

Spatial Characteristics Of Tertiary Activities In Kathmandu

-Robert R. Stoddard*

How are retail establishments arranged in urban areas? Numerous urban and marketing geographers have addressed this question, and a sizeable body of literature deals with the issue.¹ However, most studies have pertained to western cities that have large monetary flows between various sectors of a specialized economy. This study supplements the existing knowledge by examining some spatial characteristics of tertiary activities in an Asian city functioning within a more traditional economy.

Patterns in Western Cities

Urban scholars have noted the tendency of some retail stores to display a spatial attraction to, or affinity for, each other. Explanation for such affinities usually build on the concepts of (1) differential rent-paying abilities and (2) cumulative attraction. According to the concept of differential rent-paying ability, those establishments that can pay the highest rent for a preferred site will successfully outbid competitors. Logically, then, if certain types of stores generate greater revenue, their successes may be reflected by an arrangement that distin-

* The author is currently a member of the Department of Geography, University of Nebraska, Lincoln, Nebraska. The collection of data and discussion of preliminary results was a class project for Khim K. R. Sharma and Kaniya Vaidya when the author was lecturing at Tribhuvan University. Also, David T. Stephens, Youngstown State University, Ohio, provided helpful suggestions at various stages of the study.

1. Two reviews of this literature are in Chapter 2, "Retail sites and Spatial Affinities," in the book by Peter Scott, *Geography and Retailing*, (London: Hutchinson, 1970); and in Chapter 5, "Spatial Affinities Between Retail and Service Firms" in the unpublished dissertation by David T. Stephens, "The Spatial Behavior of Service Functions in an Urban Environment," (University of Nebraska, 1975).

guishes them from less successful bidders. Those establishments that can outbid others are located in the prime areas of the city while the stores that are less able to pay the highest rent are grouped together elsewhere.

The concept of cumulative attraction states that stores dealing in the same or complementary merchandise or services are more successful if located in close proximity to each other than if they were widely scattered.² Customer behavior that involves purchasing complementary goods or services or which involves comparative shopping entice entrepreneurs to a common locality for greater sales. Thus, certain retail establishments that are similar to each other will be located in one part of the city and consequently display spatial attraction.

Much of the empirical verification of these spatial characteristics has been done in cities where tertiary activities depend upon a large capital flow, and profitable returns for large investments depend on attracting large populations or affluent purchasers. These economic conditions do not always exist in so-called less developed economies where cash flows are minimal. Therefore, if the financial conditions differ, they may in turn affect the patterns of store locations. Likewise, whatever patterns do occur within cities in more traditional economies may result from locational processes other than those of differential rent-paying and cumulative attraction. The purpose of this study, therefore, was to examine the spatial characteristics of tertiary activities in an economic setting that differs from the ones studied extensively in the past.

The Study Area

The investigation deals with the spatial characteristics of shops within one section of Kathmandu. The magnitude of its effective monetary trade area is difficult to determine.³ In 1971 the city itself had a population of 150,402 but with adjoining Patan its total population was 209,451. Although the city serves the entire nation (11,555,983 persons in 1971) as the seat of the national government, most citizens seldom, if ever, visit the capital.

2. Richard L. Nelson, *The Selection of Retail Locations*, (New York: F. W. Dodge Corp., 1958). p. 58.
3. One look at the trade area for selected items is provided by the Degree dissertation by Poonam Thapa. "Spheres of Influence of the City of Kathmandu," (Tribhuvan University, 1976).

The highway network is expanding so more areas have connections with the capital than a few years ago, and air routes join Kathmandu with the principal towns throughout the country. Nevertheless, many areas in Nepal are accessible only by foot-trails, so the friction of distance as well as the primacy of local economic and social subsystems greatly restricts intra-national mobility and the size of the national economy. In effect, Kathmandu functions as the dominant trade center primarily for only the 618,911 persons (1971 data) residing in the Kathmandu Valley.

