KENT'S DIRECTORIES OF LONDON, 1759-1828:

A GUIDE TO THE MACHINE-READABLE TRANSCRIPTION

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## I. Introduction to the Kent Directory Study

The Kent Directory Study has been a three-year project dating from June 1980 through June 1983. This section will detail the purpose of the study as well as the methods employed in accomplishing this purpose.
A. Purpose of the Study

The main goal of this project has been to provide machine-readable transcriptions of historical business directories as well as to create an analytical database of concrete operational variables based on these transcriptions. The directories used for the study were the Kent Business Directories covering the period from 1759 to 1828. These directories contain listings of thousands of London-area businesses including a description of the business along with a street address. The machine-readable records include three different forms of information: 1) direct alphanumerical transcriptions of the name, description, and address of each business listed in each Directory; 2) coded integer-based variables summarizing the type and location of each business listed in each Directory; 3) a code representing the presence or absence of the same business in the previous Directory. The Kent Directory Study is, therefore, a study of the changing business environment of the London-area during its urbanization. Some researchers will use the machine-readable directory to locate particular business establishments at different points in time. Some will use it instead to reconstruct the geography of a certain industry, or of all industries, in the London area at a given historical moment. Still others will use it to analyze changes in the character and location of London's businesses between 1759 and 1828. The data lend themselves to all three purposes equally well.
B. Methodology

This discussion concentrates on a) coding directory information and b) transcribing the coded variables and the Directory itself into a computer-based dataset.

To begin with, categories were created based on sample business descriptions from the Kent Directories. These categories are called business types and are twenty-four in number. In this way, business descriptions could be standardized according to different classifications of businesses that existed during the period under study.

Next, locations of all businesses were standardized according to the National Grid Reference System of Great Britain. This system can be used to plot geocoded data accurately with a minimal amount of error. This variable was called the grid code.

By comparing Directories, changes in specific businesses could be traced. This comparison of successive Directories was called the mobility code.

Finally, these three codes along with the information given in the Directory were transferred to computer datasets. They currently reside on the Michigan Terminal System (MTS). These data can be accessed by an information retrieval program called MICRO, which is maintained by the University's Institute for Labor and Industrial Relations.

The following sections detail these methods and give more specific information on sources, procedures and applications.

## II. The Kent Directories

## A. Description

The Kent Directories are lists of businesses that include names, business descriptions and addresses. Though similar in concept to today's "Yellow Pages", the lists were compiled alphabetically by business name instead of by the current method that classifies businesses by description. These Directories also featured additional information on specific businesses that was ignored for the purpose of this study. Essentially, the study concentrated on the general business lists as well as lists of bankers that were published separately from the general lists in later years.

Henry Kent began publishing the Directory in 1732. Though Kent's Directory was published by others in subsequent years, annual publication of the Directory continued until 1828. Though the exact method of compiling the lists of businesses used in the Directory is unknown-there are several possibilities--the work is obviously incomplete. This is apparent for two reasons. First, in comparing Kent's Directory with other business directories of the same year, it was found that there was a relatively low rate of correspondence. That is, Kent's Directory contained several businesses not found in other business directories and vice versa. For example, in a comparison of four alphabetical segments of Robson's and Kent's Directories for 1828, of a total of 472 businesses, 128 (27\%) appeared in Kent's alone, 264 (56\%) in Robson's alone, and only 80 (17\%) in both. (Unfortunately, we must reject the temptation to substitute Robson for Kent in order to have a long series, and to maintain comparability over time). Second, close examination of the addresses found in Kent's Directory shows that certain areas and streets that were obviously business districts were relatively untouched.

Overall, Kent's Directory is the largest, most complete work of its kind until
the 1820's. Four Directories were selected for complete transcription--1759, 1768, 1801, and 1828. Three other years-1781, 1795, and 1811--were selected for partial transcription of a five percent sample. There are over 3,700 business listings in the year 1759. By 1828 that number had grown to over 19,400 . From these figures it is apparent that Kent's Directory provides a fair sample of businesses in the period from 1759 to 1828.
B. Coded and Non-coded Variables

Each business listing in Kent's Directory constitues a record in subsequent datasets. An example of how a business listing would appear in the Directory follows:

Thorpe Charles, Salter and Hop-factor, No. 62, Borough
Each part of this record is transcribed and appears as a non-coded variable in the dataset. "Thorpe Charles" is the business name. The business description is "Salter and Hop-factor". The street number is 62, and the street name is "Borough". One other non-coded variable appears in the datasets-the year of the Directory--which is represented by its last three digits. For example, 768 is the designation for the 1768 Directory.

Each record also includes three coded variables in its transcription. The first, business type, is a code that represents the categorization of business descriptions. Second, the grid code, is a geocoding of the location-that is, street number and street name. Third, the mobility code-unlike the other two-is not based specifically on the systematizing of non-coded variables. Instead, it indicates whether the same business appeared in the previous transcribed Directory. These codes appear in the datasets under the fields type, grid and mobility.
C. Obtaining and Preparing the Directories

The Kent Directories can be found at the Guildhall Library in London and can
be copied. Most of the Directories, however, have been microfilmed. The films are available for sale through private companies or for loan through public and commercial libraries. See Appendix B for further information on obtaining copies of the Directories.

Upon obtaining the Directories for the, study, microfilm versions were printed out and all copies were then prepared for coding. Directories that were to be completely transcribed were divided into blocks consisting of ten pages and placed into folders. The folders were then labelled according to block number and year. Coders were responsible for dividing each page into workable sections for coding and entering. Usually, every third or fourth listing was underlined and three vertical sections were drawn and labelled to accomodate the codes.

Directories that were to be only partial transcriptions were divided into coding columns as with the full transcriptions. Beginning with a random number from 1 to 20, every twentieth listing was underlined for purposes of coding and entry. This was the method used for identifying the five percent sample. These sample Directories could be separated into larger blocks since there were fewer records to code and enter.

At this point, blocks were assigned to each coder with the intent that a single coder was to be responsible for all coding, entry, and checking procedures. Over the course of the study, this concept did not always work as planned. Consequently, several coders frequently worked on different aspects of the transcription process.

## III. Secondary Source Material

This section is devoted to describing secondary source material and detailing the usefulness of each source. The primary purpose of these sources was to supplement
the location information found in the Directories. Maps and literature of London during that time period facilitated location coding. Also, the Horwood-Faden Map was used for actual gridding purposes, as will be explained later. (See Appendices $C$ and D for bibliographies.)
A. Description, Uses and Limitations of Literary Sources

The literary sources used in the study take many forms. Some are topographical directories containing descriptions of streets and buildings along with directions on how to find them. Others take the form of atlases with alphabetical listings of streets cross-referencing sectional streets maps. One gives a more or less literary description of London areas while some specifically describe the location of certain buildings such as pubs and coffee-houses.

The most frequently used source was Elmes' Topographical Directory of London. This is an alphabetical list, primarily of street names and buildings, that gives detailed location directions as well as some historical background. It was found to be the most complete and accurate of the sources. Furthermore, the range of the work covered distances of about a six-kilometer radius from the center of London. A sample listing appears as this:

BELL-CT. -1. in in Gray's-inn-lane, a turning at No. 22, the third on the right hand from Holborn.

Another frequently consulted source was Wheatley's London Past and Present. This book is arranged in a format similar to Elmes' work. It devotes more space to historical information but it is not as complete. Occasionally it did provide valuable details omitted by Elmes. Rawlington and Bebbington's works were used less often. The books did, however, fill gaps in Elmes' and Wheatley's works. For instance, an obscure alley or street name that had fallen into disuse could be found in these topographical directories.

All the street atlases proved quite helpful in making the transition from the literary sources to the maps. Most useful were Collins' atlas and The A to $Z$ of Georgian London. Between them, the atlases sufficiently covered the time period encompassed by the Kent Directory Study. The more modern London: Street Atlas and Index was used for locations outside the general area of the other maps and literature. Quite a few streets remain unchanged since the period of the study. Tallis' London Street Views is very limited in the number of streets if covers, but the quality of the illustrations more than makes up for it. The illustrations show the streets along with each numbered building and the name of the proprietor who keeps shop there. This has been helpful in locating certain business that lacked street numbers. Most of all, Tallis' work made up for a deficiency in one of the maps that will be explained later.

Thornbury's Old and New London is more literary than descriptive, supplying much historical information. Useful in helping to locate obscure buildings, disused street names, and renovated areas before they were changed, the book also provides inserts detailing small areas.

