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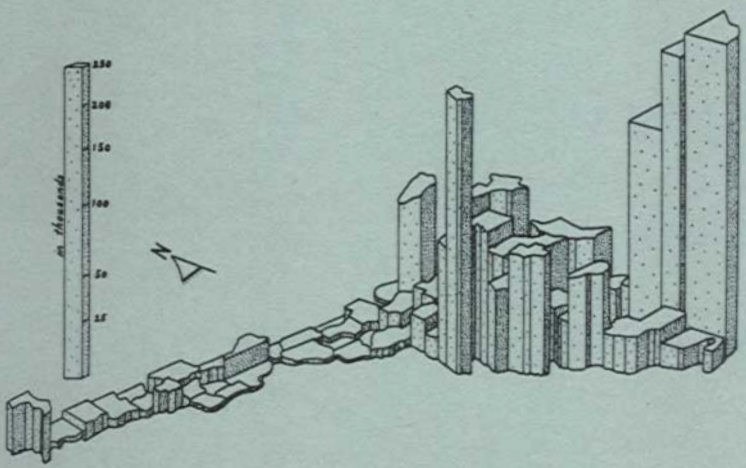

FLORIDA POPULATION

65 YEARS AND OVER, 1980

The Florida Geographer is the official publication of the Florida Society of Geographers, and is distributed without cost to members of the Society. One number per year will be published, pending receipt of an adequate number of acceptable manuscripts.

The Florida Geographer is a state-wide journal, with broad coverage of geographical topics relating to the state and its several regions. No restrictions are placed on the content of articles, providing that they deal with some aspect of the geography of Florida, i.e., local studies within the state, matters of the state generally, or studies of the U.S. South, of which Florida is a part.

Manuscripts are solicited from all who feel they have research worthy of dissemination. No specific format requirements are presently in force, although the editor would prefer manuscripts to be typed double-spaced following the general format of the articles in the present number. However, authors should not be dissuaded from submitting manuscripts because of format considerations; the editor is willing to undertake extensive revisions. As this number demonstrates, we are able to reproduce maps, charts, and tables.

We would like to publish an original map on the cover of each number, so a special request is made to all who have maps of the state or regions of the state which would be of interest to the Society's membership.

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About the cover..

This month's cover of *The Florida Geographer* shows Florida in new perspective. The stepped statistical surface presents the state as would be seen from the Gulf of Mexico looking toward the northeast. The columns represent the state's population aged 65 and over by counties, raised to elevations proportional to their numbers. Lydia Golden, a free lance cartographer, submitted the drawing.

THE FLORIDA GEOGRAPHER

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ATTITUDES, CAUSES AND PERCEPTIONS: THE 1980 BLACK RIOT IN DADE COUNTY (MIAMI), FLORIDA

Thomas D. Boswell, Ira Sheskin, and Carroll Truss

In May 1980, Dade County gained the unenviable distinction of becoming the first large U.S. metropolitan area to experience a major racial disturbance during the 1980s. This was not the first racial disorder in Miami. In August 1968, a black riot occurred that was one of the last in a round of racial disorders that characterized large American cities during the late 1960s (Salter and Mings 1969). The 1980 riot, however, was significantly more destructive and deadly than the 1968 disturbance. In 1968, the result was several hundred thousands of dollars worth of property damage and three deaths. In 1980, the damage amounted to about one hundred million dollars and eighteen deaths (Figs. 1 and 2). In fact, the 1980 riot was more expensive (in dollars unatandardized for inflation) than any other single urban social disorder in U.S. history (Ten most costly... 1980).