Obviously a population figure by itself is not an adequate index to the total amount of shopping in a city. This is especially true in the Kathmandu Valley where two thirds of the economically active population over 10 years of age is engaged in agriculture. As characteristic of any predominantly agrarian economy, purchases by the rural population are quite limited. The low level of consumer purchases is especially true in Nepal where per capita income statistics reveal the low monetary income of many citizens. This means the low purchasing power of the rural population in the Valley reduces the effective size of Kathmandu's market from what might be expected from a population of 618,911 in, say, a more industrialized nation.

In addition to the resident population, approximately 100,000 (92,440 in 1975) tourists arrive in Kathmandu annually for varying lengths of stay. Some of these foreign visitors are herded around in tour groups for two tightly packed days so their purchases are confined to the shopping arcades of the fancier hotels, but many other tourists with more time and or more individualistic interests visit some shops in the core of the city. The general affluence of this tourist population undoubtedly has an impact on retailing in the city somewhat out of proportion to its population size.

The physical accessibility of potential shoppers to various parts of the city is generally uniform, with only the geometric advantages of the center creating locational advantages. The small areal size combined with a fairly level topography that lacks major barriers makes all places very accessible. In addition to walking, shoppers can move easily around within the city by cycle-ricksha, by automobile (private or taxi), or by public bus. Although the main "commercial district" is concentrated along New Road and a few adjoining streets, convenience shops exist throughout the city so that no urban resident is far from some kind of retail outlet. Likewise, Nepalese shoppers from out-

side the city can find a shop close to their points of initial entry into Kathmandu as well as easy access to the core of the city.

Measurement of Data

Several operational definitions were required for examining the spatial relationships among tertiary activities in Kathmandu. One definition pertained to a tertiary activity. For this study a tertiary activity was restricted to those observed within an "identifiable shop." A structure was identified as a shop if it was located at the side of a street and exhibited more than daily permanency. A porter who carried a load of fruit into the city, stopped along a street, and began selling his/her produce was not regarded as a shopkeeper in this study. A hawker who sold wares from a mobile stand or from a container placed at the side of a street was excluded; likewise, a seller who used a portable platform on a sidewalk or street was not included. Furthermore, shops closed during normal shopping hours throughout the period when data were collected were regarded as inactive and not part of the contemporary system of tertiary activities.

A single kind of tertiary activity was assigned to each shop, unless two types clearly occurred within the same enclosure. For example, in one shop photographic supplies and a photographer occupied half the floor space while liquors were sold by a brother in the other half. In this case two kinds of tertiary activities were recorded. Shops with dual activities were rare, though.

The lack of multiple tertiary activities per shop should not be interpreted to mean that most shops specialized in only one kind of goods--many shops sold a variety of goods. This situation required a working definition for differentiating among the various combinations of products sold in shops with a wide variety of consumer items. The problem, of course, was not unique because questions about how to define, identify, and classify shops with multiple products is faced by all scholars of urban phenomena. In this study we attempted to remain consistent in our classificatory decisions by depending on a group decision (i. e., by the three of us who collected the data), by varying the sections of streets we mapped per day, and by completing the mapping project within a short period of time. Also, we attempted objectivity in some decisions by observing whether a counter existed and whether

customers could step inside the shop or not. For example, a "jewelry" shop was differentiated from a "goldsmith" not only by the greater emphasis on imported items but also by the existence of a counter. Also, sets of specified items were used as aids in identification. As an illustration, a variety store termed "Variety Importer" included imported jewelry, cosmetics, sweaters, and luggage; one called "Variety Trader" sold products from the National Trading Corporation such as soap, canned foods, light bulbs, and plastic items; and a "Variety Stall" (which had no counter) handled light bulbs, tea, biscuits, and cigarettes.

