

Full Length Research Paper

Urban ecology concept and its implication for studying social integration: Case study of the Palestinian refugees

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Received 16 March 2012; Accepted 19 January 2015

This article aims to analyze the phenomena of urban segregation and social integration in the Palestinian refugee camps. The arguments are based on a theoretical basis as well as findings from the author's fieldwork taken where he used to live in the Gaza refugee camp. The main argument of this paper claims that residential segregation and the creation of informal settlements in the city boundaries are exclusively associated with cultural, urban poverty, socio-political and historical aspects that reflect on the urban fabric of the camps. The author's proposes that the roots of the phenomena of urban segregation and integration are an outcome of the constructed social strata, which can be theorized within two interrelated socio-political new situation of the refugees, and the historical, identity aspects; one defines them as refugees who should preserve their right and identity to go back home where the urban camp and social structure and fabric reflected this situation, and the other identifies the Israeli regime, social obstacles and life conditions in the received society as the negative factors that prevented the refugees to have the opportunity of assimilation. Additionally, the paper suggests that the 'traditional approach' in urban geography, based on Park's premise, as having the basic hypothesis that the greater the degree of difference between spatial distribution of groups within the urban context, the greater their social distance from the other. This approach, in essence, views the integration process of the Palestinian refugees and the resettlement goals that the refugees struggled to achieve it temporarily to have the same opportunities as assimilated citizens in the West Bank and Gaza. The ecological approach of the Chicago School will be use to study the integration and assimilation phenomena.

Key words: Chicago School of Sociology, Palestinian refugees camps, Palestinian refugees, social distance, succession, zone of transition.

INTRODUCTION

During the 1920s, Robert (1864 to 1944) and Ernest (1886 to 1966) developed a distinctive program of urban research in the sociology department at the University of Chicago. In numerous research projects focused on the

City of Chicago, Park and Burgess elaborated a theory of urban ecology which proposed that cities were environments like those found in nature, governed by many of the same forces of Darwinian evolution that affected

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natural ecosystems. The most important of these forces was competition. Park and Burgess suggested that the struggle for scarce urban resources, especially land, led to competition between groups and ultimately to the division of the urban space into distinctive ecological niches or "natural areas" in which people shared similar social characteristics because they were subject to the same ecological pressures.

Competition for land and resources ultimately led to the spatial differentiation of urban space into zones, with more desirable areas commanding higher rents. As they became more prosperous, people and businesses moved outward from the city center in a process Park and Burgess called succession, a term borrowed from plant ecology. Their model, known as concentric zone theory and first published in *The City* (1925), predicted that cities would take the form of five concentric rings with areas of social and physical deterioration concentrated near the city center and more prosperous areas located near the city's edge. This paper presents an overview of the concept of urban ecology which grew out of the work of Robert Ezra Park and the Chicago School of Sociology and attempting to understand the processes by which the Palestinian Refugees who are living in the refugee camps since 1948 (AlNakbah) interact with each another (as subculture groups) and their surrounding urban environment.

"...Neither cities nor places in them are unordered, unplanned; the question is only whose order, whose planning, for what purpose..." (Marcuse, 1995).

This paper aims to analyze the phenomena of urban segregation and social integration in the Palestinian refugee camps. The main argument is that residential segregation and the creation of informal settlements in the city boundaries are exclusively associated with cultural, urban poverty, socio-political and historical aspects that reflect on the urban fabric of the camps.

This approach, in essence, views the degree of spatial similarity between socially defined groups such as the Palestinian refugees and the refugee camps as being a correlate of the level of social interaction between these groups. There exists, according to this perspective, a spectrum of spatial association varying from complete similarity between groups, at one end, to complete segregation at the other. The correlate of complete spatial similarity is equivalent to complete social integration. In accordance with this view, high rates of intermarriage, for example, are reflective of social integration, while the correlate of segregation is the rejection by the higher group of social interaction with the lower group (Peach, 1975).

This study will also highlight the integration process of the Palestinian refugees and the resettlement goals that the refugees struggled to achieve it temporarily to have the same opportunities as assimilated citizens in West

Bank and Gaza. The ecological approach of the Chicago School will be used to examine the integration and assimilation phenomena (Park, 1926).