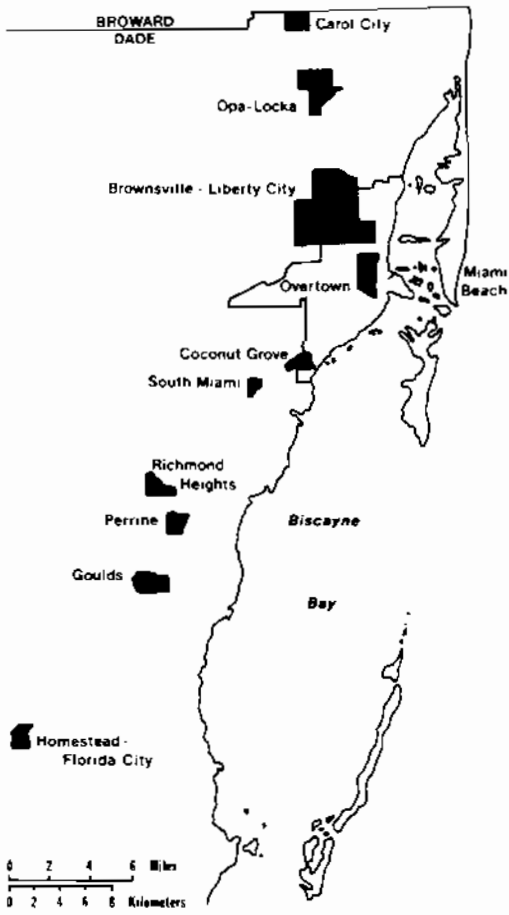
This paper intends (1) to identify the areas where most of the 1980 disturbances occurred and to sketch the background characteristics of the people involved; (2) to present some of the causes for this riot; and (3) to discuss some of the findings of an attitudinal survey conducted by *The Miami Herald* in 1981 with the assistance of the authors of this paper.

Location and Background Characteristics

Like most large southern cities, Metropolitan Miami contains a number of well-defined and clearly distinct areas of black concentration (Fig. 1) (Rose 1971, 8-9, 19-22). Because of this dispersion, the 1980 disturbances were not restricted to one area and thus were more difficult to control. They were most prevalent in poor central city locations, such as in Brownsville-Liberty City (which contains about 35 percent of all the county's blacks), the Central District (also called Overtown), Coconut Grove, and Opa-Locka. Very little trouble occurred in the more affluent suburban communities such as Richmond Heights, Perrine, and Goulds. Within the central city concentrations, most of the death and destruction occurred along major transportation arteries, where there was more traffic and busineaa activity (Fig. 2) (Browning 1980, 17A).

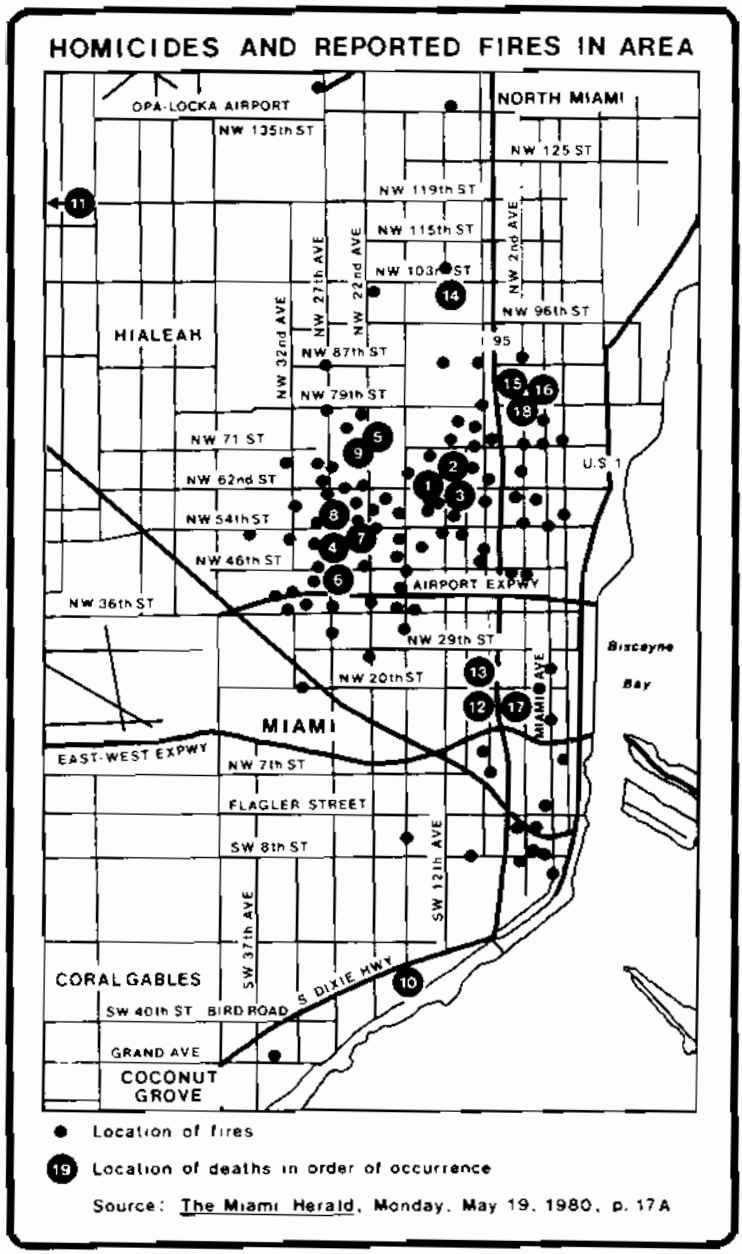
The disadvantaged situation of blacks in metropolitan Miami in 1980 is illustrated clearly by their demographic and social characteristics. For instance, in 1979 the age-adjusted death rate (deaths per 100,000 population) for all of Dade County was 560, while for Liberty City it was 1,128. The comparable figure for all United States blacks was 798. The median age at death for Liberty City was 61.9 years, whereas for the rest of Dade County it was 74.2 years. In 1980 the homicide rate (deaths per 100,000 population) was 37.6 for Dade County and 113.6 for Liberty City. In 1980 Dade County had the higheat doctor/patient ratio (263 physicians per 100,000 population) of all major U.S. metropolitan areas. However, the ratio for Liberty City was only about one-fifth of that. In fact, the doctor/patient ratio was lower for Liberty City than it was for twenty-two Latin American countriea. In 1979 the teenage birth rate (births per 1,000 females aged 10-19) for Dade County whites waa 16.2; for non-whites it was 71.4. One indicator of the weakness of family solidarity is the percentage of out-of-wedlock births. In 1979 this figure was about 9 percent for the U.S. white population, whereas for U.S. blacks it was 55 percent