The data here are from a sample of shops observed in the spring of 1976 along New Road and immediate vicinity. The study area constitutes the core of the city in terms of both amount of commercial activities and general population densities. To insure a variation in shops and locational characteristics, data were collected about retail establishments along several different kinds of streets.

The streets were classified into three types (Figure 1). Those that carried two lanes of automobile traffic and were bordered on each side by a sidewalk were termed "Streets" (i.e., with a capital "S") in the analysis. Those wide enough for only one automobile and a few pedestrians (without a separate sidewalk) were called "Lanes." The third type of passageway, which was too narrow for an automobile, was labeled a "Path." The specific sampling units consisted of sections along one side of selected streets (e.g., in Figure 1, the east side of the Lane from L to M and both side of the Path A to B and C to D).

An operational definition was also required for measuring proximity or spatial affinity. A common measure is the ground-level nearest neighbor, that is, the shop on either side of the one being examined, although second and third neighbors are included by some urban scholars.⁴ Because of the narrow width of most shops (i.e., seldom wider than $3\frac{1}{2}$ meters), the first three neighbors on each side of the shop were recorded. However, these "neighbors" included all types of occupancy—that is, not just tertiary activities within a distance that would correspond to approximately three normal-sized units. Thus, "neighboring" shops included those within approximately 11 meters on both sides of the observed shop on the

4. Arthur Getis and Judith M. Getis, "Retail Store Spatial Affinities," *Urban Studies*, Vol. 5, (1968), pp. 317-332.

same side of the street. To illustrate (Figure 2), three neighbors on the right side of store A (here called the "core" shop) are three identifiable shops, one of which is closed so only shops B and C are measured as "neighbor" shops. On the left side of core shop A is a series of residential entrances equivalent in length to two shops (at $3\frac{1}{2}$ meters per shop), but shop D is still close enough to A to be regarded as a neighbor. Thus, the actual number of neighboring shops to store A is three—rather than the potential of six.

This proximity definition was applied to shops located on Streets because vehicular traffic effectively separated shops on opposite sides of the street (Figure 3). This measurement is comparable to that used in other cities where street traffic tends to prevent shoppers from regarding shops across the street as neighboring. For a shop located on a Lane, neighboring shop positions included the three on each side of the core shop plus the shop position directly across the Lane and its two neighboring positions (Figure 4). In effect, then, all nine shop positions were defined as close neighbors because all were within a few paces of the shop being examined. A shop located on a Path was defined as having eleven potential neighbors: three on each side of the core shop, the shop across the Lane, and the latter's two neighbors on each side (Figure 5). In summary, proximity was defined within a radius of approximately 15 uninterrupted paces from the shop being recorded irrespective of the category of street on which it was located.

Shop Affinities

A total number of shops observed in the study area was 145, which included some neighboring shops that were not "core" shops. At the time of observation they were classified into 41 different types of shops (Table 1). That classification was too fine for meaningful analysis because some classes were too small; specifically, three types of shops occurred only as neighboring shops (i.e., not as core shops) and eleven other types were observed only once in the data set. Therefore, the various shop types were grouped together for the purpose of forming larger classes.

Grouping shop types was performed on the basis of similarity of items and /or services provided to customers and on the number of occurrences within each type. Thus, all shops selling clothing items were placed in the same class; but tailoring shops remained in a separate,

single-type class. This procedure reduced the original set of 41 shop types to 15 classes with 4 to 17 shops per class (Table 2). The class for shops selling cloth and clothing still had only 4 observations; but it was believed that further grouping might produce too much within-group variance, so the small class was retained.⁵

The data were organized in two different ways to determine whether any regularity existed in the location of tertiary activities. One form of organization was according to the type of street associated with each class of shops; that is the frequency of occurrences on Streets, Lanes, and Paths was noted for each class of retail establishment (Table 2). It is evident from this tabulation that the classes of Variety Importer, Tourist, Jewelry, Photo / Drink, and Stationery occurred almost exclusively in areas associated with Streets (i.e., New Road) whereas Crafts / Services, Eating, Tailor, Variety Stall, Variety Trader, Goldsmith, and Foods are situated along Lanes and Paths. This differential preference for Streets by one group of stores and for Lanes and Paths by another group of shops suggests that certain types of retail activities do cluster together in different parts of the study area.