LITERATURE REVIEW

The Chicago School of Sociology made an integral contribution to the study of the urban context. This is certainly true in the discipline of geography and specifically when assessing the relevance of space within the city. For the purposes of the urban context to be examined, it is essential to understand the impact Robert Park made in the subject. In addition, it is important to comprehend his contribution as it relates especially to 'race relations', a major concern of this article. When assessing social integration and segregation within the urban context, the Chicago School made a profound impact (Peach, 1975). Social scientists within the various disciplines, when writing on the urban context, have been greatly affected by the Chicago School's contributions. Whether one agrees or disagrees with the ideological and philosophical underpinnings of the writings, it is difficult to ignore its influence. In fact, as previously mentioned, the context in which urban sociology and geography provide analysis of social phenomena within the city has largely been framed and determined by the writings of the Chicago School.

Park's work (1926) represented many complex and certainly controversial ideas that led to important debates. Since this paper primarily deals with the social order within the urban context of Palestinian refugee camps as it relates to social interaction and urban segregation and integration, Park's contributions are most relevant here. He played an important role in transforming the social sciences' preoccupation with biological concepts and theories of 'race'. Park (1926) assessed notions of 'cultural' theories, replacing widely held concepts such as 'instinct' with 'attitude', the product of contact and communication between groups. His contribution to the existing body of knowledge has had a lasting impact on the area of inter-group relations (Jackson and Smith, 1981). The perspective of the relationship that exists between social and physical distance has been an important component to the development of "spatial sociology", as set out by Park (1926);

'The centrality and persistent inspiration of Park's work to the development of social geography can scarcely be doubted' (Jackson and Smith, 1981, p.1).

This is especially true in the area of 'race relations'. Beginning in the 1920s, the Chicago School of Sociology engaged in attempting to reinvent the social science approach to examine 'race'. Led by Park, members of the school provided the first modern analysis on the subject

of 'race relations'. This shaped the dominant theoretical and methodological assumptions in this area for the most part of the twentieth century and Park's 'race relations' cycle, with its four stages being the most crucial contribution (Omi and Winant, 1986).

Park assessed the interactions between white and African-American migrants in the United States (Richmond, 1973). His theoretical approach was based on a conceptual schema, representing the interactions between two groups studied as a cycle of interaction. The cycle Park (1929) constructed was based on five stages and consisted of: initial contact, competition, conflict, accommodation and assimilation of the minority group, in the majority of dominant group. The three interim stages consisted of competition over scarce resources, eventual conflict, and conflicts that occurred over competition for housing, employment, social mobility and other factors were regulated, gradual accommodation into existing social institution transpired. Subsequently, his theory affirmed that this accommodation eventually led to assimilation (Ujimoto, 1990).

Park premised the 'cycle' as a law of historical development; a method of analyzing group relations and minority groups' progress along a set continuum (Omi and Winant, 1986). According to Ley (1980) he ultimately reduced social relations to relations of space, so that it would be possible to apply to human relations the fundamental logic of the natural sciences (Jackson and Smith, 1981). It was this theoretical perspective that gave a foundation for urban geographers and sociologists to assess 'race relation' in the urban context.

METHODOLOGY

In this paper, the researcher terms his preferred technique of explaining theoretical analysis by his daily life participant observation, which resembles what anthropologists term the qualitative method of ethnography. This qualitative method involves immersing the sociological practitioner in the subjective experiences (Cavan, 1983, p. 414). Text analysis was also used by the researcher to identify the development of spatial patterns of the Palestinian refugees camps in relation with their social fabric.

The use of qualitative research in the form of personal information and personal experiences is particularly characteristic of this paper.

Text and theoretical analysis

Two central concepts that were featured in "urbanism" were by the Chicago School and were fundamental to its perspective. First, there existed the notion of 'urban ecology', a term borrowed from the physical sciences. Ecology mainly referred to the adaptation of plant and animal life in their natural environment. Within the study of ecology, there is an assumption that all life is distributed in a systemic way over a space so that equilibrium between different species or forms of life is achieved. The

Chicago School's perspective assumed that the functioning of an urban context could be understood and analyzed in a similar fashion. Urban settlements, their neighborhoods and distribution, could be assessed and understood in a similar manner. For instance, Park (1952) wrote that the city:

'...is a great sorting mechanism which...infallibly selects out of the population as a whole the individuals best suited to live in a particular region or in particular milieu' (Park, 1952).

