked that if one of our aims is to provide a long-run basis for criteria of

rationalization or planning, emphasis on costs as a price factor is perhaps not misplaced.¹

In the case of short-run adjustments, of course, the equilibrium of pure competition, or indeed any equilibrium, must be relegated to an inconspicuous place in the background. At the end of the book the reader will find the conclusion that many of the most significant questions relating to public policy are concerned with the minimizing of wastes of locational maladjustment due partly to monopoly elements but largely to market imperfections and lags in adjustment. A theoretical approach in terms of rates of change and rates of response, rather than equilibrium, is imperative. Perhaps it is even more important here than in most kinds of economic problems, because the agents of production, and particularly the human ones, are often less mobile spatially than in any other respect.

The necessary groundwork for this kind of theory, however, can be supplied only by the fullest possible familiarity with the nature and workings of locational forces over the long run; and this book is intended to be a contribution to our knowledge of these forces.

In Part I, I have laid out for the reader's inspection the principal theoretical tools at our disposal in this kind of investigation. Parts II and III are devoted to the leather and shoe industries respectively, and there the method has been to describe first the relevant characteristics of the industry, not only in order to acquaint the reader with the processes of production and marketing and the stages in their evolution, but also to signalize in advance the factors that probably have been of primary importance in locating the industry. Then some consideration is given to each of these primary factors, and to the effects of the major technical changes in each industry. The concluding chapters, in Part IV, bring together the threads spun in the preceding parts of the book, and outline some suggestions for further investigation.

¹ “. . . it must be conceded that for problems connected with the distribution of resources between different uses, and the distribution of the proceeds of industry between the factors of production, the assumption of competition forms a more useful starting-point. For instance, we have already found it necessary to appeal to perfect competition in order to find a criterion for exploitation.” Joan Robinson, *The Economics of Imperfect Competition*, Macmillan, London, 1934, p. 307.

The two industries chosen as case histories cover a wide range of locational problems. Both have a history extending back to the first permanent colonization in this country; both have been subjected to changes in technique which radically altered the conditions of their location. The relations existing between the leather and shoe industries are also well worth considering, since by far the larger part of the product of the former serves as the chief material for the latter, so that they may be regarded as successive stages in one process. The leather industry, during most of its history and in most of its branches, has been located primarily with reference to the cost of transportation of one or another of the materials, and illustrates the behavior of a large class of industries of which that may be said. Shoemaking, on the other hand, is equally representative of a class of industries in which costs of transportation have generally been unimportant in comparison with such advantages as trained labor.

A large share of whatever credit this study may deserve should go to Professor Edwin F. Gay, who read several early drafts of the manuscript and supervised its preparation as a doctoral thesis in 1932. His introductions to persons connected with the shoe industry were invaluable in obtaining first-hand acquaintance with processes and points of view.

A grant of funds from the Harvard University Committee on Research in the Social Sciences was devoted in part to the preparation of maps and charts, most of which were drawn by Katherine H. Bessell and John O. Hallstrom.

I am greatly indebted to Mrs. George W. (Blanche Hazard) Sprague of Brockton, who gave generously of her time and her wealth of practical knowledge of the shoe industry and facilitated close-up views of actual manufacture. The officials of the Keith, Douglas, and Regal firms were kind enough to explain details of factory operation, and Messrs. Elmer J. Bliss, H. D. Reed, and George W. Robbins of the Regal Shoe Company were especially accommodating in this regard. Mr. Thomas F. Anderson, then secretary of the New England Shoe and Leather Association, and Mr. Maxwell Field, the present assistant secretary and statistician, have put me on the track of valuable information, and Mr.

Field's researches into labor organization in the Massachusetts shoe industry were very useful. Mr. John C. Leukhardt, while secretary of the Committee on Industrial Decentralization of President Hoover's Conference on Home Building and Home Ownership, allowed me full use of the materials gathered by that committee. Messrs. Joseph Brodinsky and George A. Wilson have materially aided my search for information on the labor problems of the shoe industry.

Professors Fritz Machlup, A. P. Usher, E. S. Mason, and J. M. Cassels, and Dr. J. K. Galbraith have read and helpfully criticized portions of the manuscript. I am indebted to Professor Derwent Whittlesey and to Mr. H. S. Kemp for some useful guidance from the geographer's point of view, and I have also received stimulating suggestions from Drs. August Lösch and J. F. Normano. My wife's encouragement and active assistance in preparing the manuscript have been indispensable.

Dr. Tord Palander was kind enough to read proofs of Parts I and IV after the type had been paged, and offered some suggestions which were incorporated so far as was possible at that stage. The theoretical chapters of this book owe much to his University of Stockholm dissertation *Beiträge zur Standortstheorie*, which came to my attention early this year.

Thanks are due to the many publishers and authors who have given their permission for the reproduction of text passages, maps, and charts. Chapter XVI of this book is largely an adaptation of an article published in the *Quarterly Journal of Economics* for February, 1933, under the title, "The Location of the Shoe Industry in the United States."