In contrast, Household and Packaged Foods appear to be less correlated with a particular type of street. However, this appearance may reflect classification and grouping weaknesses rather than spatial ubiquity. For example, the class of Packaged Foods contained the original category of Mixed Food Items, which represented a transitional type between a shop with primarily Packaged Food and one dominated by Food Grains. Maybe some of the shops placed in the Mixed Food Items belonged more logically to the Food class. Likewise, the grouping of Household Wares and Electrical Goods, which occurred on Street sites 5 times and on a Path only once, with Baskets and Hardware, which were on Lanes all 6 times, into the single Household group undoubtedly obscured a distinct locational differentiation.

The second form of organizing the data for analytical purposes

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5. The fact that many cloth shops exist in the city, but outside the sampled area, further justified retaining the distinct identity of this class of shops.

employed the technique used by Parker and by Stephens⁶ The emphasis of this technique is on the kind of shops that display an affinity for each other. The neighboring shops (as defined above) were tabulated for each (i.e., each "core" shop). The total number of neighboring shops was 674, many of which were repeated in the count because they were neighbors to more than one core shop. Also, an additional 471 neighboring positions (41.1%) were residential entrances or other non-shop space.

Of primary interest is relative importance of neighbors to selected shops, so the frequency of neighbors per shop class were converted to percentages (Table 3). For example, the 17 Variety Importers had a total of 89 neighboring shops (plus a small number of neighboring positions that were not occupied by shops) of which 49.4 per cent were other shops of the same class (i.e., Variety Importer), 18.0 per cent were Jewelry shops, 14.6 per cent were shops in the Photo / Drink class, and 5.6 per cent were with Packaged Food. Another 4.5 per cent of the shops that neighbored Variety Importer were Tourist shops; but this fact was not pursued because that percentage is smaller than the percentage of all shops that were Tourist shops in the study area (which, as shown in Table 2, was 6.9). Therefore, the emphasis in Table 3 is on those shops that were neighbors more frequently than expected on the basis of the proportional occurrence in the study area,

Arranging the percentages in a matrix format displays several relationships. (1) The groups associated with Street locations (i.e., Variety Importer, Tourist, Jewelry, Photo / Drink, and Stationery were the primary neighboring shops to each other. Even though this may result partly from the geometric condition of having a small number of groups located along a short street, shop affinities were not uniform. For example, Variety Importer, Jewelry, and Photo / Drink shops are more likely to be close together than to the Stationery and Tourist stores.

(2) The groups associated with Lanes and Paths show affinity for each other, too, as evidenced by the percentages concentrated in the bottom right portion of the matrix. Again, within the general collection of

6. H. R. Parker, "Suburban Shopping Facilities in Liverpool," *Town Planning Review*, (Vol. 33, 1963), pp. 195-223; and David T. Stephens, *op. cit.*

shops some spatial combinations are more likely to occur, e.g., Food, and Crafts / Services shops are a common combination. However, these shops located on Lanes and Paths often have many non-shop neighbors (as the percentages reported in the bottom row of Table 3 reveal because they exceed the mean percentage of 41.1 for all non-shop neighboring positions in the study area). Usually these non-shop positions indicate the intermingling of residential spaces along Lanes and Paths.

(3) Several shops display clustering with themselves, e.g., Variety Importer, Tourist, Jewelry, Variety Trader, Tailor, and Crafts / Services (i.e., the principal diagonal has percentages of 49.4, 28.8, 34.1, 29.3, 44.1, and 20.8 respectively for these six classes). In contrast, both Photo / Drink and Packaged Food shops evidenced some capital aversion to shops of an identical kind. Although Clothing also lacks an entry in the principal diagonal, the low number of neighboring shops (13) and the high percentage (53.6) of non-shop neighbors make it difficult to generalize about the locational affinity of Clothing establishments.