Thus, cities in a 'natural' process become ordered through competition, invasion and succession of space, all of which occur within a biological ecology (Giddens, 1989).

Park expressed views on 'race relations', which surprisingly seem rooted in some sort of historical context. This is unexpected since the perception of many of the Chicago School's positivistic notions does not address a historical perspective. Yet Park (1952) contends that when examining 'race relations' in a historical perspective in the modern world, it seems as if it is destined to bring diverse and distant peoples of the world together. He wrote that this coming together would take place within the limits of a common culture and common social order, as something 'millennial'.

In the area of social integration, it is important to consider the influence George Simmel had on Park's work. Park was a student of Simmel, a dialectical sociologist, in Germany (source?). Simmel assessed the systematic way identities were negotiated in sociology. Subsequently, Park went on to develop his notion of social interaction based on the four concepts of competition, conflict, accommodation and assimilation. He first published this approach, with regard to the understanding of group dynamics, with Burgess in 1921. This work, entitled *Introduction to the science of Sociology*, included ten articles by Simmel and none from Marx or Weber, (Jackson and Smith, 1981). It is important to consider that Park's notion of conflict also appears to be heavily influenced by that of Simmel. Simmel viewed conflict as being a necessary social phenomenon of group life that acts as an integrative force of group relations and is necessary for the survival of society as a whole.

The Chicago School understood society to be constantly changing in its structure, negotiable and shaped by the flexible boundaries of interpersonal relationships. This heavily influenced the discipline of urban geography. Park, who played a fundamental role in the development of these views, was especially influenced by Simmel's formalism and the pragmatism of James and Dewey, (Jackson and Smith, 1981). As noted earlier, Simmel concentrated his writing on 'Association' as a continuous society and saw society basically as a term of abstraction that summarized interaction, (Jackson

and Smith, 1981). Dewey, on the other hand, viewed society as; *'Relations of individuals to one another in this form and that all relations are interactions not fixed moulds'* (Jackson and Smith, 1981).

The Chicago sociologists and later urban geographers influenced by the school viewed cities as a series of rings, divided into segments. At the centre of the series of rings are inner city areas, a combination of decaying residential dwellings and large prospering businesses. Beyond the centre lies an older neighborhood, with lower income and working class inhabitants. Further out in the suburbs live the affluent. The process of 'invasion' and 'succession' occurs within the area of concentric rings. Therefore, according to the theoretical perspective and one of its popularly held conclusions, once the property decays in the central or near central areas, 'ethnic' minority groups will relocate there. As the minorities move in, the affluent, originally from that area, will head out to the suburbs (Giddens, 1989). For some time, the urban ecology approach has been severely criticized for its preoccupation with the interdependence of different city areas instead of considering more closely the fundamental processes surrounding the competition over scarce resources.

The second central concept of the Chicago School's perspective was developed by Louis Wirth in 'Urbanism As a way of Life' (1938). This article is largely concerned with the internal differentiation of cities and the influences that cities exert on the social life of 'man'. He argued that cities had become the centre of economic, political and cultural life, influencing the population of the world and creating a single unified cosmos (Wirth, 1938). Wirth made many detailed observations of cities and social interactions among its dwellers. He often noted that although city dwellers lived in more concentrated and numerous environments than those people living in rural villages, most people did not know, or have much interaction with their fellow city dwellers. In addition, because of mobility there existed relatively weak social bonds among the urban inhabitants.

Wirth perceived competition as taking precedence over cooperation. This perspective differed from Park's position vis a vis his 'cycle' and the role that competition and cooperation played. He concluded that the density of social life in the urban context led to the foundation of distinct neighborhoods, some of which maintain the characteristics of small communities (Giddens, 1989). Wirth also observed that in areas, especially within migrant enclaves, traditional types of connections between individuals existed and most people knew each other on a personal level. He concluded, however, that the more those areas are absorbed into the city as a whole, the less these characteristics will survive (Giddens, 1989).