Finally, White's London Coffee Houses was an invaluable source of information for locating coffee-houses, pubs and taverns. The book describes over 2,000 such buildings, giving such information as addresses, dates of operation, changes of address and business name changes. Since many addresses from the Kent Directories listed a coffee-house as an address, this source was frequently consulted. Clubs and Club Life in London, a similar book, is much less complete and consequently less useful.
B. Description, Uses and Limitations of Maps

Another important source of information came from map materials. In fact, one map provided the basis for determining one of the variables, grid codes. Three maps were used, two dating from the time period under study and one modern-day
map. (See Appendix D).
First and most important, the Horwood-Faden map was the basis for geocoding location data. This map was drawn from surveys of the London area. It covers a major portion of the London area from Paddington in the west to the River Lea in the east, from Pentonville in the north to Walworth in the south. The map itself is a collection of forty sheets, each approximately 510 by 510 millimeters. The map is scaled 25.5 inches to the mile, detailing even the street numbers on houses and shops. Because of this detail and precision, the Horwood-Faden map was ideal for geocoding to within 100 meters of accuracy. The map was obtained from the the University of Michigan Libraries (which had obtained a copy from Guildhall Library) and copied. Grid coordinates were marked directly on the maps; the maps were then covered with a protective plastic cover. The Horwood-Faden maps had only a few limitations. First, some locations fell outside its boundaries; in these cases, the other maps were used. Also, extremely small or obscure alleys were shown but not named, so other sources were used to determine the names of those byways as well as changes in streets and street names in the earlier six decades.

Second, the Automobile Association Map of London (AA) was used as a guide for marking coordinates on the Horwood-Faden map. It was also used to grid areas that fell outside the borders of that map. Many of the main roads and landmarks remained the same over a period of a century and a half, so many of these locations were easy to find.

Finally, the Cruchley map was used to help make the transition to the AA map when coding such locations. In general, the Cruchley map was produced on a much smaller scale than the Horwood-Faden map. But it covers much more of the London area, including many outlying hamlets.

## IV. Coding Procedures

As already mentioned, the Kent Directory Study uses three coded variables in the datasets. First, the type code is a categorization of business descriptions. Second, the grid code is a geocoding of locations. Finally, the mobility code is a representation of business survival rate. Each coding procedure is different and will be explained in detail in the following sections.
A. Business Type Coding

The business type code is an integer ranging from one to twenty-four that represents the classification of business descriptions according to twenty-four general types of industry or trade that appear in the Directories. Following is a list of the categories:

1. General Merchants
2. Building and Related Trades
3. Merchants of Alcoholic Beverages and Related Products
4. Middlemen for Goods
5. Shipping and Related Trades
6. Bankers
7. Professionals
8. Precious Metals and Timepieces
9. Textile Industry
10. Leather and Related Trades
11. Metal Trades
12. Skilled Craftsmen
13. Financial Intermediaries and Company Representatives
14. Manufacturers of Alcoholic Beverages
15. Food Trades
16. Clothing Trades
17. Pharmaceutical and Related Trades
18. Machine Manufacture
19. Company Officials, Employees and Office Headquarters
20. Publishing and Printing Trades
21. Public Officials and Government Employees
22. Other
23. General Manufacture
24. Services

In general, merchants of a specific trade are included under that category except in the case of categories 9,14 and 23. These merchants are coded under categories 1 and 3. In these cases there appears to be a definite distinction between who manufactures and who sells the good that is often not the case with the other categories. In other words, retail and manufacture appear more often that not to be combined during this time period for categories $2,5,8,10,11,12,15,16,17,18$ and 20.

A similar problem comes up when the distinction between some areas in categories 12 and 23 is not clear. For instance, desk-makers and coach-makers can fall into either category depending on whether the product is crafted by hand or mass-manufactured. Since both types of production are in use during this time period and the business description is too vague to accurately classify the type, all such business descripton are classified as manufacture (category 23 ).

On the other hand, category 13 represents a consolidation of financial intermediaries and company representatives. This is necessary because of the generally obscure business descriptions in this category, particularly the use of the
term "agent." While some agents are known to work for a company, most are simply referred to as "agent." This is complicated by the use of qualifiers, such as stone or wine agent. This implies the possibility that while these agents may work for a company engaged in the trade of these products, these agents may also be independent financial intermediaries. Therefore, to solve the problems caused by the ambiguity of these descriptions, both types are placed into one category.

Yet another area of confusion is in the area of company officers and, consequently, how to classify company officials and employees. It is not clear whether or not office headquarters are located where the actual trade or industry is located. In some cases, it becomes apparent that offices probably are not located on the premises where the industry takes place. For example, a wine company or metal works would have offices in a rather urban area of London where it is unlikely that manufacturing would take place, particularly in later years. Descriptions such as "Agricultural Company" or "Brazilian Mining Company" are a further complication. The business type is supposed to identify the actual operations involved in a category. In the first case, there is no reason to believe that it is not. In the second case, it would be difficult to classify the operation. To solve the problem, business descriptions that indicated the business place is simply a company office, like the London Stove Grate Company or the Asylum Life Office, are placed in a separate category along with their officials and employees. The sole exception to this rule is newspaper offices; there, the term usually denotes that the entire operation is under one roof. As further confirmation, newspaper offices are generally in the publishing district of London.

Some clarification may be needed for the titles of categories 1 and 23 (General Merchants and General Manufacture). They are designed as catch-all categories for merchants and manufacturing that do not belong to specific industries as well as for
those reasons mentioned in the preceeding paragaphs. For instance, a perfumer, a tea merchant and a tobacconist would fall into the category of General Merchants. A fan manufacturer, a chair maker and a comb maker are some examples of the General Manufacture category.

Finally, the last category that requires explanation is 22 (Other). This category is the final catch-all for descriptions that cannot be placed in any other category (e.g., cork-cutter, bind-stuffer, cupper) as well as for businesses lacking a description (transcribed "N.A." for business description in the datasets). It also includes business names accompanied only by a title, and descriptions for which no definition can be found. The latter case covers only one description--"Gardie de Paris." Overall, category 22 represents only an insignificant portion of the Kent datasets.

This covers the various categories, their extent and limitations. Next, the procedure for coding business types will be covered. Coders were responsible for placing business descriptions into categories according to the examples found in the Kent Directory List of Business Categories. (See Appendix E). Ambiguous and unknown descriptions were supervisor-coded in order to maintain the integrity of the structure and system of the categories. The Oxford English Dictionary was used to define such descriptions and every attempt possible was made to fit the description with its most likely definition during the time period. After accumulating a portion of the data, coded descriptions were computer-sorted to create a list of business descriptions and types. This enabled coders to quickly check the lists for matching descriptions and codes. (See Appendices $P$ and Q , and Section IX-A)

Some descriptions. were more or less peculiar to the time period while others had more than one meaning. For this reason, a list of less obvious descriptions was compiled along with their definitions. (See Appendix F) This list also included the assumed definition terms for which there was more than one possible meaning.

One last problem that arose when coding types was that descriptions represent a cross-section of categories. For example, a wholesale tea-dealer could reasonably fit into either category 4 or 13. To resolve similar situations, a list of priorities was devised, based on the dominant characteristic of the description. In the above example, category 13 was assumed to have priority. (See Appendix G for a complete list of these priorities.) Several businesses listed multiple descriptions. In these cases the first description was the one type-coded although all descriptions appear in the datasets.

On the whole, business-type coding proved to be the most simple of the coding tasks. The type code will be discussed further in later sections.

## B. Grid Coding

The grid code is a six-digit integer of coordinates based on the National Grid Reference System. All coordinates fall in the $T Q$ sector of the Ordnance Survey; therefore, the customary TQ designation preceding each grid was eliminated. The first three digits represent the east-west coordinate while the second three digits represent the north-south coordinate. The Horwood-Faden map was marked at 500meter sections to show the intersection of each coordinate at that interval. One grid equals 100 meters, so the marked intersections were five grids apart, going both east-west and north-south. These intersections were determined from the AA map.

To grid a specific location, the street and street number were found on the Horwood-Faden map. For accuracy, grid squares were used. A grid square is a square piece of plastic that covers the distance of five grids in length and width. Grid squares were divided into 25 smaller square sectors so that accuracy could be determined to the nearest grid ( 100 meters). The grid square was placed within a sector of four intersections marked on the Horwood-Faden map. The location was then gridded to the nearest intersection of coordinates.

All secondary source material was used to help determine locations. (See Section III and Appendices C and D) Familiarity with the maps proved to be the most successful key to speeding up gridding from the maps. Of course, the street directory greatly increased coding speed. (See Section IX, B)

Most grids for the Kent datasets were coded in the above manner. Some, however, fell outside the boundaries of the Horwood-Faden map and required a slightly different approach. Those locations that fell within the limits of the AA map were gridded from it. Cruchley's map, which is closer to the study's time period was especially helpful in determining such locations. Since the portion of the AA map used for these locations was marked at one kilometer ( 10 grids) intervals, the specific grid had to be interpolated. Finally, a few locations (e.g., Eltham) were too distant from any of the maps to be gridded as accurately as any of the above were. These locations were determined by Mason's Gazeteer. Mason's uses a four-digit grid, so the number five was appended to each coordinate (i.e., 6274 became 625745). Such locations specified only an area instead of a street address.