MAJOR BLACK RESIDENTIAL AREAS IN METROPOLITAN MIAMI



Source: David B. Longbrake and Woodrow W. Nichols, Jr., Miami: Sunshine and Shadows (Cambridge, Mass.: Ballinger Publishing Company, 1976), p. 48.

Figure 1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OPA-LOCKA AIRPORT
NW 135th ST
NORTH MIAMI
NW 125 ST
NW 119th ST
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AIRPORT EXPWY
NW 36th ST
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NW 20th ST
Biscayne Bay
MIAMI AVE
MIAMI
EAST-WEST EXPWY
NW 7th ST
FLAGLER STREET
SW 8th ST
SW 12th AVE
SW 37th AVE
CORAL GABLES
S DIXIE HWY
SW 40th ST BIRD ROAD
GRAND AVE
COCONUT GROVE
11
14
15
16
18
5
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2
1
3
8
7
4
6
13
12
17
10
Location of fires
19 Location of deaths in order of occurrence
Source: The Miami Herald, Monday, May 19, 1980, p. 17A

Figure 2

(Reid 1982, 12), and for Liberty City it was almost 75 percent (Malone 1981).

Although millions of dollars were expended following the 1968 riots to upgrade the quality of life in Miami's poor black areas, evidently not enough was done to satisfy the growing aspirations of the population. In fact, by 1980 most blacks felt that conditions had been deteriorating rather than improving. Evidence of this perception is provided by two surveys conducted by *The Miami Herald* immediately after the 1968 and 1980 disturbances. In all cases, the perception of blacks was that problems had increased and that their neighborhood and country was less inviting than formerly (Table 1).

TABLE 1

BLACK PERCEPTIONS, 1968 AND 1980

Attitude Indicator	Percent of blacks perceiving problems		Change
	1968	1980	
Unemployment is a problem	50%	95%	90%
Police brutality is a problem	23%	90%	291%
Poor housing is a problem	59%	89%	51%
Want to continue to live in neighborhood	55%	37%	-33%
U.S. is worth fighting for	80%	52%	-35%

Source: Morin 1980.