E. M. H., JR.

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- Adamic, Louis. "Tragic Towns of New England," in *Harper's Magazine*, May, 1931, pp. 748-760.
- Aldrich, Nelson W. *Report on Wholesale Prices, Wages, and Transportation* (U. S. Senate, 52d Congress, 2d Session). Washington, 1892-93.
- Allen, Frederick J. *The Shoe Industry*. Boston, 1916.
- American Sole and Belting Leather Tanners, Inc. *Nothing Takes the Place of Leather*. New York, 1924.
- Andersen, Curt I. C. *Ueber die deutsche Filmindustrie und ihre volkswirtschaftliche Bedeutung unter Berücksichtigung ihrer internationalen Beziehungen*. Munich dissertation, 1929.
- Archer, Gleason L. *The Shoe Industry in Massachusetts*. Brief for Governor's Committee on the Shoe Industry, Boston, April 11, 1935. Typewritten.
- Arnold, J. R. "Leather Industries — Tanning," in *Encyclopaedia of the Social Sciences*.
- . *Hides and Skins*. Chicago and New York, 1925.
- Associated Industries of Massachusetts. *Industries of Massachusetts* (reprints from special issues of *Industry*), vol. i. Boston, October 15, 1928.
- Atwood, Rollin S. "Localization of the Cotton Industry in Lancashire, England," in *Economic Geography*, April, 1928, pp. 187-195.
- Black, J. D. *Introduction to Production Economics*. New York, 1926.
- . *The Dairy Industry and the A.A.A.* Washington, 1935.
- , editor. *Research in Agricultural Land Utilization*. Social Science Research Council, Scope and Method Series, no. 2. New York, 1931.
- Blanchard, Raoul. "The Utilization of Water Power in France," in *Harvard Business Review*, January, 1928, pp. 176-187.
- Bolles, Albert S. *Industrial History of the United States*, 3d edition. Norwich, Conn., 1889.
- Boot and Shoe Recorder* (weekly). Boston.
- Bortkiewicz, L. von. "Eine geometrische Fundierung der Lehre vom Standort der Industrien," in *Archiv für Sozialwissenschaft und Sozialpolitik*, May, 1910, pp. 759-785.
- Boston Chamber of Commerce. *New England's Industrial Supremacy*. Boston, 1921.

- Boston Chamber of Commerce. *The Shoe Manufacturing Industry of New England*. New England Industrial Surveys, no. 1. Boston, 1925.
- Bradford, Ernest S. "The Influence of Cheap Power on Factory Location and on Farming," in *Annals of the American Academy of Political and Social Science*, March, 1925, pp. 91-95.
- Brinkmann, Theodor. *Economics of the Farm Business* (translation). Berkeley, Cal., 1935.
- Brown, Robert M. "Cotton Manufacturing: North and South," in *Economic Geography*, January, 1928, pp. 74-87.
- Bureau of Railway Economics. *Commodity Prices in their Relation to Transportation Costs*. Washington, 1924 and later years.
- Burns, Arthur R. *The Decline of Competition*. New York, 1936.
- Caine, Walter E. "Uniform Rate Areas," in *Journal of Land and Public Utility Economics*, May, 1932, pp. 148-163.
- Carpenter, Niles. "Migration Between City and Country in the Buffalo Metropolitan Area," in *Economics, Sociology, and the Modern World: Essays in Honor of T. N. Carver*, ed. N. E. Himes, Cambridge, Mass., 1935.
- Chamberlin, Edward H. *The Theory of Monopolistic Competition*. Cambridge, Mass., 1933.
- Christiansen, C. Carl, *see* Weber.
- Clark, Victor S. *History of Manufactures in the United States, 1860-1914*. Washington, 1928.
- Commons, John R. "American Shoemakers, 1648-1895, a Sketch of Industrial Evolution," in *Quarterly Journal of Economics*, November, 1909, pp. 39-84.
- Cornelissen, Frédéric C. *Les industries des Pays-Bas: leur localisation géographique et leur évolution*. Paris, 1934.
- Creamer, Daniel B. *Is Industry Decentralizing? Study of Population Redistribution*, Bulletin 3. Philadelphia, 1935.
- Daggett, Stuart. *Principles of Inland Transportation*. New York, 1928.
- Day, Clive. "The Distribution of Industrial Occupations in England, 1841-61," in *Transactions of the Connecticut Academy of Arts and Sciences*, vol. xxviii, pp. 79-235 (March, 1927).
- De Geer, Sten. "The American Manufacturing Belt," in *Geografiska Annaler*, 1927, pp. 235-359.
- Depew, Chauncey M., editor. *One Hundred Years of American Commerce, 1795-1895*: New York, 1895. Section on tanning industry by R. H. Foerderer, vol. ii, pp. 494-497; section on boot and shoe industry by William B. Rice, vol. ii, pp. 566-574.
- Doane, Warren F. *The Flight of Capital and Industry from Massachusetts*. A study made for the Pennsylvania Manufacturers' Association. Philadelphia, 1935.
- Donham, Richard. "Problems of the Tanning Industry," in *Harvard Business Review*, July, 1930, pp. 474-481.
- Donovan, Alfred W. *Shoe Machinery Analyzed*. Rockland, Mass., 1912.
- Dorau, H. B., and Hinman, A. G. *Urban Land Economics*. New York, 1928.
- Dunbar, Seymour. *A History of Travel in America*. Indianapolis, 1915.