Wirth's theory is relevant since it perceives urbanism not just as a part of society, but acknowledges that urbanism plays a major influential role in society as a whole. Like the proponents of the ecological perspective,

he based his conclusions solely on empirical observations of cities in the United States. It should be mentioned, however, that he did generalize and extrapolate the conclusions, applying them to cities through the world. This is a particular weakness when considering the level of abstraction Wirth employs and given the type of observations that he is concerned with, for example, regarding the level of personal relations, mobility, anonymity, and so forth (Saunders, 1981). He further argues that the dissolution of the inter-group society within the urban context facilitated the existence of orderly routines. These routines are controlled by impersonally defined rules of behavior. As Giddens (1982) asserts, there exists an element of agreement between Wirth and the writings of Weber on their perspective of bureaucracy (Giddens, 1982).

The conceptual framework: An application

This study concentrates on the issue of integration that Chicago School highlighted in the area of social integration. It is important to consider the influence George Simmel had on Park's work. Simmel assessed the systematic way identities were negotiated in sociology. Subsequently, Park went on to develop his notion of social interaction and integration based on the four concepts of competition, conflict, accommodation and assimilation. *Integration is approached and defined as a process by which refugees engage with and become part of their resettlement society* (adapted from Breton, 1992). Refugee integration implies full and unimpeded participation in society and the access or openness of institutions to all members of society; also, it is conceptualized as a process of participation in societal spheres.

Societies differ as to how refugees are incorporated. Thus, the term integration, in practice, covers many patterns and styles of incorporation. At times, integration has been said to be a euphemism for assimilation, which is the complete merging of resettling groups into majority society in a unidirectional process of absorption. Integration also has been seen to have assimilation as its long term goal (Weil and Crowley, 1994; Schnapper, 1991). In this paper, integration is seen in practice as participation in key spheres of the resettlement society. The focus of security is on the following core areas: Labor market and education; social interaction (intra-and inter-group); organized activity (cultural, political, intra-marriage); and cultural encounter.

Subjective well-being or life quality is an important dimension of integration (Breton, 1992). Participation is understood to be a phenomenon corresponding to actual conditions. If participation is in harmony with goals, integration is assumed to be proceeding in a manner satisfactory to the re-settlers and generating life quality. In contrast, a wide discrepancy between participation and

goals indicates an unsatisfactory condition and hence poor life quality. In this way, the integration process is approached from the perspective of the resettling refugees themselves.

The state of the participation and integration process is succinctly articulated by relationships and roles. "Social relations" are understood as structuring interaction in the society, and denoting the place of an individual in relation to other members of the society. "Social role" has more normative connotations. It can be defined as the patterned expectations and obligations, or social norms that adhere to different positions in the social structure. Social role has been conceptualized as the link between social structure and culture, and the individual (Himmelfarb and Richardson, 1991).

Palestinian refugee camps

When attempting to study the history of Palestine and the Palestinian people, the question of refugees is a major issue. After the War of 1948, hundreds of thousands of Palestinians were forced out of their homes to be displaced into refugee camps scattered in the cities of the West Bank and Gaza strip of Palestine, in Jordan, Lebanon, Egypt and Syria. Displacement was into tents at first and those families are now settled down in camps, where they have constructed houses and expanded into large families. The evolution, however, took place under the limitations of the same piece of land that was offered to the refugees fifty- six years ago. Housing in the refugee camps is thus now characterized by high population density, lack of adequate set back line in all directions, small size homes, inadequate ventilation, narrow passages, metallic sheet roofs and sunlight into the house.

Marshy (1999) describes the physical condition of the camp as follows: all Palestinian refugee camps started with tents. In the mid-50s, the United Nation for Relief and Work Agency (UNRWA) began to encourage refugees to build their own shelters in the camp to replace the tents. Bricks and asbestos were provided for camp residents to build units of uniform dimension: as following based on the family size.

'A units' measuring 3x 3 meters housed families with 1-5 members;

' B units' measuring 4x 3.75 meters housed families with 6-9 members;

'C units' measuring 4x 4.45 meters housed families with 9-11 members;

'AA units' were 6x 3 meters, comprising two rooms connected with inside corridor, and housed 11-12 member families; finally,

'BB units' measured 8x4 meters, which housed families of more than 12 members in two rooms.

By the end of 1950s and in the early 1960s, refugees

began constructing additional rooms next to their units, as well as indoor toilets. The old units were substituted by block rooms, with small courtyards to grow a vine or lemon tree or vegetables. Some refugees gave up some of their plot and converted it into shops which laid the main street. As families grew, still more space was needed and the ground floor was expanded, eliminating the courtyard.