Causes of the 1980 Riot

The 1988 *Miami Herald* survey found that Dade County blacks felt that the three biggest problems faced were: (1) too many children dropping out of school; (2) dirty neighborhoods; and (3) parents who do not control their children. Although it might be a mistake to infer from these results that there was no dissatisfaction with Dade County society as a whole, it is interesting to note that the three issues given the greatest emphasis were largely problems internal to the black community. That is, it appears blacks were concerned with problems that, with improved internal orgenization, could be controlled with a minimum of support from outside the black community. Twelve years later, however, attitudes had changed. The 1980 *Herald* survey indicated that blacks felt their three major problems were: (1) unemployment; (2) police brutality; and, (3) inadequate housing. These are external issues. To a major extent, their solution lies outside the black community because: (1) most blacks have white employers; (2) the majority of police are not black; and, (3) much black housing is owned and/or operated by whites (Morin 1980).

When asked to indicate the major reasons for the 1980 riot, blacks found a racially-discriminating justice system as the major culprit. Considerable evidence exists to support this perception. For instance, in January 1979, a white police officer, Willis T. Jones, sexually molested an eleven-year old black girl. After admitting guilt, he was sentenced to three years probation (Buchanan 1980). In February 1979, five white police officers broke into the house of a black school teacher, Nathaniel LaFleur, and beat him in a case of mistaken identity while looking for a narcotics suspect. No charges were filed and a

grand jury found that, although the deputies were negligent, no laws were broken (Thompson 1979). In April 1980, Dade County's highest-ranking black official, Johnny Jones, the superintendent of the county school system, was convicted of second degree grand theft for using public funds for personal uee (Savage and McGee 1980). In December 1979, a black insurance executive, Arthur McDuffie, was accused of running a red light on his motorcycle. He died while being apprehended. The police involved contended that he died in a crash while he was trying to evade them. An investigation revealed that there had been no crash, that McDuffie had been beaten by the police and that these officers later attempted to cover np the incident. Six white officers were charged and four were brought to trial. An all-white jury acquitted them on May 17, 1980, the day the riot began (Fivc men become symbols 1980). The newspaper poll found that 71 percent of blacks listed the McDuffie incident, 36 percent suggested an unfair justice system, 28 percent listed the Johnny Jones verdict, and 21 pereent indicated the lack of job opportunities as the cause of the 1980 riot (Results of the *Herald's* 1980 poll... 1980).

The concern with black unemployment, mentioned often as a major reason for the 1980 riots, is probably best explained by the *blocked opportunities model* of riot prodncing stresses. This theory argues that blacks have been excluded systematically from full participation in American society by white-controlled economic institutions (Adams 1972). This can be accomplished by overt racial discrimination, but often is more snbtly blamed on low education and skill levels. The location of many jobs outside the black residential areas also diminishes employment opportunities since such jobs are often inaccessible to those without automobiles.

In addition to the problems with the justice system and unemployment cited by the blacks themselves in the 1980 *Miami Herald* survey, two additional factors should be mentioned as causes of the 1980 riot: (1) the housing squeeze; and, (2) relative deprivation. The housing squeeze faced by Dade County blacks is of increasing concern. Between 1960 and 1980, Liberty City's population declined from 80,000 to approximately 66,000, but the number of available housing units decreased even more drastically. Many older units have been condemned, abandoned, and bulldozed and have not been replaced because of a lack of financing, high insurance rates, low rent-paying abilities of the local residents, and the fear of another riot (especially for buildinge owned by whites) (Tasker 1981a). Thus by 1980, about one-third of Liberty City families lived in overerowded housing units (defined as those with more than one person per room). A recent study by the U.S. Bureau of the Census has determined that between 1950 and 1980 the dwelling loas rate for black households has been 2.5 times that of white households in the United States. Black housing is more likely to be removed from the housing stock because their residences are often located in central city areas where housing is older and more likely to be dilapidated and of deteriorating quality (Dahmann 1982, 14). Thus, the Liberty City situation appears to be part of a national trend that has affected a housing squeeze on many poor central city blacks.

Probably the best general explanation of black dissatisfaction in the riot areas of metropolitan Miami is provided by the model of *progressive relative deprivation* (Adams 1972). This model implies that although a group's living conditions may be improving, aspirations are rising even more quickly. As the gap between capabilities and expectations increases, levels of satisfaction decline, even thongh in an absolute sense quality of life improves. There is evidence that some of the social and economic conditions for blacks were improving in Dade County before the 1980 riots. For instance, their unemployment rate dropped from 15.7 to 9.3 pereent between 1977 and 1979. The nnmber of blacks who were registered to vote increased by 68 percent between 1968 and 1980. The number of black-owned businesses rose from 310 to 380 between 1969 and 1977. Between 1977 and 1979 the percentage of blacks who pessed Florida's

functional literacy examination rose from 75 to 90 percent; while the percentage passing the mathematics exam doubled from 23 to 46 percent. Still, these levels were well below those achieved by Dade County whites. In fact, in many respects the gap between blacks and whites increased between 1970 and 1980 (Sizing up black progress... 1980; Porter and Dunn 1984).