- Ely, Richard T., and Morehouse, E. W. *Elements of Land Economics*. New York, 1924.
- Engländer, Oskar. "Standort," in *Handwörterbuch der Staatswissenschaften*, 4th edition.
- . *Theorie des Güterverkehrs und der Frachtsätze*. Jena, 1924.
- . "Kritisches und Positives zu einer allgemeinen reinen Lehre vom Standort," in *Zeitschrift für Volkswirtschaft und Sozialpolitik*, 1926, pp. 498-505.
- . *Theorie der Volkswirtschaft*. Vienna, 1929.
- Epstein, R. C., and others. "Locality Distribution of Industries" (round table discussion), in *American Economic Review*, March supplement, 1929, pp. 172-178.
- Evans, Mercer G. "Southern Wage Differentials Under the NRA," in *Southern Economic Journal*, January, 1934, pp. 3-13.
- Federal Coördinator of Transportation. *Merchandise Traffic Report*, 1934.
- Federal Power Commission. *Electric Rate Survey*. Rate Series no. 1, 1935: Preliminary Report on Domestic and Residential Rates in Effect January 1, 1935, Cities of 50,000 Population and Over.
- Federal Trade Commission. *Report on Leather and Shoe Industries*. Washington, 1919.
- . *Report on Shoe and Leather Costs and Prices*. Washington, 1921.
- . *Report on Price Bases Inquiry; The Basing-Point Formula and Cement Prices*. Washington, 1932.
- . *Chain-Store Manufacturing*. Washington, 1933.
- . *Final Report on Investigation of the Chain-Store Industry*. Washington, 1935.
- Federated American Engineering Societies, Committee on Elimination of Waste in Industry. *Waste in Industry* (with chapter on the boot and shoe industry by Sanford E. Thompson). New York, 1921.
- Fetter, F. A. "The Economic Law of Market Areas," in *Quarterly Journal of Economics*, May, 1924, pp. 520-529.
- . *The Masquerade of Monopoly*. New York, 1931.
- Field, Maxwell. *An Industrial Relations Program for the Massachusetts Shoe Industry*. Typewritten thesis, Amos Tuck School of Administration and Finance, 1934.
- Fisher, A. G. B. *The Clash of Progress and Security*. London, 1935.
- Fitch, Edwin M., and Curtiss, Ruth L. *Industrial Trends in Wisconsin*. Bulletin of the University of Wisconsin. Madison, 1933.
- Foerderer, R. H., see Depew.
- Fox, Herbert L. *The Economics of Industrial Location with Especial Reference to Furniture Manufacturing in the United States*. Harvard undergraduate honors thesis (unpublished), 1934.
- Fraser, C. E., and Doriot, G. F. *Analyzing our Industries*. New York, 1932.
- Frisch, Ragnar. "Einige Punkte Einer Preistheorie," in *Zeitschrift für Nationalökonomie*, September 25, 1931, pp. 62-104.
- Fritz, Wilbert G., and Veenstra, Theodore A. *Regional Shifts in the Bituminous Coal Industry (with special reference to Pennsylvania)*. University of

- Pittsburgh, Bureau of Business Research Monographs, no. 4. Pittsburgh, 1935.
- Furlan, V. "Die Standortsprobleme in der Volks- und Weltwirtschaftslehre," in *Weltwirtschaftliches Archiv*, July, 1913, pp. 1-34.
- Galbraith, J. K., and Black, John D. "The Quantitative Position of Marketing in the United States," in *Quarterly Journal of Economics*, May, 1935, pp. 394-413.
- Galster, Augusta Emile. *The Labor Movement in the Shoe Industry, with Special Reference to Philadelphia*. New York, 1924.
- Gannon, Frederick A. *A Short History of American Shoemaking*. Salem, 1912.
- . *An Historical Sketch of American Leather Making*. Salem, 1916.
- Garver, F. B., Boddy, F. M., and Nixon, A. J. *The Location of Manufactures in the United States, 1899-1929*. Bulletins of the Employment Stabilization Research Institute, University of Minnesota, vol. ii, no. 6. Minneapolis, 1933.
- Gilboy, Elizabeth W. *Wages in Eighteenth Century England*. Cambridge, Mass., 1934.
- Gley, Werner. "Die Grossstädte Nordamerikas und die Ursachen ihrer Entwicklung," in *Frankfurter Geographische Hefte*, no. 2. Frankfurt a/ Main, 1927.
- Glover, J. G., and Cornell, W. B., editors. *The Development of American Industries*. New York, 1932.
- Goodrich, Carter, Allin, B. W., and Hayes, Marion. *Migration and Planes of Living, 1920-34*. Study of Population Redistribution, Bulletin 2. Philadelphia, 1935.
- Goodrich, Carter, and others. *Migration and Economic Opportunity*. Study of Population Redistribution, final report. Philadelphia, 1936.
- Gras, N. S. B. *Industrial Evolution*. Cambridge, Mass., 1930.
- Graves, W. Brooke. *Uniform State Action*. Chapel Hill, N. C., 1934.
- Haenger, see Weber.
- Haig, Robert M. "Toward an Understanding of the Metropolis," in *Quarterly Journal of Economics*, February and May, 1926, pp. 179-208, 402-434.
- Hall, F. S. "The Localization of Industries," in Census of 1900, *Manufactures*, part 1, pp. cxc-ccxiv.
- Hammer, see Weber.
- Hanrath, J. J. "Zum Problem der hypothetischen und konkreten Standortbedingungen. Dargelegt am Beispiel der Grossschlachtereien in den Niederlanden," in *Weltwirtschaftliches Archiv*, 1926, pp. 118-130.
- Hartshorne, Richard. "Location Factors in the Iron and Steel Industry," in *Economic Geography*, July, 1928, pp. 241-252.
- . "Location as a Factor in Geography," in *Annals of the Association of American Geographers*, June, 1927, pp. 92-99.
- . "The Economic Geography of Plant Location," in *Annals of Real Estate Practice*, Proceedings and Report of Industrial Property Division, vol. vi, 1926, pp. 40-76.