By the beginning of the 1980s, the housing units had become stabilized in terms of space but the population continued to increase, precipitating a housing crisis. Refugees at this time began to rehabilitate their shelters and construct new, more spacious ones with cement and iron bars (though some poorer refugees still live in the dwellings built in the mid-1950s). UNRWA provided building permits but did not supervise the construction itself. In the camps situated adjacent to towns, construction of homes was not able to spill over the boundaries of the refugee camps; hence, these camps' residents were the first to add a second storey onto their shelters. UNRWA approves the two-storey constructions but does not authorize construction of third and fourth stories.

The absence of laws, and family structure, social relationship and collective memory and fears encouraged the process of encroachment on public yards and by-roads. Public squares disappeared, the main road public road became very constricted, and the smaller roads became extremely narrow. Gardens and trees, planted in initial attempts to mimic the environment of refugees' original homes, were replaced by room additions or extensions. Zeidan (1999) emphasizes what Marshy mentioned by saying camps became a model of poor environmental conditions and lack of open spaces or green areas. Farah (2000) indicated that approximately 40% of households have a density of three persons or more per room. Also she mentioned that in most shelters, one room is utilized more than others, and in some shelters there might be four or six people in the same room. She also indicated that poverty hinders most families from improving, relocating or expanding their habits.

By the year 1994, the Palestinian National Authority had been established as a result of Oslo peace accord. After 1994, it is noted that multi-story buildings illegally were constructed in the camp. This was due to the economic situation which became fairly good. This illegal multi-story buildings construction was continued after the withdrawal of the Israeli occupation due to job opportunities that the authority facilitated for the refugees. This is in addition to number of incentives that make them more bold to go out of the refugee camps, and the camp has missed its physical features by constructed new buildings, reasonable infrastructure, paved streets and urban services and facilities provided.

The next section will explore the integration process of Palestinian refugees who resettle in Gaza and West Bank in the context of the Chicago School notions on social context and urban fabric and the visible and the invisible.

Social scientists within the various disciplines, when writing on the urban context, have been greatly affected by the Chicago School's contributions. In fact, the context in which urban sociology and geography provide analysis of social phenomena within the city has largely been framed and determined by the writings of the Chicago School.

Resettlement goals and assimilation prerequisites

1. To find a good work opportunity.
2. To have a good place to study.
3. To find healthy shelter.
4. Citizenship and rights of participation in public policy and political decision making.

Social interaction

Social interaction with the original people in Gaza and West Bank was valued, but was not easy to attain. Possibly because of cultural distance, ashamed being refugees, subjects did not frequent city markets or public spaces or take part in events where contacts with locals would normally have arisen.

Social relations

Social participation and interaction are articulated in relationships with the surrounding society. One category of lived relationships could be identified as linking individuals with prior to being refugees and getting settled environments. These are termed "Baladiat". "Baladiat" refers to the original kinship and other close relationships that were, especially among the peasants community. The social, economic and cultural spheres displayed considerable overlap so that the individual sustained many reinforcing ties with his immediate circles. In these circles the individual was interacting holistically-in several capacities with the same people in an integral multifaceted role.

Inter-group boundaries

The cultural and economic gap was experienced by several of the subjects as an area where stereotypes hindered successful social interaction with the receiving society in Gaza and West Bank. Especially, common was the stereotyped view of citizenship as entailing the original people dominance and refugee subordination, which invariably surfaced in social communication.

Retaining kinship and homeland ties as an aspect of cultural retention

A central priority of the discussed relations was the

recovery and retention of original ties with kin and close circles. Palestinian refugees showed persistent efforts to recover their ties in one form or another-by maintaining contact, assisting financially, and fulfilling responsibility even from a distance. The evidence and findings indicate that in initial stage of resettlement, repairing the devastation of uprooting, and recovering original links, have, for the refugee, as much priority as fostering ties to new groups in the receiving new environment.