1981 Attitudinal Survey

In February 1981, an attitudinal survey of black and white relations in Dade County was conducted by *The Miami Herald* with the assistance of the suthors of this paper. The purpose was to ascertain racial attitudes and perceptions nine months after the riot of May 1980, once the initial emotionalism had abated. Telephone interviews using random digit dialing were conducted with 1,021 persons: 431 from throughout Dade County, 206 from Richmond Heights, and 384 from Liberty City.*(1)* Richmond Heights is a black (92.6 percent) middle class suburban enclave located in southern Dade County (Fig. 1). Its residents were expected to exhibit attitudes at variance with the attitndes of the predominantly poor and black population of Liberty City due to differencea in socioeconomic status. In addition, both these areas were expected to exhibit different attitudes from those expressed by the all-of-Dade-County sample because of ethnic and socioeconomic differences. The latter sample was 13.4 percent black, 32.2 percent Latin, 48.2 percent non-Latin white, and 6.1 percent "other." Fifty-two questions were asked, covering demographic, socioeconomic, and attitudinal characteristics.*(2)* The three samples were weighted so as to reflect the age and sex structure of the populations from which they were drawn (as given in the 1980 census). The answers to seven questions are discussed below. The major purpose is to examine differences in attitudes and perceptions between the populations of Dade County as a whole, a middle class black suburb (Richmond Heights) and a poor black inner city area (Liberty City).

The first question asked if the program to rebuild Liberty City after the 1980 riot was a "good thing," or, rather, a "reward" to the rioters (Table 2). Shortly after the riots the Governor of Florida and local business leaders proposed a 1 percent increase in the state sales tax to raise $100 million to rebuild Liberty City. The State Legislature refused to adopt the proposal because many legislators argued that this would be a reward for rioting. This queation was designed to examine the extent to which this feeling prevailed among the three Dade County sample populations. The highest percentage (71 percent) of those indicating that the plans to rebuild the riot areas were a "good thing" occurred in the Liberty City sample. This area had been most dirsctly affected by the disorders and probably would benefit the most by a rebuilding program. The Richmond Heights sample (with 67 percent agreeing that it would be beneficial to rebuild the destroyed areas) is not significantly different from Liberty City (alpha =< .01) bacause many of these people once lived in Liberty City and/or have relatives and friends currently living there. For the total Dade County sample, only 48 percent thought that government programs to rebuild Liberty City were a "good thing." When this sample is separated into its two primary ethnic components, 55 percent of Latins favored rebuilding, whereas only 38 percent of the non-Latin whites said this would be beneficial (Tasker 1981b). Therefore, it appears that the Latins were somewhat more sympathetic to the Liberty City blacks than were the non-Latin whites.

The second question asked reapondents if they felt that Liberty City is "being fixed up again as quickly as posaible" (Table 3). The greatest pereentage (70 percent) of disagreement was found in the Liberty City sample: these people were most inconvenienced by the disordera and are most anxious to see

the damage repaired. Little difference existed between the Dade County sample (48 percent) and Richmond Heights (54 pereent) sample. A slightly larger percentage of the Richmond Heights sample both agree and disagree with the statement, whereas a larger percentage of the county respondents answered "do not know."

TABLE 2

Responses to Question One*

Response	County		Richmond Heights		Liberty City	
	N	%	N	%	N	%
Good Thing..	206	48.1	137	66.5	267	70.6
Reward.....	147	34.3	29	14.1	57	15.1
Don't Know..	75	17.5	40	19.4	54	14.3
Total.....	428	100.0	206	100.0	378	100.0

Chi Square = 63.0, Alpha = .00

Source: Miami Herald Survey, 1981.

*Question: Some people think government programs to rebuild Miami's Liberty City area after last May's troubles are a good thing, and others think they are just rewarding rioters. Which comes closest to your thinking -- that they're a good thing, or just a reward to rioters?