- Haverhill Board of Trade. *Haverhill, Massachusetts; An Industrial and Commercial Center*. Haverhill, 1889.
- Haverhill Evening Gazette*, extract: "Report of the visit of the Special Industrial Commission from Haverhill to Rochester (and other cities), planned principally for data to be used as one of the bases of all wage adjustment in Haverhill," Haverhill, May 1, 1921. A typewritten copy is on file at the Baker Library of the Harvard Graduate School of Business Administration in Boston.
- Hawtrey, R. G. *The Economic Problem*. New York, 1925.
- Hazard, Blanche E. "The Organization of the Boot and Shoe Industry in Massachusetts Before 1875," in *Quarterly Journal of Economics*, February, 1913, pp. 236-262.
- . *The Organization of the Boot and Shoe Industry in Massachusetts before 1875*. Cambridge, Mass., 1921.
- Heberle, Rudolf. *Ueber die Mobilität der Bevölkerung in den Vereinigten Staaten*. Jena, 1929.
- Heer, C. *Income and Wages in the South*. Chapel Hill, N. C., 1930.
- Hill, Howard C. "The Development of Chicago as a Center of the Meat Packing Industry," in *Mississippi Valley Historical Review*, December, 1923, pp. 253-273.
- Högbom, Ivar. *Världssjöfarten. Dess geografiska och ekonomiska betingelser*. Göteborg, 1934.
- Holmes, W. Gerald. *Plant Location*. New York, 1930.
- Hotelling, Harold. "Stability in Competition," in *Economic Journal*, March, 1929, pp. 41-57.
- Huntington, Ellsworth, Williams, F. E., and Valkenburg, S. van. *Economic and Social Geography*. New York and London, 1933.
- Hurd, Richard M. *Principles of City Land Values*. New York, 1903.
- Iowa State Planning Board, Committee on Industry. *The Production and Marketing of Cornstarch Insulation Board* (mimeographed). Iowa City, 1935.
- Jessness, Oscar B., and Nowell, R. I. *A Program for Land Use in Northern Minnesota*. Minneapolis, 1935.
- Jewkes, John. "The Localisation of the Cotton Industry," in *Economic History* (supplement to the *Economic Journal*), January, 1930, pp. 91-106.
- Johnson, E. R., Huebner, G. G., and Henry, A. K. *Transportation by Water*. New York, 1935.
- Joint Commission of Agricultural Inquiry. *Report* (U. S. Congress, 67th Congress, 1st Session, House Report no. 408), part 3: Transportation.
- Jones, Edward D. *The Administration of Industrial Enterprises*. New York, 1916.
- Jones, Eliot. *The Trust Problem in the United States*. New York, 1921. Chapter viii on the United Shoe Machinery Corporation.
- Jones, M. Z. "Trend of Occupations in the Population," in *Monthly Labor Review*. May, 1925.