These simple comparisons indicate that, in general, tertiary activities in Kathmandu do display spatial affinity. Certain groups of shops tend to cluster together rather than occur in a random or uniform pattern. Furthermore, according to the neighboring associations, those stores concentrated on Streets tend to form sub-combinations (VI, J, P and To, S) while those clustered along Lanes and Paths also attract each other in sub-clusters (e.g., F,E, CS and F,G, T).

Some Hypotheses Pertaining to Shop Affinities

The primary purpose for the study was to measure tertiary activities in terms of their locations. Nevertheless, the results, which indicated a spatial affinity among shops in Kathmandu, raise questions about possible explanations for these geographic characteristics. Since the project was not designed to determine correlative relationships with other phenomena, only suggestions about why shops display attraction to each other can be offered here.

One possible explanation refers to the data and their organization. There exists a probability (unknown) that the sample is unrepresentative of shop locations and that, in fact, clustering does not occur as measured here. Also, the field identification and classification of shops and / or the subsequent grouping may have produced a stronger indication of

spatial clustering than would be generated by a different classification system. But, assuming these measurement problems do not obscure a pattern that is, indeed, clustered, then what are some other explanations?

Another potential reason could be long-standing, rigidly-enforced zoning regulations that required certain shops to locate in specific areas and restrict others from the same areas. However, such strict zoning laws did not exist in Kathmandu prior to 1976, so this rather trivial answer is excluded from further discussion. Four other hypotheses remain for consideration.

Hypothesis I. The concept of differential rent-paying ability may, indeed, apply equally well in this Asian city. Unfortunately data on land values and the economics of retailing were not obtained for this study; but the inventories of goods and appearances of the shops on New Road indicated higher value retail establishments than those on Lanes and Paths. Goods that included electrical appliances, photographic equipment, liquors, and fine-quality craft items sold in shops with display counters and interior space for customers created an impression of greater store revenue. These contrasted with the shops located on Lanes and Paths that sold the more common food and convenience items in stalls which often locked counters and sometimes required the customers to stand outside because of very little in-shop space. Not only is the Street sampled in this study a part of the peak area for total pedestrian and vehicular flows in the city, but it attracts the potential customer with higher incomes. The more affluent residents of Kathmandu and most tourists include New Road in their shopping explorations. A few major Lanes (but ones not included in the sample) also attract tourists and others with higher purchasing power, but Paths are seldom traveled by these shoppers. Thus, it is reasonable to conclude that the clustering of certain shops in Kathmandu results from their ability to compete successfully for those locations most accessible to traffic, especially to movements of affluent customers.

Hypothesis II. A second hypothesized explanation also coming from observations to the tertiary activities in Western nations is the tendency for complementary shops to cluster for mutual advantage. Either because the shops themselves partially serve each other or because their customers undertake multi-purpose trips, it is advantageous for certain kinds of shops to be located close to each other. Certainly comparative shopping by

tourists and the congregating of evening strollers at socially prestigious zones along New Road support this concept. Undoubtedly shops that attract customers wanting to purchase various imported goods (e.g., Variety Importer, Jewelry, Photo / Drink) have found advantages in locating close together. Likewise, the spatial proximity of Tourist shops apparently expresses the economic merits of locating where foreign visitors can compare craft products quickly in hopes of finding that special souvenir or "good buy." Again, the conditions of clustering among stores along this commercial street in Kathmandu seem to substantiate the concepts developed for Western cities.