Several businesses in the Kent Directory list multiple locations. The general rule is that the first location is the one gridded and the one that appears in the datasets. The only exception is when the first location falls outside the four-county area. In this case, the next location is gridded and placed in the dataset. It should be noted here that the county boundaries changed somewhat between the period of the study and what they are today. For example, Stratford appears as an address a few times in the Kent Directories. Stratford is in modern-day Middlesex, but during the study's time period it was in Essex. In fact, most records that were excluded on the basis that they fell outside the four-county area were similar to the above example. (See Section VI and Appendix L) The border between Middlesex and Essex at that time followed the River Lea, so Middlesex county was much smaller than it
is today.
Between 1759 and 1828, the London area grew considerably. Consequently, new streets were built and old ones renovated, although the basic outlay of the area remained the same. The Georgian $A$ to $Z$ of London as well as other sources proved helpful in determining where changes had been made in the later Horwood-Faden and Cruchley maps. These streets can be found in the Street Directory; some more complicated changes are mentioned in one of the coding memos. (See Appendix I) One particular example of the changes came in later years. At the time the Horwood-Faden map was published, Regent-street was under construction. Therefore, on the map, the layout of the street is given but no street numbers appear. These later were found in Tallis' Street Views. Usually, when Horwood-Faden omitted street numbering, shop numbers easily could be determined by approximating the number of shops that could be on the street. Most streets in London are consecutively numbered so that, for instance, numbers one through 20 are on the east side of the street while 21 through 40 are on the west. Regent-street broke this tradition by placing odd and even shops numbers on different sides of the street. Overall, the changes were minimal and did not create much of a problem.

Some other problems with grid coding should be noted. First, street numbering occasionally was inconsistent along the Horwood-Faden map. For instance, a street may begin at the south-east corner at number one and progress about halfway up the street to number fifteen. Then, numbers thirty through thirty-five might appear, followed by numbers twenty-two through fifty. Whether these aberrations were the fault of Horwood-Faden or individual shopkeepers is not clear. For consistency, streets were viewed as if the numbering was consecutive. In this case, the displaced set of numbers thirty through fifty-five were coded as if they were numbers sixteen through twenty-one. Other problems arose from inconsistencies within Kent's

## Directories.

The second major problem encountered with grid coding was that some street names appeared in more than one place in the London area. Most of the time, the Directory would specify an area or cross-street to avoid any ambiguity. In some cases, however, just the street name was given. To make these cases consistent, the location was gridded at the street which was closest to the center of the city of London. The only exceptions were: 1) if a more specific location could be found by matching the business to a previous or subsequent directory, and 2) if the street number was too high to fit in the designated street. In this case, the next nearest street that would accommodate the numbering was selected.

Another inconsistency appeared when an address gave a specific street number that did not fit a known street. For example, No. 394 Rotherhithe-Wall does not exist. In these cases, the address was coded at the last shop on the given street. The alternative was to extend it to the next nearest street which was usually a variation on the name. In the example, Rotherhithe-Street is the continuation of Rotherhithe-Wall. Barring any changes in geography over time, it was decided to code the street over the street number.

One last problem occurred when the Directory addresses were ambiguous in denoting whether a name was a street or an area. Borough and Mile-End are two such examples. The rule followed was that if a street number was given, the location was coded along the street bearing that name. If no street number appeared in the Directory, then either the area or the street (which fell within the area) could be coded. Overall, these general rules for coding such ambiguities provide a basis for consistency in the data.

## C. Mobility Coding

Mobility coding was the most difficult of the coding procedures because it
requires the most concentration over a sustained period. For this as well as other reasons, some major problems resulted that affect the accuracy of this code. (See Section X, C and Appendix K.)

There are four mobility codes. They were designed to show the survival rate of businesses over a period of years. They are:

0 Business does not exist, or both address and business description are different

1 Both address and business description are the same
2 Address is different, but business description is the same
3 Business description is different but address is the same
Mobility was coded from one directory to the most previous directory (e.g, 1811 was coded by comparing it to 1801). Consequently, 1759 has no mobility codes. (The mobility field in the 1759 dataset shows all zeros.)

In general, the rules for coding mobility are fairly simple. But when actually used with Kent Directory data, they frequently become unclear.

To begin with, the last name of the business must match with that of a previous year in order to qualify. First names are disregarded for two reasons. First, businesses frequently changed hands within a family, especially over a period of years as exists between Directories. Second, it would be virtually impossible to attempt to trace specific businesses, especially over such long periods of time. Therefore, the study is limited to matching the last name of a business along with business description and address.

Next, business descriptions should match but not necessarily word-for-word. In general, the business should be doing essentially the same thing (e.g., selling or manufacturing) with the same general products. This is probably the most problematic area of mobility coding; it will be discussed in greater detail in Appendix
K. Basically, in this aspect of mobility, the study is attempting to capture survival rates for a type of business working with a certain product.

Finally, addresses (street name and number) must match exactly with a few necessary exceptions. First, if the street name changes between Directories, it is coded as if it were the same. Second, if no street number appears in one year but does in the next, it is coded as if it were the same. Of course, this does not take into account possible fluctuations in the numbering of streets that more than likely happened when street-numbering was first instituted on a large-scale basis. (See Section V) Obviously, since such fluctuations could not be verified, a change in street number constituted a change in address at all times. Another problem was that in the earlier Directories an address might be a general area, such as Spitalfields, while later the address would list a specific street. In these cases, if the street fell within the area previously mentioned, the address was considered to be the same.

One other rule that needs to be mentioned is that concerning multiple listings. All multiple listings were taken into consideration. If there were multiple business names, all business names were looked up in the previous directory for a possible match. Where there was more than one business description or address, any match could be considered positive. The consequences of multiple listings on the accuracy of the mobility will be examined later, as will the effect of other aspects of the code and its viability.

## V. Special Problems in Coding 1759

Since the city of London did not adopt a system for numbering buildings until the 1760 's, the 1759 Directory lacks street numbers in most addresses. Therefore, it
was assumed that it would be necessary to create a different system for gridding businesses in 1759. Initially, 1759 was specially coded using a system based on street length and symbols called "Grid Finding Codes" (GFC's). The system was later discontinued and the grids for 1759 are essentially the same as for the other datasets. What follows is an explanation of the system and why it was discontinued.

The first step in coding these streets was checking the 1768 Directory. Surviving businesses with the same street name were coded at the street number found in the 1768 Directory. These cases were coded with a pound sign (非) preceding the street name in that field of the dataset.

The second case concerned those streets less than 400 meters long (four grid squares). Streets that covered only one grid square were assigned that grid. Those covering two grid squares were assigned the first grid (i.e., the east or southern-most grid). Those streets that were three grid squares long were assigned the center grid. All such cases were designated by an asterisk (*).

The third case involved those streets four or more grid squares long. These were coded with the Random Grid Assignment Printout (RGAP). Using the already coded 1768 dataset as the base, streets that covered four or more grids were selected and printed. The result was the RGAP, which listed the street name and the grids it covered. Grids were assigned ranges of integers from one to 100 . The RGAP was accompanied by the Random Number Printout (RNP), a list of numbers from one to 100 randomly sorted by computer. For each street longer than three grid squares, a number was chosen in order of its position from the RNP. The corresponding number was found under the appropriate street name on the RGAP and that grid was coded for the 1759 address. The number was then struck from the RNP and the next was used when the procedure was repeated. These cases were coded with a dollar sign (\$).

The system was discontinued after analyzing the results of the 1759 Directory and comparing it with other years. Problems arose because the RGAP was based on the 1768 Directory for which the grid data had not been cleaned. As a result, some streets were included in the RGAP that were not really longer than 300 meters. On the other hand, streets that were more than 300 meters long did not appear in the RGAP because only a few businesses had been coded on the street in 1768. The RGAP also contained multiple mentions of some streets because of spelling variations. Furthermore, although 1768 had been established as the base year for the study, several businesses still lacked street numbers. Specifically, about 28 percent ( 1529 records) of the addresses in the 1768 Directory were without street numbers. When coding 1768 such businesses were spread along the streets they occupied in an attempt to get a geographic representation of the streets.

Finally, the number of businesses in 1759 for which the RGSP (\$) was used came to roughly 10 percent of the Directory or 384 businesses. Therefore, the premise on which the RGAP system had been created-that a significant number of businesses were located along streets at least four hundred meters long--was not accurate.

In conclusion, the absence of street numbers in the grid-coding for the early years of the study has a negligible effect on the accuracy range of the grids. Future researchers can be assured that all grids are as accurate as possible within the given information in the Directories.

## VI. Records Excluded from the Kent Datasets

A small percentage of records from the Kent Directories were excluded from the datasets because of certain factors that disqualified their inclusion under the
guidelines of the study. These factors fell in the following four categories:

1. Business located outside the four-county area.
2. No address given.
3. Address could not be located.
4. Printing error.

The first category did not apply if the location was the first of multiple addresses where another location within the four-county area could be used. For example, if the address listed in the Directory was Stratford, Essex or 5 Mincinglane, the 5 Mincing-lane address was coded and entered. The second category was necessary since without the location, a grid could not be coded. These listings were checked against previous and later directories for possible matches which included an address. If none were found, however, the record could not be included. A similar situation existed with missing business descriptions. The problem was resolved, however, by coding the business description as "NA" and the business type as "22" (other). The third category was used only after all attempts to locate the business address failed. Finally, all efforts possible were made to decipher printing errors made by Kent. Those records that could be deciphered were transcribed without the errors so as not to confuse future researchers. If a key part of the record such as an address could not be deciphered, however, then the record was not included.