- Jones, Wellington D. "Ratios and Isoleth Maps in Regional Investigation of Agricultural Land Occupance," in *Annals of the Association of American Geographers*, December, 1930, pp. 177-195.
- Kahl, Erich, *see* Weber.
- Keir, Malcolm. "Economic Factors in the Location of Manufacturing Industries," in *Annals of the American Academy of Political and Social Science*, September, 1921, pp. 83-92.
- . "Is Shoe Manufacturing Leaving New England?" in *Boston Herald*, September 23, 1922, p. 14.
- . *Manufacturing (Industries of America*. Malcolm Keir, editor, vol i). New York, 1928.
- . "New England's Specialized Industries," in *Boston Herald*, September 24, 1922, section d, p. 6.
- . "Some Influences of the Sea upon the Industries of New England," in *American Geographical Review*, May, 1918, pp. 399-404.
- . "Some Responses to Environment in Massachusetts," in *Bulletin of the Geographical Society of Philadelphia*, July and October, 1917, pp. 121-138, 167-185.
- Krebs, P. "Die Frachtgrenze der deutschen Braunkohle," in *Technik und Wirtschaft*, 1924, pp. 213-218.
- Krzyzanowski, Witold. "Review of the Literature of the Location of Industries," in *Journal of Political Economy*, April, 1927, pp. 278-291.
- Kuhlmann, Charles B. *The Development of the Flour-Milling Industry in the United States*. Boston and New York, 1929.
- Lansburg, R. H. "Recent Migrations of Industries in the United States," in *Annals of the American Academy of Political and Social Science*, March, 1929, pp. 296-301.
- Launhardt, Wilhelm. "Der zweckmässigste Standort einer gewerblichen Anlage," in *Zeitschrift des Vereins deutscher Ingenieure*. March, 1882, pp. 104-115.
- . *Mathematische Begründung der Volkswirtschaftslehre*. Leipzig, 1885.
- Lewis, Joseph D. "The Localization of Industries," in *Census of Manufactures*, 1905, part 1, pp. ccxxviii-cclxii.
- Link, Adolf, *see* Weber.
- Lippincott, Isaac. *A History of Manufactures in the Ohio Valley to the Year 1860*. New York, 1914.
- MacKaye, Benton. *Employment and Natural Resources*. Washington, 1919.
- MacKinder, H. J. *Britain and the British Seas*. New York, 1902.
- Magee, Mabel A. *Trends in Location of the Women's Clothing Industry*. Chicago, 1930.
- Maunier, R. "La Distribution Géographique des Industries," in *Revue internationale de sociologie*, 1908.
- McCarty, H. H. *Industrial Migration in the United States, 1914-1927*. Iowa Studies in Business, vii. Iowa City, 1930.
- McDermott, Charles H., editor. *A History of the Shoe and Leather Industries*. Boston, 1918.

- McLaughlin, G. E. "Industrial Diversification in American Cities," in *Quarterly Journal of Economics*, November, 1930, pp. 131-149.
- McPherson, L. G. *Railroad Freight Rates in Relation to the Trade and Industry of the United States*. New York, 1909.
- Mitchell, William N. *Trends in Industrial Location in the Chicago Region since 1920*. University of Chicago, School of Business, Studies in Business Administration, vol. iv, no. 1. Chicago, 1933.
- National Electric Light Association Civic Development Committee, and Metropolitan Life Insurance Company, Policyholders' Service Bureau. *Industrial Development in the United States and Canada*. 1928(?)
- National Industrial Conference Board. *Hours of Work as Related to Output and Health of Workers — Boot and Shoe Industry*. Research Report no. 7. Boston, 1918.
- . *Trends in the Foreign Trade of the United States*. New York, 1930.
- . *The Competitive Position of Coal in the United States*. New York, 1931.
- National Municipal League, Committee on Metropolitan Government. *The Government of Metropolitan Areas*. New York, 1930.
- National Recovery Administration, Division of Review. *Final Report of Survey Committee on the Operation of the Code for the Boot and Shoe Manufacturing Industry*, July 16, 1935. Mimeographed.
- . *Boot and Shoe Manufacturing Industry*. Evidence Study no. 2, prepared by William P. Fallon. October, 1935. Mimeographed.
- . *An Explanatory Report on the Study of Natural Areas of Trade in the United States and a Guide to the Methodology used in its Preparation*. By Robert A. Dier, Work Materials Series, no. 42. Washington, 1936.
- . *Migration of Selected Industries as Influenced by Area Wage Differentials in the Codes of Fair Competition*. Work Materials Series, no. 45, mimeographed. Washington, 1936.
- National Resources Board. *Report*. Washington, 1934.
- . *State Planning*. Washington, 1935.
- . *Regional Factors in National Planning*. Washington, 1935.
- New England Council, Research Committee. Report at Second New England Conference, Hartford, 1926: *Merchandising New England Products — Shoes*. Boston, 1926.
- Norton, T. L. *Trade-Union Policies in the Massachusetts Shoe Industry, 1919-1929*. New York, 1932.
- Ogden, H. W. "The Geographical Basis of the Lancashire Cotton Industry," in *Journal of the Textile Institute*, 1927, pp. 1523-1594.
- Ohlin, Bertil. *Interregional and International Trade*. Cambridge, Mass., 1933.
- Orchard, John E. *Japan's Economic Position*. New York, 1930.
- Osborn, F. J. *Transport, Town Development, and Territorial Planning of Industry*. New Fabian Research Bureau, Publication no. 20. London, 1934.
- Palander, Tord. *Beiträge zur Standortstheorie*. Stockholm dissertation, 1935.
- Paver, John, and McClintock, Miller. *Traffic and Trade*. New York, 1936.