Two other hypotheses, however, pertain more to the spatial behavior that occurs in a more traditional economy and, consequently, are more applicable to shops situated along Paths and Lanes. Hypothesis III commences with the observation that much of the area in the city core also serves as residential space. That is, although tertiary activities exist at the ground level, the same areas are important for residences at upper levels: many shops occupy the ground floor of multistoried buildings that function as residences on the upper floors. In many cases along the Lanes and Paths the shopkeeper is probably a member of the family residing above the shops (although no data were available to verify this aspect of the explanation). Furthermore, in those cases where the shopkeeper resides in the same building, normally the temporal sequence of decision is not that a shop location is first chosen and then the family moves to the residence above the shop; instead, the family who already occupies a favorable site decide to open a shop at the ground level. This in itself would not necessarily lead to an affinity of shops unless residents are also regionalized and are correlated with occupations. Historically caste/occupation groups have tended to reside together in parts of the city; this, in turn, resulted in a clustering of some crafts and services. The high percentage of Tailors neighboring other Tailors illustrates this relationship among residential regions, occupations, and shop clusters along Lanes and Paths.

Hypothesis IV, which also stresses residential patterns, builds on the importance of neighborhood units. It is common knowledge that many shoppers in Kathmandu obtain their daily and convenience goods (e.g., cigarettes, kerosene, tea, vegetables) from shopkeepers within their own neighborhood. Neighborhoods are areas in which strong family and community bonds produce frequent social interaction. Shopping, which

normally is done daily, is an integral part of social activities. Families usually prefer to patronize only a few shops that are located within their own neighborhood. Shop preference, therefore, results from