As noted, these records involve only a small percentage of the Directories. See Appendix L for a list of these records and percentages.

## VII. Data Entry, Transmission and Initial Checking

After the coding process for a block of a Directory had been completed, the data was entered into a computer. The Kent Directory Study tried three different
methods of data entry before settling on the most efficient and inexpensive method. It used the Apple II Plus microcomputer.

## A. Previous Methods

Initially, data from the Directories was entered on-line to MTS using an Ontel Terminal. This method used an interactive entry program that prompted the enterer for each variable and allowed for correction at the end of each record. Using an on-line program, however, proved too expensive because of the amount of CPU time involved. It was inefficient as well since the pace of entry depended on MTS usage rates and was usually slow because of decreased response rate on the part of MTS.

The second method of entering Kent data was on the Tektronix 4051 microcomputer. This off-line method was more reasonable than the first in terms of cost and time, but problems did occur. First, the primary function of the Tektronix was map-making from which data entry detracted a considerable amount of time. More importantly, transmission problems arose when tranferring the data to MTS. Though the problem was partially solved, it was not time-efficient and was not the most inexpensive way to enter and transmit data.
B. The Apple II Plus

The problems encountered with the first two entry methods were solved by changing over to another microcomputer, the Apple II Plus, also an off-line device. It proved to be faster than the other two methods and less expensive overall since the cost of transmission was very low.

The entry program was written in BASIC, prompting the enterer for each variable with a built-in corrections program. The Enterer Identification and Year variables are only entered once per session. The enterer may use the corrections program as many times as needed before saving the record in a data file.

A file maintenance program was used to limit the number of records in each
file and to keep track of entry. For simplicity, each file was limited to one page of data from the directory. See Appendix $M$ for Data Entry Instructions.
C. Data Transmission to MTS

Once a sufficient amount of data had been entered, usually several blocks of a Directory, the data files were transmitted to MTS in line files by a supervisor, using a transmission program written in BASIC. Records could be transmitted rather quickly and inexpensively this way with a fairly high degree of accuracy and minimal loss of data.
D. MTS Line Files and Entry Checking

Once the data had been transmitted to MTS, listings were made of the line files and given to the coder for checking. Coders were required to check to make sure transcription of the non-coded and coded variables was correct. Errors were highlighted and corrections were marked on the printout. These corrections were then made to the MTS line files by a supervisor. At this point, data were prepared for entry into MICRO datasets.

## VIII. MICRO Datasets

The MICRO datasets are structured around nine fields. First, YEAR is an integer-based field which represents the last three digits of the year of the directory. NAME is a character-string designating business name. BUS-DESC is a characterstring for the field showing business descriptions. Next, TYPE and ST-NUMBER are the integer-based fields for business types and street numbers. ST-NAME is another character-string that represents the field for street names. GRID and MOBILITY are the integer-based fields for grid and mobility codes. Finally, ENTERER is the character-string designating the enterer identification code.

The Datasets are stored in MTS sequential files which are named, for example, KENT59; these sequential files can be accessed by MICRO using an identical dataset name. Because of the size of some Directories, certain datasets were split. These datasets are KENTO1A, KENTO1B, KENT28A, KENT28B and KENT28C. These datasets were divided alphabetically by business name.

The fields will not be explained in any further detail here since they have been sufficiently covered in the sections on coding and entry. (See sections IV and VII) One exception, however, should be noted. Enterer Identification is the code used by the coder who enters the data. Though the code was intended to designate a specific coder responsible for each type of coding as well as entry for every record, this is not usually the case. It was frequently necessary for different coders to complete each of these four steps in the transcription process. Therefore, the enterer identification code has little significance except to show which coder entered the record.

See Appendix N for more information and Appendix O for a sample page from the datasets.

## IX. Immediate Applications of the Datasets

Three invaluable research tools were derived from the Kent datasets. Specifically, they are the Business Description Directory, the Business Type Directory, and the Street Directory. Initially, data were retrieved from completed datasets for use in coding later Directories. The Street Directory, however, has proven quite useful as source material for other research projects. Therefore, complete directories from multiple-year sorts of all datasets have been made available.
A. Business Description and Type Directories

These directories were compiled from the business description and type variables. They are further distinguished by dataset (i.e., the last three digits of the year variable. Those datasets which are identified by letter as well are followed by an extra digit. For example, KENT28A is referred to as 8281 ).

The Business Description Directory is organized by description, type and dataset. It has been used primarily for type coding and cleaning. (See Appendix P) The same is true for the Business Type Directory with the exception that variables are sorted first by type, then by description and finally by dataset. (See Appendix Q)

The Business Description Directory has been useful for determining type codes for unknown descriptions. Since it is sorted alphabetically by description it makes type coding much easier. The Business Type Directory was primarily used for checking descriptions that fall under a particular type. It is sorted numerically by type, so all descriptions are sorted alphabetically within a specific type. The directory can also be used to determine examples of descriptions that characterized different types.
B. The Street Directory

The Street Directory was compiled from the Street Name, Street Number and Grid fields. It also indicates dataset as well. (See Appendix R) This directory was equally useful in coding locations and checking grid data. Since it is sorted alphabetically by street name, by looking up the street name and selecting a subsequent street number, the grid is readily available or can be easily interpolated. Checking the grid data was made easier because all data for a specific street were in one place.

## X. Data Checking and Corrections

After assembling complete datasets, final checks were done on the data. Business types and grids were checked separately from the dataset, and the dataset was checked to ascertain the accuracy of the transcription. Included in this section is a brief description of why the mobility code could not be submitted to this final check.

## A. Type Checking

Final checks on types were done using the business description and type directories. First, the business description directory was examined to make sure that the same description had not been coded as more than one type. Second, the business type directory was checked to make sure that all descriptions falling under a specific type were consistent with that type. It was at this point that any coder errors or inconsistent classifications of descriptions could be noted and corrected fairly easily. Type checking was done first after each dataset had been assembled and again after the business description and type directories had been compiled from all datasets.

## B. Grid Checking

Similar to type, grid checking was done once for each dataset and again after the street directory had been assembled from all datasets. This final check on grids was based on close familiarity with the London area and grid designations for various streets and regions. Checking was done by examining streets and street numbers, and determining whether the grid was correct or not. The street directory simplified the task of going through this quantity of information by combining the data so that, in general, all streets of a certain name were listing together. Also, misprints from the Kent Directories that were confusing were changed at this point. For example, a
listing for "Pelter's Fields" was supposed to be "Potter's Fields" and therefore was changed.
C. Restrictions on Mobility Checking

Unlike the other coded variables, no final check can be done on mobility. Since the mobility code is a comparison of two Directories using four variables, there is no simple approach to checking the coding of mobility. Essentially, the entire mobility coding process would have to be done again. Since mobility coding uses information from the Directories that is not transcribed into the datasets, the computer cannot be used to make the task any simpler. Also, variations in the form of the data (such as spelling, punctuation and position of words) limit the use of MICRO in any case.
D. Record Checking

After transcriptions for all datasets were complete, a final check was made by comparing the Directory to the dataset. This check was done to make sure that no records were missing and that the information that was transcribed contained no errors. This was especially helpful in locating errors that occurred after the data were in MICRO. (See Appendix S) A minor transcription error was discovered among some of the bankers. By 1811, the Kent Directory had included lists of country bankers who had agents in London in a list separate from the regular London bankers. In 1811, the business name was transcribed as Town-Name--Agent. In 1828, the transcription appeared as Agent (Town, Name). No corrections were made to these data to make them consistent. Any researcher who uses two or more of these sets will have to make some adjustments for inconsistency in this regard.

## E. Dataset Corrections

Final corrections were made to the dataset after the final check on the data was completed. Corrections were made in MICRO to the otherwise complete datasets. At this point, all variables except mobility were considered clean and the
datasets ready for use.

## XI. MICRO Use of the Kent Datasets

The Kent datasets may be used for read access only. This section will explain some of the more useful commands for analyzing the data. See Appendix $T$ for correct command syntax.

First, the FIND command may be used to find specific data in one or more variables. The more variables specified, the more specific the result set will be. This concept holds true for all commands. For example, the FIND command could be used to retrieve the number of businesses (and corresponding percentage of the dataset) that are merchants in Fleet-street as well as their names and other parts of the record, if desired. It is important to remember that MICRO is very precise, so all variations of spelling and punctuation must be taken into account.

Another useful command is SELECT. The SELECT command can be used to select all data in specific fields. This command was used to compile the street, business type and business descriptions directories. Fields will appear in the result set as they are listed in the command.

The CROSSTABULATE command can be used to display and count every occurence of a record in a selected field. The RESTRICT command will create a result set of records restricted by specified fields. The REMOVE command can be used to create a result set that contains the records of one set less those in a second set with the same structure (i.e., with the same fields).

The COMBINE command will combine two sets with the same structure. The NAME command can be used to name a result set. The PRINT command will print a set on screen or on a disk file. The RELEASE command will destroy a result set.