- Phelps, Dudley M. *Migration of Industry to South America*. New York, 1936.
- Pickett, V. G., and Vaile, R. S. *The Decline of Northwestern Flour Milling*. University of Minnesota Studies in Economics and Business, no. 5. Minneapolis, 1933.
- Pigou, A. C. *The Economics of Stationary States*. New York, 1935.
- Pirath, Carl. *Die Grundlagen der Verkehrswirtschaft*. Berlin, 1934.
- Pratt, Edward Ewing. *Industrial Causes of Congestion of Population in New York City*. Studies in History, Economics, and Public Law, Columbia University. New York, 1911.
- Predöhl, Andreas. "Das Standortproblem in der Wirtschaftstheorie," in *Weltwirtschaftliches Archiv*, 1925, pp. 294-321.
- . "Zur Frage einer allgemeinen Standorttheorie," in *Zeitschrift für Volkswirtschaft und Sozialpolitik*, 1927, pp. 756-763.
- . "The Theory of Location in its Relation to General Economics," in *Journal of Political Economy*, June, 1928, pp. 371-390.
- . "Die örtliche Verteilung der amerikanischen Eisen- und Stahlindustrie," in *Weltwirtschaftliches Archiv*, 1928, i, pp. 239-292.
- . "Die Südwanderung der amerikanischen Baumwollindustrie," in *Weltwirtschaftliches Archiv*, 1929, i, pp. 106-159.
- . "Die Wanderungen der amerikanisch-kanadischen Papierindustrie," in *Weltwirtschaftliches Archiv*, 1929, i, pp. 285-330.
- Pring, J. N., *Some Electro-chemical Centres*. Manchester, England, 1908.
- Procter, Henry R. *The Principles of Leather Manufacture*, 2d edition. New York, 1922.
- Raisz, Erwin. "The Rectangular Statistical Cartogram," in *Geographical Review*, April, 1934, pp. 292-296.
- Redford, Arthur. *Labour Migration in England*. London, 1926.
- Regional Plan of New York and its Environs. *Regional Survey*, vol. i, *Major Economic Factors in Metropolitan Growth and Arrangement*. New York, 1927; vol. ii, *Population, Land Values, and Government*. New York, 1929.
- Regul, Rudolf, "Die Wettbewerbslage der Steinkohle," in *Vierteljahrshefte zur Konjunkturforschung*, Sonderheft 34. Berlin, 1933.
- Rehe, Carl. *Die deutsche Schuhgrossindustrie*. Jena dissertation, 1908.
- Reichert, J. W. *Standorts- und Verkehrsfragen der Westeuropäischen Eisenindustrie*. Verkehrswissenschaftliche Forschungen aus dem Verkehrs-Seminar an der Westf. Wilhelms-Universität zu Münster I. W., Heft 5. Münster, 1935.
- Reilly, William J. *The Law of Retail Gravitation*. New York, 1931.
- Reinke, Kurt. *Der Standort des ostpreussischen Mühlengewerbes*. Königsberg dissertation, 1928.
- Reitell, Charles. "Mechanical Evolution and Changing Labor Types," in *Journal of Political Economy*, March, 1918, pp. 274-290.
- Retail Shoe Salesmen's Institute. *Materials in Shoes*. Vol. 3 of training course for retail shoe salesmen. Boston, 1920.
- Reynolds, W. M., and Rosenberg, S. M. "The New England Boot and Shoe Industry," in *The New England Economic Situation*, Harvard undergraduate essays in economics, pp. 43-63. Chicago and New York, 1927.