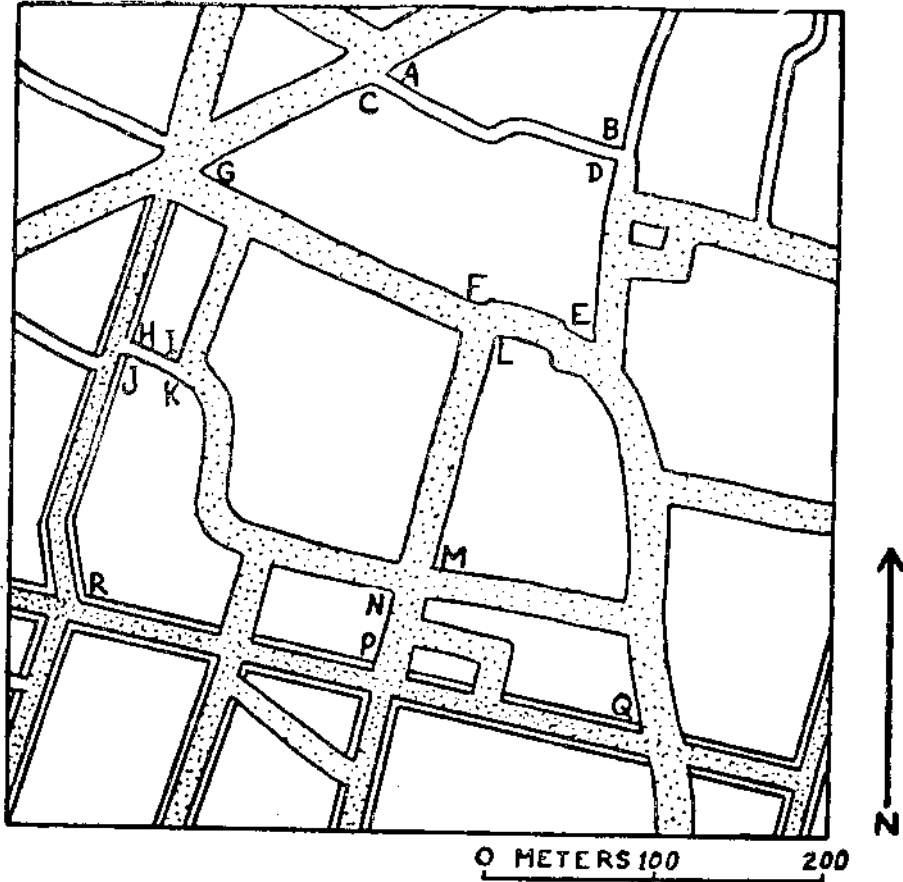


Fig. 1. Sampled Areas




-  Streets R-P-Q
-  Lanes D-E, F-G, L-M, N-P
-  Paths A-B, C-D, H-I, J-K

Table 1. SAMPLED SHOPS IN Kathmandu

Class Name	Frequency	Class Name	Frequency
Variety Importer	17	Packaged Food	2
		Mixed Food Items	5
Tourist Items	9		
Travel Office	1	Food Grains	4
		Vegetables	2
Jewelry	2	Butcher	1
Watches	6	Tobacco	2
		Special Rice	2
Photography	4	Heating Fuel	0
Bottled Drinks	3		
		Goldsmith	9
Stationery	3		
Office Supplies	1	Variety Trader	8
Newstand	1		
Chemist	2	Variety Stall	6
Garments	1	Tailor	15
Shoes	2		
Cloth	1	Restaurant	6
Mixed Cloth	0	Lunch	7
Household Wares	2	Barber	2
Electrical Goods	4	Cleaner	1
Baskets	1	Cobbler	1
Hardware	5	Metal Worker	3
Misc. Household	0	Machine Repair	1
		Cycle Rent	2
		Medical Service	1
(Continued next column)			
		Total	<u>145</u>

neighborhood ties rather than merely a minimization of distance.⁷ Therefore, that combination of shops that serve the primary needs of a residential neighborhood would be repeated in various parts of the city. The repetition of these sets of shops with convenience goods would produce spatial affinities along Paths and Lanes.

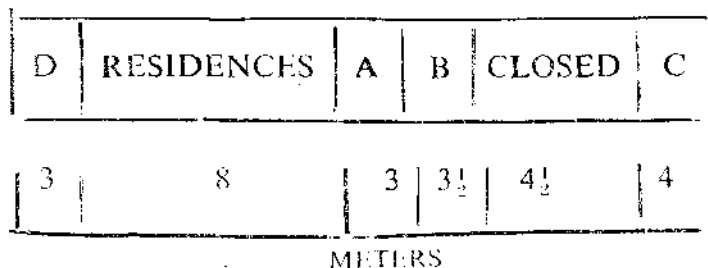


Figure 2. Neighbors to Shop A



Figure 3. Neighboring Positions to Core Shop A
When Located on a Street



Figure 4. Neighboring Position to Core Shop A
When Located on a Lane

7. By definition, shops were restricted to permanent ones in an urban area, so possibly pertinent literature on fairs and periodic markets was excluded, e.g., Paul Bohannon and George Dalton, eds., *Markets in Africa*, Evanston, Ill., Northwestern University Press, 1962); W. E. McIntyre, "The Retail Pattern of Manila," *Geographical Review* (Vol. 45, 1955), pp. 66-10, observed tiny neighborhood stores in Manila in 1952, but he did not present any explanatory relationships for their distribution.

Table 2. CLASSES OF SHOPS AND TYPES OF STREET LOCATIONS
Grouped Class Name Code Frequency Per Cent Frequency Per Street Type

Grouped Class Name	Code	Frequency	Per Cent	Frequency Per Street Type		
				Streets	Lanes	Paths
Variety Importer	VI	17	11.7	17	—	—
Tourist	To	10	6.9	10	—	—
Jewelry	J	8	5.5	8	—	—
Photo/Drink	P	7	4.8	6	1	—
Stationery	S	7	4.8	6	1	—
Clothing	C	4	2.8	3	—	1
Household	H	12	8.3	5	6	1
Packaged Food	PF	7	4.8	3	4	—
Foods	F	11	7.6	1	7	3
Goldsmith	G	9	6.2	—	9	—
Variety Trader	VT	8	5.5	—	8	—
Variety Stall	VS	6	4.1	—	4	2
Tailors	T	15	10.3	—	7	8
Eating	E	13	9.0	—	6	7
Crafts/Services	CS	11	7.6	—	6	5
Totals		145	99.9	59	59	27