## XII. Possible Analytical Uses of the Kent Datasets

The basic information available for any particular business in a given Directory includes:

1. date
2. name of business
3. description
4. address
5. type, using a 24 -category code
6. location, using grid-squares
7. presence or absence of the business in the previous transcribed Directory a) at the same address with the same description, b) at the same address with a different description, c) at a different address with the same description. In principle, analyses can deal with any combination of two or more of these items. In practice, the most likely analyses fall into these categories:
8. geographical distribution of certain types of businesses, or of all businesses;
9. mix and/or density of businesses within a given area, including the London area as a whole;
10. survival, change, and movement of particular businesses;
11. combinations of two or more of these analyses, e.g. segregation of different business types from each other or relationship between location and survival;
12. changes in any of these from the time of one Directory to the next. Although the coded information on survival, change, and movement is undoubtedly less reliable then the rest, the form of the data should make all these types of analysis feasible.

## XIII. Conclusion

Overall, the Kent Directory Study has proven successful. The main purpose of the study, transcription of the Directories into machine-readable format, has been accomplished for four complete Directories and three partial ones. The finished datasets for the Kent Directories provide complete and accurate transcriptions of business listings for selected years from 1759 to 1828.

The second goal of the study, coding selected data into operational variables, has for the most part also been successful. The grid code gives a highly accurate representation of standardized location information. The business type code provides a systematic categorization of business descriptions that is consistent with industry and trade patterns for the time period. On the whole, these two variables are precise and highly operational for analysis of the Kent Directories.

Although problems exist with the mobility code, the variable is still fairly workable. Its accuracy does not compare with that of the type and grid variables, but even in rough form it can be used for general analyses. Furthermore, more precise recoding of the variable is planned in the future to make it as reliaible as the grid and type variables are.

Finally, the Kent Directory datasets show promise for a wide range of significant analyses. The data can be used to detect trends in business mobilization patterns over time as well as trends of urban development in the London area. Further, specific types of businesses can be examined in relation to the development of certain trade or industrial regions. Furthermore, the research methods employed by the study have proven that such a concrete approach to analyzing historical urbanization and industrialization is workable. toberbith

## Bagrail Ann, Mercer, 144, Winorics

Bagnall John, Ironnonger, Gráflon-firect, Sobo
Eagot Richard, Efq; General Receiver of the Land-Tax, Bruton-fircets, Betlley-fyuare
Baghaw Henry, Ta-broker, 60, Watling-firect Rague George, Mercht. 23, Tbreadneedle-fireet
Eaily Simon, Wortted-maker \& Throwler, Bell-lane, Spital-fields
Bailey John, Milliner \& Habit Warchoufe, 74, St. Paul's Chursb-yard
Biilic Menzies, Mercht: 9, Angel-court, Tbrogmorton:fircet
Baillie James, Mercht. 21, Cullum-firces
Bainbrigg \& Cookfon, Brokers, Finch-lane, Cornbill Baird John, Jeweller \& Wathh-maker, 190, Strand
Baker Richard, Press \& Tobacco Engine-maker, 66, - Fore-Ifrect, Mospfelds

Baker John, Slop-leller, 30, Fincburch-firect
Baker James, Currier \& Leather-culter, 23, Brook-fircet, Helborn
Baker Joreph; Pearl \& Pot-Afh Mercht. 48, St. Fohn'sfirces, Clerkemwell
Baker Jofeph \& Comp. Marchts. 69, Upper Thames-frect Baǐewell John, Cheefemonger, 74, Drkry-lane
Baldwin Chriftopher, Mercht. 5, Fan-court, Miles's-lane, Cannen-firect
Baldwin Kobert, Bookfller, 47, Pater-noficr-row
Baldwin \&: Howell, Hop Mercht. 14, Borgugh
Baldwyn Richard, Einen-draper, 44, Weft Sm:ithfield
Baldayn Edward, Hofier, 30, Ludgate-bill

## APPENDIX B

Where to obtain the Directories

EP MICROFORM LTD.<br>\section*{Bradford Road}<br>East Ardsley, Wakefield WF3 2AT<br>West Yorkshire, England*

## GUILDHALL LIBRARY

Aldermanbury
London EC2P 2EJ
England

RESEARCH PUBLICATIONS, INC.
P.O. Box 3903 Amity Station

New Haven, Connecticut 06525
(203) 397-2600
*(Research Publications is the US counterpart of EP Microform)

## Appendix C <br> Bibliography of Literary Sources

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Appendix D
Bibliography of Maps

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Appendix E<br>Kent Directory List of Business Categories<br>Keith C. Ciarke<br>Erica A. Stanley<br>Final Version<br>13 July 1983

1. General Merchants: Merchts. of Foreign Goods, Sack, Colour, Lace, Turpentine, Snuff. Also, Mercer, Teaman, Chinaman, Glass-seller, Seedsman, importer, Tobacconist, Perfumer, Florists, Toymen, A=tificial Florists.
2. Building and Related Trades: Carpenters, Brick and Tile Makers, Mason, Marble Makers, Petrefaction Manuf., Stone Mercint.
3. Merchants of Alcoholic Beverages and Related Products: Merchts. and Importers of Beer, Wine, Cider, Brandy, Hops, Porter.
4. Miadlemen for Goods: Packers, Warehousemen, Wholesalers, Wharf
5. Shipping and Related Trades: Makers of Rope, Sail, Masts, Blocks, Trusses. Wharfingers, Lightermen, Ship Chandler, Anchorsmith, Ship Joiner, Shipwright, Barge Builder, Ship Builder.
6. Bankers: Bankers, Bank Directors, Bank Accountant.
7. Professionals: L.L.D., Oculist, Physician, Lawyer, Surgeon, Dentist, Architect, Proctor.
8. Precious Metals and Timepieces: Gold and Silver Lacemen, Cruet Frame Maker, Gold and Silversmiths, Watchmaker, Ringmaker, Jeweller, Watch Chain Maker, Goldworker, Gold Beater, Lapidary.
9. Textile Industry: Hot-presser, Silkmen, Lacemen, Dyers, Drapers, Weavers, Calico-Printers, Silk and Satin Dresser, Clothworker, Clothiers, Bombazeen Weaver, Upholder, Upholsterer, Calico Glazer. Makers of Silk, Thread, Hearthrugs, Cotton, Ribbon, Carpet, Floor Cloth, Worsted, Cudbear, Crape.
10. Leather and Related Trades: Leather Cutters, Wax

Bleacher, Curriers, Sadler, Fellmonger, Tanner, Slop-Seller, Leather Dresser, Flatter. Makers of Leather Pipes, Gilt Leather, Candles, Soap, Glue, Spanish and Morroco Leather, Leather Hats, Size, Whips.
11. Metal Trades: Plumber, Whitesmith, Ironmonger,
Tinman, Founders, Braziers, Hardwaremen, Pewterer,
Callenderer, Tyresmith, Wire Drawer. Makers of
Spoons, Needles, Fish Hooks, Buckles, Planes, Spurs,
Saws, Metal Sash, Pipe, Window Lead, Water Closets,
Stove Grates, Handscrews, Plate Case.
12. Skilled Craftsmen: Statuary, Potter, Ornamental Steel Worker, Fancy Worker, Carver, Optician, Turner, Enameller, Japanner, Glass House. Makers of Mathematical Instruments, Quadrants, Surgeons' Instruments, Compasses, Earthenware, Sedar Chairs, Musical Instruments, Spectacles, Scales, Hydrometers, Fancy Chairs, Guns, Gauging Instruments.
13.
$\frac{\text { Financial }}{\text { Representatives } \frac{\text { Intermediaries }}{\text { Brokers, Agents. }} \text { Solicitors }}, \quad$ Factors, $\quad \frac{\text { Company }}{\text { Dealers, }}$
14. Manufacturers of $\frac{\text { Alcoholic }}{\text { Distiller, Wine }- \text { Cooperages: }}$ Brewer,
15. Food Trades: Grocer, Baker, Confectioner, Salter, Refiner, Mealman, Cheesemonger, Fruiterer. Merchts. of Vinegar, Salt, Corn, Poultry, Provisions.