Conclusion

The conceptual schema that represents the interaction between the Palestinian refugees and the original people (received society) is identified as a cycle of interaction. The cycle was based on five stages and consisted of: first; the initial contact that happened in 1948 where the original people exert their efforts to help the refugees from sympathetic and humanitarian point of view. Second: after while, the refugees competed with the received society on land and resources. Third: many features of conflict emerged such as rejecting inter-marriage in addition to political competition on leadership. And finally; after the Palestinian authority was established in 1994, the new environment gave the opportunity to the refugees to be strong accommodated and assimilated part of the Palestinian society.

The participation patterns of resettled refugees indicate that there were major obstacles that refugees faced before the establishment of the Palestinian authority that prevented them to attain a level of participation to make them in harmony with their resettlement goals. This paper has indicated that the dynamic of the integration process in the last three phases of the cycle was strongly influenced by social and structural factors. The integration and assimilation goals being achieved for the Palestinian refugees in Gaza and west bank, they became the dominant majority that controlled the public policy in the Palestinian authority, managed the businesses, politics, and the economy of the country. They are the most well educated among the Palestinian people and are considered to be well known figures in Palestinian community who represent 83% of the Parliament and leading Government. As a result of the social openness, integration, and economic thrive, the refugee camp's physical form and fabric is in a rapid change for better life style and healthy environment.

ACKNOWLEDGEMENT

This project has been funded with support of the European Commission. This publication reflects the view of the author, and the Commission cannot be held responsible for any use of the information found therein.

REFERENCES

- Breton R (1992). Report of the Academic Advisory Panel on the Social and Cultural Impacts of the Immigration. Canada: Research Division, Strategic Planning and Research, Immigration Policy Group, Employment and Immigration.
- Cavan R (1983). "The Chicago School of Sociology, 1918-1933". *Urban Life* 11. (January). pp. 407-420.
- Farah R (2000). A report on the psychological effects of overcrowding in refugee camps in the West Bank and Gaza Strip. (IDRC) April. Web page article <http://www.arts.mcgill.ca/MEPP/PRRN/Farah.html/>.
- Giddens A (1982). *The Urban Question*, Edward Arnold, London.
- Giddens A (1989). *Sociology*, Polity Press, London, pp. 120-152.
- Himmelfarb A, Richardson CJ (1991). *Sociology for Canadians: Images of Society*. Toronto: McGraw-Hill Ryerson Ltd (first edition 1982).
- Jackson P, Smith S (1981). *Social Interaction and Ethical Segregation*, Academic Press, London.
- Ley D (1980). Alternative Explanations for Inner-City Gentrification: A Canadian Assessment, *Annals of the Association of American Geographers*. 76(4):521
- Marcuse P (1995). Not Chaos, but Walls: Postmodernism and the Partitioned City. In: Watson, S., and Gibson K., (eds.), *Postmodern Cities and Space*, Oxford: Blackwell.
- Marshy M (1999). Social and psychological effect of overcrowding in Palestinian refugee camps in the West Bank and Gaza. (IDRC), August.
- Omi M, Winant H (1986). *Racial Formation in the United States*, Routledge, New York.
- Park R, Ernest B (1921). *Introduction to the Science of Sociology*. Chicago: University of Chicago Press.
- Park R, Ernest WB, Roderick D (1926). *McKenzie. The City*. Chicago: University of Chicago Press.
- Park R (1952). *Human Communities: The City and Human Ecology*. Glencoe, Ill: Free Press,
- Peach C (1975). *Conflicting Interpretations of Segregation*, (in eds). P. Jackson and S. Smith, *Social Interaction and Ethic Segregation*, Academic Press, London.
- Saunders P (1981). *Social Theory and the Urban Question*, Hutchinson, London.
- Schnapper D (1991). *Social Integration in France*. Paris: Gallimard.
- Richmond CG (1973) *Urban Sociology*, Tavistock Publications Ltd., London.
- Ujimoto V (1990). Residential Segregation and the Politics of Racialisation, in *Racism, the City and the State*, Routledge, London.
- Weil P, Crowley J (1994). *Integration in Theory and Practice: A comparison of France and Britain*, *Western European Politics*. 17(2):110-126.
- Wirth L (1938). *Urbanism as A Way of Life*. *Am. J. Slavery*. p.44.
- Zeidan A (1999). Environmental conditions in Palestinian Camps in Lebanon. 5 September. Web page article <http://www.arts.mcgill.ca/MEPP/PRRN/Marshy.html/>.