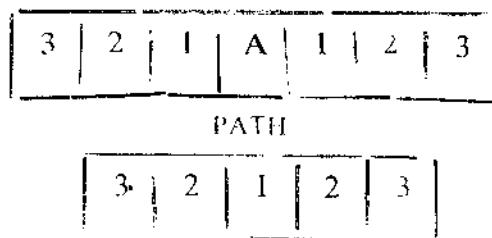


Figure 5. Neighboring Positions to Core Shop A When Located on a Path

Table 3. NEIGHBORING SHOPS OF CORE SHOPS

Neighboring Shop (Code)	Core Shops (Percentages for Designated Neighboring Shops)										
	VI	To	J	P	S	C	H	PF	F	G	VT
VI	49.4		34.1	34.5	12.1			12.2			
To		28.8		17.3	30.3	38.5	13.0	7.3			
J	18.0		34.1		9.3		5.6				
P	14.6	7.7	9.1	10.3	12.1		5.6	7.3			
S		21.2			6.1		9.3				
C		7.7					5.6				
H		15.5		10.3	15.2	23.1	16.7			16.7	
PF	5.6			10.3			7.4		9.3		19.5
F								17.1	11.1	19.4	24.4
G							7.4		9.3	13.9	
VT								22.0	11.1		29.3
VS							7.4	4.9		5.6	
T									11.1	27.9	
E									18.5	11.1	14.6
CS									13.0		
Neighboring Shops (Frequency)	79	5	44	29	33	13	54	41	54	36	41

Continuation of Table 3

Neighboring Non-Shops (Percentage)	53.6					53.2					Number of Times as Neighbor
	VT	VS	T	E	CS	VT	VS	T	E	CS	
VI											90
To											55
J											43
P											34
S											31
C											12
H											55
PF	19.5					22.2			5.2		35
F	24.4							15.3	15.5	18.9	66
G								15.3			28
VT	29.3								10.3		38
VS							9.1			9.4	19
T								44.1	13.8	15.1	64
E	14.6						9.1		19.0	15.1	53
CS							27.8	13.6	17.2	20.8	51
	41	18	59	58	53						674
	41.4	66.0	58.5	55.0	49.5						(471)

Summary

A total of 145 shops were mapped along sampled streets in Kathmandu in 1977, then they were grouped into 15 classes. Analysis revealed that certain kinds of shops tended to occur along certain types of streets. Specifically, shops dealing with high-value imported goods and fine-quality local arts and crafts were located on the two-lane while Street foods and other convenience goods and services were located on narrow Lanes and pedestrian-only Paths. Furthermore, within each of these two general locational situations (i. e., Streets and Lanes Paths), spatial affinities occurred among individual shops, groups of shops, and combinations of these groups.

Several explanatory circumstances may contribute to these patterns. Competition for sites at prime retailing positions undoubtedly excluded all but high-value shops that cater to affluent customers. Among these successful shops the advantages of comparative shopping and the creation of prestigious zones accentuate the spatial clustering of selected tertiary activities. These patterns and processes resemble those that are incorporated into concepts of the urban structure of Western cities and probably are most applicable to the spatial characteristics of shops along New Road.

The clustering of shops along Lanes and Paths, however, may manifest additional processes. These shops are not just those excluded from the economically prime areas--they are ones serving areally small neighborhood units. Shopping patterns resemble the frequent flows of traditional interaction within a small area; thus combinations of shops provide a mix of goods and services that are repeated at frequent intervals. Furthermore, because traditionally the shopkeepers have resided at the same location as the shop, shop clusters would reflect residential concentrations of occupational groups. Spatial affinities among shops, therefore, result not only from decisions about shop sites but also from the locational factors of residences.