17. Pharmaceutical and Related Trades: Druggists, Chemists, Drysalters, Gunpowder Makers, Dispensary, Spermaceti Refiner, Oil of Vitriol Maker.
18. Machine Manufacture: Millwright, Mangle Maker, Pump-maker.
19. Company Officials, Employees and Office Headquarters: Directors, Salesmen, Accountants, Secretary, Paymaster, Insurance Office.
20. Publishing and Printing Trades: Printers, Booksellers, Publishers, Stationers, Printseller, Mapseller, Oil and Colourman, Playing Card Maker, Pocket-book-maker, Music Seller, Print Mercht., Colourman.
21. Public $\frac{\text { Officials }}{\text { Alderman },} \frac{\text { and }}{\text { Notary Public }, ~ C o m m i s s i o n e r s, ~} \frac{\text { Government }}{\text { Bearer, }} \begin{aligned} & \text { Comptroller, Sityees: } \\ & \text { Chamberlain, Foreign Consul. }\end{aligned}$
22. Other: Titles, Nurseryman, Harrier. Cutters of Glass, Whalebone, Cork. Societies and Schools.
23. General Manufacture: Manufacturers of Fans, Umbrellas, Lamp-black, China, Canes, Hair, OstrichFeathers, Marble-paper, Bedsteads, Paper, Japan, Pencils, Whalebone, Sieves, Brushes, Combs, Buttons, Coach-Springs, Varnish, Packing Cases, Backs, Feathers, Fancy Skylights, Blacking, Turpentine, Fishing Rods, Paper Hanging, Army Accoutrements, Axletrees, Lamps, Saddletrees, Colour, Globes, Wheels, Chairs, Fishing Tackle, Sash Line, Staves, Knife Cases, Tortoise Cases, Snuff. Also, Wheelwrights, Glassmen, Superfine Colour Preparers.
24. Services: Geographer, Appraiser, Undertaker, Surveyor, Auctioneer, Paper-Hanger, Carman, Painter, Contractor.

## Appendix F <br> Definitions of Some Business Descriptions

These definitions are for terms that are obscure or archaic as well as for those where a specific meaning has been assumed for a term having several definitions.

ACCOUTREMENT - apparel, outfit, equipment
AGRICULTURAL INSTRUMENT/IMPLEMENT - assumed all such articles were made of metal

ALLUM - alum
ALUM - a mineral salt
ANATTO - an orange-red dye
ANTI-PATENT MALT - probably the opposite (unroasted version) of patent malt (deep brown malt made by roasting)

AQUAFORTIS - commercial nitric acid
ASSIGNEE - agent
ASSURANCE - insurance
BACK - a large shallow vessel
BAIZE - a coarse woollen stuff
BART. - Baronet
BEADER - one who strings beads
BEUFONT \& FANCY - ornamental (refers to textile trimming and detail work)
BLUE - a dye
BOMBAZEEN - bombazine, a dress material
BRAZIER - one who works in brass
CABOUSE - a cooking oven or fireplace
CAM. HAIRPEN. - camel hair pencil
CANE - a walking stick

CAPILLAIRE - a syrup flavored with orange-flower water
CARMAN - a carrier
CLOTHIER - a maker of woollen cloth, especially in the stages subsequent to weaving

COCK FOUNDER - one who makes spouts or shot pipes that channel liquids and have a valve for regulating their control

CONVEYANCER - a lawyer specializing in the conveyance of property
CRUET-FRAME - a stand make of silver for holding cruets
CUDBEAR - a dye
CUPPER - one who draws blood for medicinal purposes
CURRIER - one who dresses and colors leather
CYDER - cider, an alcoholic beverage
DEAL - a board of fir or pine
DIE SINKER - an engraver of dies for stamping
DRAPER - one who makes woollen cloth
DRY SALTER - one who deals in chemical products
EMERY - a coarse variety of corundum used for polishing
FACTOR - an agent
FELLMONGER - one who deals in animal hides
FLATTER - one who makes hides and skins flat
GALLOON - a close-woven ribbon or braid
GLAZIER - a glass-maker
HAMBRO' - Hamburgh, Germany
HARDWAREMAN - one who makes or sells small metal wares
HEMP - a fibrous plant used in textiles and ropes
HERALD - painter, one who paints Coats of Arms
HORSE MILLINER - one who makes apparel for horses

HOT PRESSER - one who hot-presses cloth to make it smooth and glossy
HYDROGRAPHER - one who makes hydrograhpic surveys and constructs charts of the results

HYDROMETER - an instrument used to determine the specific gravity of liquids
JAPAN - a varnish used in Japanese work (i.e., work varnished and adorned with painted or raised figures)

JUVENILE REPOSITORY - a warehouse for goods make for children
L.L.D. - Doctor of Laws

LAST - a wooden model of the foot used by shoemakers
LIBRARY - a private enterprise
LIGHTER - a boat used for loading and unloading larger vessels that cannot dock

LIN. DRA. - linen draper
MALTSTER - malster, one who makes malt for brewing or distilling
MAN'S MERCER - one who deals in men's wear
MCHTS - merchants
MCTS - merchants
MERCER - one who deals in textile fabrics
MERTS. - merchants
MTS. - merchants
MOR. - Morocco
N.A. - no business description available

OILMAN - 1) seller of oil; 2) one who deals in sweet oils and the eatables preserved in them

OLD HOCK - Rhine wine
OPORTO - a port wine
ORCHELL - orchel, a dye
ORRIS - lace of various patterns in gold and silver
PAT. - patent

PATTERN DRAWER - one who makes molds for molten iron
PAVIOR - one who lays pavements
PEAK - a projecting part of head-dress
PERUKE - a wig
PETREFACTION - a staying substance
PIPE - a metal conduit
PLUMBER - one who works in lead
POCKET BOOK - a small book
PORTER - a type of beer
PROCTOR - one similar to an attorney, but who works in courts of civil and canon law

PROTHONATORY - a principal notary, chief clerk or recorder of a court
PROV. - provision
RECTIFIER - one who refines liquor
ROPE - assumed to be used solely for shipping
SALESMAN - classified according to what he sells
SALTER - one who salts food
SCAGLIOLA - plaster work designed to imitate stone
SCOTCH-FACTOR - an agent dealing in scotch liquor
SHALLOON - a fabric of wool or worsted used for linings
SISE - size, a glutinous material
SLOP - feed for cattle and pigs
SPERMACETI - a waxy solid obtained from the sperm whale
SOLICITOR - an agent
STAT. - statuary
STATIONER - a bookseller
STAVE - a stick of wood, barrel board

STUFF - a woven material
THROWSTER - one who twists raw silk or fibers into thread
TILT - a canopy
TRUSS - a tackle used in shipping
TUNBRIDGE WARE - goods from Tunbridge, Kent
TURNER - one who fashions wood, metal, etc.
TURKEY - refers to the country of that name
UPHOLDER - one who makes upholstery
VERDIGREASE - verdigris
WHARFINGER - operator/manager of a commercial wharf
WHITESMITH - tinsmith
W.I. - West Indies

WIGAN - a type of calico cloth
WORM - a screw
YEAST - classified as used in bread-making unless specified that it is used in alcoholic beverages

## APPENDIX G

## CODER MEMO \# 1

BUSINESS TYPE CODING

1. Read over the List of Business Categories carefully to familiarize yourself with the general business types.
2. The first step in coding business types is to look up the business description in the Business Description Directory. This Directory is sorted alphabetically by business description. The corresponding type follows the description and should be coded in the appropriate space on the directory page.
3. If the business description is not listed in the Business Description Directory or if it is not exactly the same description, check with your supervisor. You should be able to make a fairly accurate guess about the correct code by checking the definition in the OED and then by examining similar descriptions in the Business Type Directory and in the List of Business Categories. Be sure to check with your supervisor before assigning a type code.
4. If multiple business descriptions are listed, code the first one. The only exception here is with titles. For example,

Smith John, Esq. and Mercht.
would be coded as a merchant and the title would be ignored for coding purposes. Of course, if only a title is listed, that is what is coded.
5. You may encounter some overlap of categories. Check with a supervisor if something is not clear. In general, the rules for dominant themes are:
a. Category 4 has priority when combines with anything except Category 13.
b. Category 13 has priority over all else.
c. Category 5 has priority over other types of manufacture.
6. You should expect to spend to spend about ten to twenty type coding each directory page.

Erica A. Stanley
Final Update July 28, 1983
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## 19



## APPENDIX I

CODER MEMO \#2

GRID CODING

1. The first step in assigning grid codes is to check the street name and number in the Street Directory. This directory is sorted alphabetically by street name. Once you find the street name, use the corresponding grid if the street number falls into one of the following situations:
a. If the street number matches the one you are coding, use that grid.
b. If your street number falls between two other street numbers occupying the same grid, use that grid.
c. If your street number falls between two other street numbers occupying adjacent grids, use the grid closer to your street number (if it is in in the middle use either grid).
d. If you find two listings of identical street numbers at different grids, you may use either grid provided they are adjacent.
2. The street numbering along some of the streets on the H-F map is either inconsistent or nonexistent. Use the Street Directory to be consistent with the way the street has been coded in the past.
3. If a location has no street number, you may place the anywhere along that street or within that district. If you are given a street name which could either refer to a street or a district, use the street for coding if a street number is given. Otherwise, code either the street or the district.
4. Ambiguous street names which do not mention a district or intersection are coded at the location closest to the center of London. Check the Street Directory or with your supervisor for a specific location problem. The only exception is if the street number exceeds those on the closest street. In that case, use the next closest street which will accomodate the street number.
5. Regent Street is numbered as follows:
$(1-37)$ Waterloo Place to Piccadilly (West)
$(2-36)$ Waterloo Place to Piccadilly (East)
$(39-167)$ Piccadilly to New Burlington Str. (West)
$(38-170)$ Piccadilly to Chapel Court (East)
$(169-253)$ New Burlington Str. to Oxford Str. (West)
$(172-270)$ Chapel Court to Oxford Str. (East)
$(255-319)$ OxfordStr. to Langham Place (West)
$(272-328)$ Oxford Str. to Langham Place (East)
6. On the east side of London, Cannon-Street runs between Ratcliff-Highway and Commercial-Road. Cannon-Street-Road runs between Commercial-Road and Whitechapel.
7. Check with your supervisor if you think a location falls outside the four-county area, particularly locations east of the River Lea.
8. Other notes on street names:

Borough-St. is St. Margaret's Hill
Dog Lane is Upper Russell-Str., Southwark Five Foot Lane is Russell-Str., Southwark Aldgate is Aldgate Within Aldgate High Street is Aldgate Without Moorfields is Lower Moorfields
Petty France, London is N. Broad-Str.
Petty France, Westminster is York-Str. Littie Swallow-Str. is called Swallow-Str. on H-F Swallow-Str. was built over by Regent Street; it extended along the buildings of the western half of Regent Street from Little Swallow-Str. to Princes-Str.
9. It should take about forty-five minutes to an hour to grid.code a page of the directory.