- Rice, William B., *see* Depew.
- Ringwalt, J. L. *Development of Transportation Systems in the United States*. Philadelphia, 1888.
- Ritschl, Hans. "Reine und historische Dynamik des Standortes der Erzeugungszweige," in *Schmollers Jahrbuch*, 1927, pp. 813-870.
- Robertson, D. H. *The Control of Industry*. New York, 1923.
- Robinson, E. A. G. *The Structure of Competitive Industry*. New York, 1932.
- Robinson, Joan. *Economics of Imperfect Competition*. London, 1933.
- Roe, Richard. "The United Shoe Machinery Company," in *Journal of Political Economy*, December, 1913, pp. 938-953, and January, 1914, pp. 43-63.
- Roscher, Wilhelm. "Studien über die Naturgesetze, welche den zweckmässigen Standort der Industriezweige bestimmen," in *Ansichten der Volkswirtschaft aus dem geschichtlichen Standpunkte*, 3d edition (1878).
- Rose, John K. "Importance of Pipe Line Transportation," in *Economic Geography*, April, 1932, pp. 191-204.
- Ross, E. A. "The Location of Industries," in *Quarterly Journal of Economics*, April, 1896, pp. 247-268.
- Rühl, Alfred. *Die Nord- und Ostseehäfen im deutschen Aussenhandel*. Berlin, 1920.
- . *Das Standortsproblem in der Landwirtschaftsgeographie*. Berlin, 1927.
- Salin, E. "Standortsverschiebungen der deutschen Wirtschaft," in *Strukturwandlungen der deutschen Volkswirtschaft*, vol. i. Berlin, 1928.
- Salomon, *see* Weber.
- Sax, Emil. *Die Verkehrsmittel in Volks- und Staatswirtschaft*. Vienna, 1878.
- Scharf, J. T. *History of St. Louis City and County*. Philadelphia, 1883.
- Schilling, A. "Die wirtschaftsgeographischen Grundgesetze des Wettbewerbes in mathematischer Form," in *Technik und Wirtschaft*, 1924.
- Schlier, *see* Weber.
- Schneider, Erich. "Bemerkungen zu einer Theorie der Raumwirtschaft," in *Econometrica*, January, 1935, pp. 79-105.
- . "Preisbildung und Preispolitik unter Berücksichtigung der geographischen Verteilung von Produzenten und Verbrauchern," in *Schmollers Jahrbuch*, 1934, pp. 257-277.
- Schumacher, Hermann, "Location of Industries," in *Encyclopaedia of the Social Sciences*.
- . "Die Wanderungen der Grossindustrie in Deutschland und in den Vereinigten Staaten," in *Schmollers Jahrbuch*, 1910, pp. 451-481. Reprinted, *Weltwirtschaftliche Studien: Vorträge und Aufsätze* (Leipzig, 1911), pp. 401-429.
- Secrist, Horace. *The Widening Retail Market*. Chicago, 1926.
- Sample, Ellen Churchill. *American History and its Geographic Conditions*. Boston and New York, 1903.
- Shanahan, E. W. "Economic Factors in the Changing Distribution of Population Between Urban Centres and Rural Areas," in *Economic Journal*, September, 1927, pp. 395-403.
- Sherman, P. T. "A Study of the Causes of Congestion of Manufactures in

- New York City," in *Bulletin of the New York Bureau of Labor*, September, 1908, pp. 303-323.
- Shoe and Leather Reporter Annual*. Boston, Massachusetts.
- Smith, J. Russell. *Industrial and Commercial Geography*. New York, 1913.
- Sombart, W. "Einige Anmerkungen zur Lehre vom Standort der Industrien," in *Archiv für Sozialwissenschaft und Sozialpolitik*, May, 1910, pp. 748-758.
- Sorokin, Pitirim. *Contemporary Sociological Theories*. New York, 1928. Chapter iii, "The Geographical School."
- Sraffa, Piero. "The Laws of Returns Under Competitive Conditions," in *Economic Journal*, December, 1926, pp. 535-550.
- Study of Population Redistribution, see Thornthwaite, Goodrich, Creamer.
- Summerfield, Charles W. "Boot and Shoe Manufacture," in Pennsylvania, *Annual Report of the Secretary of Internal Affairs*, part iii, Industrial Statistics, pp. 7-57.
- Thomas, Lewis F. *The Localization of Business Activities in Metropolitan St. Louis*. Washington University Studies, new series, no. 1. St. Louis, 1927.
- Thornthwaite, C. W. *Internal Migration in the United States*. Study of Population Redistribution, Bulletin 1. Philadelphia, 1934.
- Thünen, J. H. von. *Der isolirte Staat in Beziehung auf Landwirtschaft und Nationalökonomie*. Hamburg, 1826.
- Timar, Margarethe. *Das Standortprobleme der australischen Industrien*. Vienna and Leipzig, 1934.
- Tryon, F. G., and Rogers, H. O. "Statistical Studies of Progress in Fuel Efficiency," in *Transactions of Second World Power Conference*, vol. vi. Berlin, 1930.
- United Shoe Machinery Company. *Goodyear Welt Shoes: How They Are Made*. Boston, 1911.
- . *An Industrial City*. Beverly, Massachusetts, 1911.
- . *Secret of the Shoe: an Industry Transformed*. Boston, 1910.
- . *The Story of Three Partners*. Beverly, Massachusetts, 1912.
- . *United Shoe Machinery Company: The Story of its Service and Methods as Told by Letters from the Shoe Manufacturers of the Country*. Boston, 1912.
- United States Bureau of the Census, 15th Census, 1930. *Shoe Chains*. 1932.
- . *Shoe Retailing*. 1933.
- United States Bureau of Foreign and Domestic Commerce. Domestic Commerce Series, no. 22. *The External Trade of New England*. 1928.
- . Domestic Commerce Series, no. 28. *Industrial Structure of New England*. 1930.
- . Domestic Commerce Series, no. 40. *Foreign Trade Survey of New England (Manufactured Products)*. 1931.
- . Domestic Commerce Series, no. 66. *Motor Truck Freight Transportation*. 1932.
- . Trade Information Bulletin, no. 582. *New England Manufactures in the Nation's Commerce*. 1928.
- United States Bureau of Labor Statistics. Bulletin 180. *The Boot and Shoe Industry in Massachusetts as a Vocation for Women*. 1915.