MOBILITY CODING

Mobility coding is designed to show the survival rate of businesses over time. Briefly, mobility coding involves comparing business names in one directory with those in a previous directory to determine if they exist or if any changes have been made in the business. Your supervisor will give you a more in-depth explanation during training. Following are the mobility codes along with some general guidelines to follow when coding mobility. Be sure to ask your supervisor for help in coding anything that is unclear.

## MOBILITY CODES

0 Business does not exist, or both address and business description are different

1 Both address and business description are the same

2 Address is different, but business description is the same

3 Business description is different, but address is the same

## GUIDELINES

1. Coding is done backwards by year. For example, mobility codes for 1811 data are derived from the 1801 directory. The 1759 data will have no mobility codes.
2. In the business name, only the last name must match.
3. Both street name and number must match.
4. Business descriptions should match. The general rule here is that the business should be doing the same kind of work with the same product. Check with your supervisor for clarification of a specific problem.
5. Given a listing with multiple business names, check all names for a possible match. If more than one matches, use the following rules for coding the best possible match:
a. If possible, code the name which represents the most complete match. Use code 1 as having the most priority, code 2 is second in priority and code 3 is last.
b. If rule a does not apply because one match has no priority over another, use the name which appears first in order of the listing of those having priority.
6. Given multiple business descriptions, only one description need match (including titles).
7. Given multiple addresses, only one address need match.
8. It should take about twenty to twenty-five minutes to code mobility for a page of the directory.

Erica A. Stanley
Final Update
July 28, 1983

## Appendix K

Staff Memo on Mobility Problems and Recoding

A serious problem has arisen concerning the accuracy of the mobility code. By check-coding a random sampling of some of the datasets, I have found error rates as high as fifteen percent. (The sample was based on complete blocks of complete datasets and multiple blocks of sample datasets.) This problem is the result of inadequate coding guidelines and inconsistent coding.

I suggest that mobility be recoded for all datasets. First, some changes will need to be made in the coding process. Mobility coding is going to require stricter supervision and the coders will need more extensive training. To accomplish this it would be feasible to recruit a select group of coders to work solely on mobility. This will provide a group of highly specialized coders and lessen the amount of supervisor-time needed to train them and oversee their work. Also, mobility coding requires an extensive period of uninterrupted concentration, so this group will not be distracted by other coding tasks, entry and checking.

On the issue of inadequate guidelines, two major problems need to be taken into consideration. The first problem is in matching business descriptions. In the past, matches have been considered to be everything from an exact word-for-word match to similar types of businesses. This range is much too broad and inaccurate. The guideline here should be that business descriptions are considered to match if the business is doing the same thing (e.g., manufacturing, retailing) with the same product (e.g., food, wood, a specific company). Of course, there will be some gray areas that will require supervisor coding and documentation.

The second problem is with the secondary matching of multiple business names. For example, in 1795 Whyte, Smith and Roberts are brokers at 15 Fleet-Street. In

1781, there is no possible match for Whyte. There is, however, a Smith who is a broker at a different address. So, White, Smith and Roberts are coded as being in the same business but at a different address (Code 2). The problem is that there may have been a broker named Smith who would have been listed under the "S" section and coded in the same way. There are two solutions possible--either the discrepancy can be ignored and some warning appended to the documentation or each multiple listing will have to be checked to prevent double coding. In the first case, coding will be less than perfect. The second case is much more time-consuming. I suggest that if the second guideline is followed, multiple business listings be done first. A written record should be kept of all secondary matches for reference when coding singular listings. The decision on this last problem lies with Chuck because of the time factor involved:

Erica A. Stanley

July 7, 1983

Appendix L
List of Excluded Records

KENT59 ( $0.13 \%$ of dataset)

1. Andre Anthony; Royal Exchange Assurance Director; Walthamstow
2. Boddington Thomas; Calico-Printer; Stratford
3. Gough Charles, Esq.; East India Director; Walthamstow
4. Scott Robert, Esq.; Alderman; Low Layton
5. Steel William, Esq.; Lanaby in Kent

KENT68 (0.09\% of dataset)

1. Ainscombe Lillie, Esq.; Sun Fire Office Director; St. Leonard'sHill, near Windsor
2. Bissons and Metcalfes; Malt Distillers; Three Mills, Westham, Essex
3. Chauncy Toby, Esq.; Sun Fire Office Director; Gainet, near Kimbolton, Huntingdonshire
4. Dingley Robert, Esq.; Lamb Abbey, Kent
5. Steel William, Esq.; Lanaby in Kent

KENT95 ( $0.23 \%$ of dataset)

1. Metcalfe P. and Co.; Malt Distillers; Three Mills, West Ham, Essex

KENT01A ( $0.06 \%$ of dataset)

1. Ayres, James; Coal Merchant and Lime Burner; Stratford
2. Baggott, Richard Esq.; Receiver General of the Land-Tax;
3. Flight and Jennings; Turpentine and Iron Liquor-Makers; Stratford

KENT01B ( $0.08 \%$ of dataset)

1. Metcalfe P. and Co.; Malt Distillers; Three Mills, West Ham, Essex
2. Palmer and Gibson; Timber Merchts.; Stratford, Essex
3. Perkins Wm.; Nursery and Seedmen; Holloway-down, Laytonstone
4. Pilgrim Thomas; Fellmonger; Stratford

KENT11 ( $0.24 \%$ of dataset)

1. Brown Jas. jun.,; Brewer; Stratford, Essex
2. Moss Jos.; Chemist and Druggist; Stratford, Essex

KENT28A ( $0.05 \%$ of dataset)

1. Allen Sam.; Coal and Sand Wharf; Stratford, Essex
2. Ayres Jas.; Coal-Merchant; Stratford, Essex
3. Boman Edw.; Coal-Merchant; Stratford, Essex

KENT28B (0.08\% of dataset)

1. Kinghorn Thos.; Slater; Stratford, Essex
2. Maddison Chas. and Son; Coal Merchants; Stratford, Essex
3. McMurdock and Co.; Drug Mills; Stratford, Essex
4. Meeson T.W. and R.; Lime Burners and Coal Merchants; Stratford, Essex
5. Metcalf P. and Co.; Malt Distillers; Three Mills, West Ham, Essex

KENT28C (0.4\% of dataset)

1. Thompson T.W.; Corn Dealer and Timber Merchant
2. Turner and Bailey; Soap Makers; Stratford, Essex
3. Walton Jas.; Timber Mercht.; Upper-Gabiskind, Irroane

## Appendix M Coder Memo on Entry

These are instructions for entering Kent Directory data on the Apple. They are intended for reference only after you have received actual instruction on the computer.

Everyone will be entering his/her own block on the Apple. Each person will have his/her own disk; be sure to use your own disk and only that one.

First, check the block over thoroughly, making certain that all information has been filled in completely and accurately. Then remove your data entry disk and an entry program disk from the file.

Next, open the disk-drive which is to the right of the machine. The disks must be inserted with the label facing up and away from the drive. Insert the program disk in Drive 1 and the data disk in Drive 2, then close each drive. Switch on both the computer and the screen. Check to see that the computer is plugged in if nothing happens.

Quite simply, your work will now be a matter or responding to the computer's promptings. First, you will be asked to give your "enterer identification" and the year of this Directory. These questions are asked only once. Your enterer identification will be you initials followed by the number 1 (e.g., EAS1). The year will be the last three digits of the year of the Kent Directory that you are entering (e.g., 828).

From then on, your responses will follow the Directory line for line, requiring information either from the text or from your coding of the text material. For example,
Business name: Jones Fran.Business description: Bookseller \& Stationer
Business type: ..... 20
Street Number: ..... 77
Street Name: Jamaica-row\# BermondseyGrid Location: 344795
Mobility Type: 2

The Apple does not understand commas, so substitute a pound sign (\#) for each comma. the information must be transcribed completely and accurately, so follow the text precisely. There are three exceptions to this rule. First, only transcribe those commas (非) that separate information within a particular category and omit those between categories. Second, when given two street numbers or street names, enter only the first one. If no street number is given in the first address, enter 0 (zero) in place of the number. Also, do not enter fractional street numbers. For instance, 49-1/2 should be entered as 49. Third, "titles" (Esq., etc.) are entered with the Business name unless the Business Type is coded Other (22). Then enter the title both with the name and as the business description.

The program has a few built-in safeguards that will catch certain errors. If you make one of these errors the computer will tell you and prompt you for the correct information. If you make errors that the program does not catch, however, you may still correct them. After you have finished transcribing a line, the computer will assemble the coded information, display it and ask if you would like to correct anything. Examine the information closely; it is important to catch any errors. If all information is correct, type $N$; to correct items, type Y. Then type in the number of the category you wish to change; these numbers are to the left of the category names.

Once you have responded negatively to the corrections-mode, press the return key. This allows the computer to store the information. Do not touch the keyboard until the red light on the disk-drive goes out. The computer will then ask you if you wish to continue entering. Answer Y (yes) or N (no).

After you have finished an entire page of entry, respond negatively to the "more data" question, then type: RUN NEWFILE. Depress the return key. Type: PAGE _. The number following the word page should be the number of the page that you have just entered. If you wish to continue entry, type PR\#6. Remember, the only time this needs to be done is after an entire page has been entered.

When you have finished entering for the day, fill out a Kent Directory Record page and keep it in your block. These must be filled out completely each time you enter material. Also, mark on the page of the text where you have stopped.

Finally, switch off both the computer and the screen. Return the disks to the file and put your block away.

If at any time you have a question or a problem, be sure to ask rather than guess. It will take you approximately 45 minutes to an hour to enter a page of data.

Erica A. Stanley
October 30, 1981
NOTE: It is important to be careful when handling the disks. Misuse or carelessness can damage the disk and destroy the data stored on them. You should NEVER touch the recording surface of the disk. Always put disks back in the file immediately after using them. Be careful not to bend the disk. Also, do not leave magnets around the disks or leave them on the CRT.
FDR: KENT
DAIE: JUL 19. 1983
THIS DATASET CANNOT BE DESTROYED
THIS DATASET CAN BE REPLACED.
USE COUNT:

DATA SET DESCRIPTION
Describes Kent Directories for all years

| F(A) | FIELD NAME | ABBR | VALUE | DESCRIPTION | TYPE | LENGTH | ISP | SCALE factor |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| F(1) | YEAR | YR | REOUIRED | YEAR OF DIRECTORY | U | 2 | 0 |  |  |
| F(2) | NAME | NAME | REQUIRED | NAME OF OWNER OF BUSINESS | C | 40 | 2 |  |  |
| F(3) | BUS-DESC | DESC | REQUIRED | BUSINESS DESCRIPTION | C | 40 | 42 |  |  |
| F(4) | TYPE | TYPE | REQUIRED | BUSINESS CATEGORY OR TYPE | UC | 1 | 82 |  |  |
|  | CATEGORIES |  |  |  |  |  |  |  |  |
|  | GEN-MERCHTS | MERC | 1 | General Merchants |  |  |  |  |  |
|  | BUILDING | BLDG | 2 | Building and Related Trades |  |  |  |  |  |
|  | ALC-MERCHTS | ALMT | 3 | Merchants of Alcoholic Beverages and Related Products |  |  |  |  |  |
|  | MIDDLEMEN | MIDL | 4 | Middlemen for Goods |  |  |  |  |  |
|  | SHIPPING | SHIP | 5 | Shipping and Related Trades |  |  |  |  |  |
|  | BANKERS | BANK | 6 | Bankers |  |  |  |  |  |
|  | PROFESSIONL | PROF | 7 | Professionals | - |  |  |  |  |
|  | PRECIOUS-ME | PREC | 8 | Precious Metals and Time-pieces |  | . |  |  |  |
|  | textiles | TEXT | 9 | Textile Industry |  |  |  |  |  |
|  |  | LTHR | $10$ |  |  |  |  | $\checkmark$ |  |
|  | METAL | METL | $11$ | Metal Trades |  |  |  |  |  |
|  | : SKIL-CRAFTS | SKIL | : 12 | Skilled Craftsmen $\quad \therefore$ | . |  |  | 85 |  |
|  | $\because$ FINANCIAL $\because$ | FINC | $\therefore \quad 13$ | Financial Intermediaries and Company Representatives |  | ! |  | $\because$ |  |
| $\checkmark$ | ALC-MANUF | ALMF | $14$ | SManufacturers of Alcoholic Beverages |  | - | 4 |  | 6 |
|  | FOOD | FOOD | 15 | Food Trades . |  |  |  |  |  |
|  | CLOTHING | CLTH | 16 | Clothing Trades |  |  |  |  |  |
|  | Pharmaceut i | PHRM | 17 | Pharmaceutical and Related Trades |  |  |  |  |  |
|  | MACH-MANUF | MACH | 18 | Machine Manufacture |  |  |  |  |  |
|  | COMPANY-OFF | COMP | 19 | Company Officials. Employees, and Office Headquarters |  |  |  |  |  |
| : | PUBLISHING | PUBL | $\text { .. } 20$ | Publishing and ${ }^{\circ} \mathrm{p}$ inting Trades |  | $\therefore \therefore$ |  |  | - |
|  | GOVERNMENT | GOVT | $21$ | Public Officials and Government Employees |  |  |  |  | - |
|  | OTHER | OTHR | 22 | Other |  |  |  |  | $\cdots$ |
| - | GEN-MANUF | MANU | 23 | General Manufacturing |  |  |  |  |  |
|  | SERVICES | SERV | 24 | Services |  |  |  | - |  |
| F(5). | ST- NUMRER | STH | REQUIRED | STREET NUMBER OF ADDRESS | U. | $\cdots$ | 83 |  |  |



Kent Directory: Listing by Business Description.




## APPENDIX S

## CODER MEMO \#4

## KENT DIRECTORY CHECKING

1. If this is the first check on the data after entry (the data will be in MTS line files), check all coded and non-coded variables. For final transcription checks (the data will be in MICRO datasets), check only the non-coded variables. The following guidelines apply to the non-coded variables.
2. All information on the original directory pages should appear on the printout except multiple locations. If a listing contains more than one street number or street name, only the first should appear in the dataset record. The only exception to this rule is if a supervisor has excluded that location because it falls outside the fourcounty area.
3. An address which has no street number should appear as ' 0 ' in the field for street number.
4. If a street number appears within a street name (e.g., Gun-Dock, 349, Wapping), it should be listed as '0'.
5. It is sometimes difficult to distinguish between an 'f' and an 's', particularly in the earlier years. Ask a supervisor if you can't decipher it.
6. Some listings will contain a phrase like "at Mr. Car's, a painter". Such phrases should be included with the business description (at the end of the description).
7. Some listings will contain a name with no business description. If the name has a title (e.g., Esq. or Knt.), the title should be included in both the name and the business description. If not, the description should appear as 'N.A.'.
8. Everything in the printout should appear as it is in the original. Abbreviations are acceptable if the number of characters in the original exceeds that in the string of the field. The Business Name field contains 40 characters, Business Description 40 and Street Name 60.
9. Highlight all errors, and write the corrections above the error.
10. Since the records are sorted alphabetically be MICRO, they may not appear in the same order as they are in the directory itself. Check from the directory, and place a check mark beside each dataset record that has been checked.
11. Keep a list of all missing records for each year.
12. In terms of time, it should take about fifteen minutes to check a page of the directory.

Erica A. Stanley<br>Final Update<br>July 28, . 1983

Appendix T
Sample MICRO Commands for using the Kent Datasets

Following is a list of MICRO commands, their abbreviations in parentheses and examples of the syntax in which they should be used. All character strings should be enclosed in primes ('...').

## FIND (F)

## SELECT (SEL)

CROSSTABULATE (XTAB)
RESTRICT (RES)

REMOVE (REM)
COMBINE (CO)

NAME (N)
PRINT (P)

RELEASE (REL)

FIND IN KENT28A WHERE STR='FLEET-STREET' AND DESC='MERCHANT'

FIND IN KENTII W NAME MATCHES 'ROBERTS'
SEL IN KENT59 STR,ST\#,GRID,YR
XTAB IN KENTO1A MOBI
RES IN KENT68 W NAME IS NOT NAME IN KENT81

RES IN KENT95 W NAME IS NAME IN KENTOIB
REM TEMP FROM KENT28C
CO KENT59 WITH KENT68
CO IT WITH TEMP
NAME IT TEMP
P IT
P ON -FILE KENT68
P IN KENT81 COUNT
REL TEMP

THE LEATHER TRADES: LONDON 1768


## finance related business: LONDON" 1768



## Appendix V <br> Number of Records in the Kent Datasets

KENT59 3747 Records
KENT68 5381 Records
KENT81 291 Records
KENT95 - 442 Records
KENT01A 5019 Records (Business Names A through J)
KENTO1B 5013 Records (Business Names K through Z)
KENT11 837 Records
KENT28A 6554 Records (Business Names A through F)
KENT28B 6181 Records (Business Names G through N)
KENT28C 6727 Records (Business Names O through