- United States Bureau of Labor Statistics. Bulletin 360. *Time and Labor Costs in Manufacturing 100 Pairs of Shoes, 1923*. 1924.
- Bulletin 384. *Labor Conditions in the Shoe Industry in Massachusetts, 1920-24*. 1925.
- Bulletin 483. *Conditions in the Shoe Industry in Haverhill, Mass., 1928*. 1929.
- Bulletin 499. *History of Wages in the United States from Colonial Times to 1928*. 1929.
- Bulletin 506. *Handbook of American Trade-Unions*. 1929.
- *Monthly Labor Review*.
- United States Department of Agriculture. Agriculture Circular 312. *Rural Factory Industries*. 1934.
- *Natural Land-Use Areas of the United States* (map with explanatory text). 1933.
- Bulletin no. 594. *Geography of Wheat Prices*, by L. B. Zapoleon. Washington, 1918.
- Bulletin no. 755. *Geographical Phases of Farm Prices: Oats*, by L. B. Zapoleon. Washington, 1919.
- United States Department of Labor, Women's Bureau. Bulletin 121. *Survey of the Shoe Industry in New Hampshire*. 1935.
- United States Industrial Commission. *Report*. Washington, 1900-02.
- Usher, A. P. "Comment se placent les usines: l'exemple des États-Unis," in *Annales d'histoire économique et sociale*, October 15, 1929, pp. 524-550.
- Vanderblue, Homer B. "Changes in the Localization of the Pig Iron Industry, 1901-26," in *Harvard Business Review*, July, 1926, pp. 417-424.
- Васютин, В. Ф., and Ковалевский, Н. А. (Vasyutin, V. F., and Kovalyevski, N. A.), editors. *Вопросы Экономической Географии. (Questions of Economic Geography)*. Moscow, 1934.
- Viljoen, Stephan. *The Economic Tendencies of To-Day*. London, 1933.
- Walker, P. F. *Industrial Development of Kansas*. University of Kansas, Engineering Bulletin no. 12. Lawrence, Kansas, 1922.
- Warshaw, H. T., editor. *Representative Industries in the United States*. New York, 1928.
- Weber, Adna F. *The Growth of Cities in the Nineteenth Century*. Columbia University Studies in History, Economics, and Public Law, no. xi. New York, 1899.
- Weber, Alfred. "Industrielle Standortslehre," in *Grundriss der Sozialökonomik*, vol. vi, 1st edition, pp. 54-82. Tübingen, 1914.
- "Die Standortslehre und die Handelspolitik," in *Archiv für Sozialwissenschaft und Sozialpolitik*, May, 1911, pp. 667-688.
- *Ueber den Standort der Industrien*. Part i (Tübingen, 1909), *Reine Theorie des Standorts*, translated by C. J. Friedrich as *Theory of the Location of Industries* (Chicago, 1928). In part ii the following monographs have appeared:
1. Otto Schlier. *Der deutsche Industriekörper seit 1860*. 1922.
 2. C. Carl Christiansen. *Chemische und Farben-Industrie*. 1914.

3. Adolf Link. *Die Lederindustrie (erzeugende und verarbeitende)*. 1913.
 4. Wilhelm Haenger. *Standortsgeschichte der deutschen Musikinstrumentenindustrie*. 1919.
 5. Elisabeth Salomon. *Die Papierindustrie des Riesengebirges in ihrer standortsmässigen Bedingtheit*. 1920.
 6. Erich Kahl. *Die deutsche Kohlensäureindustrie vom Standpunkt der Standortslehre*. 1921.
 7. Rudolf Hammer. *Der Standort der deutschen Bijouterieindustrie*. 1922.
 8. August Zimmermann. *Die Tabakindustrie, unter besonderer Heranziehung badischen Materials*. 1931.
- Weeden, W. B. *Economic and Social History of New England, 1620-1789*. Boston and New York, 1890.
- Weil, Hugo. *Die deutsche Schuhindustrie in der Nachkriegszeit*. Leipzig dissertation, 1926.
- Whitbeck, R. H. "Geographical Influences in the Development of New Jersey," in *Journal of Geography*, January, 1908, pp. 177-182.
- . "Specialization in Industry by Certain Cities, with Particular Reference to Trenton, N. J.," in *Journal of Geography*, October, 1909, pp. 32-38.
- Wolman, Leo. *The Growth of American Trade Unions, 1860-1923*. National Bureau of Economic Research, Publication no. 6. New York, 1924.
- Women's Educational and Industrial Union. *Industrial Home Work in Massachusetts*. Studies in the Economic Relations of Women, vol. vii. Boston, 1915.
- Wright, John K. *The Geographical Basis of European History*. New York, 1928.
- Zapoleon, *see* United States Department of Agriculture.
- Zeuthen, F. "Theoretical Remarks on Price Policy: Hotelling's Case with Variations," in *Quarterly Journal of Economics*, February, 1933, pp. 231-253.
- Zimmermann, A., *see* Weber.
- Zimmermann, Erich W. *World Resources and Industries*. New York and London, 1933.

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