TABLE 3

Responses to Question Two*

Response	County		Richmond Heights		Liberty City	
	N	%	N	%	N	%
Agree.....	122	28.8	69	33.7	96	25.1
Oisagree....	201	47.5	110	53.7	269	70.2
Don't Know..	100	23.6	26	12.7	18	4.7
Total.....	423	100.0	205	100.0	383	100.0

Chi Square = 75.9; Alpha = .00

Source: Miami Herald Survey, 1981.

*The black areas that were damaged during the troubles last May are being fixed up again as quickly as possible. Do you agree or disagree with this statement?

TABLE 4

Responses to Question Three*

Response	County		Richmond Heights		Liberty City	
	N	%	N	%	N	%
Agree.....	41	9.5	37	18.0	59	15.4
Disagree....	380	88.2	162	78.6	315	82.0
Don't Know..	10	2.3	7	3.4	10	2.6
Total.....	431	100.0	206	100.0	384	100.0

Chi Square = 11.7; Alpha = .07

Source: Miami Herald Survey, 1981.

*Question: Blacks who get ahead can only do it by fighting for their rights in the streets. Do you agree or disagree with this statement?

TABLE 5

Responses to Question Four*

Response	County		Richmond Heights		Liberty City	
	N	%	N	%	N	%
Agree.....	124	28.8	133	64.6	301	78.3
Disagree....	256	59.4	48	23.3	54	14.1
Don't Know..	51	11.8	25	12.1	29	7.6
Total.....	431	100.0	206	100.0	384	100.0

Chi Square = 229.3, Alpha = .00

Source: Miami Herald Survey, 1981.

*Question: It's almost impossible for a black to get a fair trial in Dade County. Do you agree or disagree with this statement?

The third statement suggested that "blacks who get ahead can only do it by fighting for their rights in the streets" (Table 4). In all three samples, the vast majority disagreed, but the largest disagreement (88 percent) occurred in the county sample. The next largest percentage of disagreement (82 percent) was found in the Liberty City sample. Statistically, the percentage for the Rich-

mond Heights sample (79 percent) is not significantly lower (alpha =< .01) than that for Liberty City. It is also relevant to note that the attitudes of Liberty City residents have changed notably between 1980 and 1981. The 1980 *Herald* riot survey found that only 64 percent disagreed, whereas the 1991 figure was 82 percent (Tasker 1981b).*(3)*

The fourth statement suggested "that it's almost imposaible for a black to get a fair trial in Dade County" (Table 5). Nearly 60 percent of the county respondents disagreed with this statement. On the other hand, almost two-thirds (65 percent) of the Richmond Heights sample and over three-quarters (79 percent) of the Liberty City respondents agreed with it. It is well known that those of lower income have higher conviction rates because they cannot afford good legal counsel. The majority of Liberty City residents are both black and poor, whereas the majority of Richmond Heights residents are black, but not poor. The socioeconomic difference explains the larger percentage of agreement with the fair trial statement in Liberty City.

The fifth question asked if the respondents were "more in favor of black progress today (1981) than they were last year at this time (before the riot), less in favor, or about the same" (Table 6). The vast majority (83 percent) of all three samples indicated they either felt the same or were more in favor of black progress. The largest percentage (50 percent) of those more in favor occurred among the Richmond Heights respondents. The largest percent (21 percent) of those less in favor was found for the Liberty City sample. This result was probably influenced by the fact that more Liberty City residents were directly impacted by the rioting.

Thc sixth question asked if respondents agreed with the idea that "the situation of the average man is worse, not batter" (Table 7). When collectively considered, 72 percent indicated that things are getting worse. This pessimistic view follows on the heels of a tumultuous period between 1978 and 1981 when South Florida experienced a number of unsettling events in addition to the May riot, such as: rising crime and homicide rates, rapid inflation, skyrocketing housing prices and interest rates, increasing drug traffic, rising unemployment, and the uncontrolled immigration of illegal aliens (Kelly 1981). Although whites were also affected by these conditions, they were less adversely affected than blacks. Thus, it is somewhat surprising that there is no statistically significant difference between tha county sample (68 percent) which was largely composed of whites, and the Liberty City sample (72 percent) of predominantly blacks. When the Richmond Heights (48 percent) and Liberty City samples are compared, the Richmond Heights respondents were significantly more pessimistic (alpha =< .01), even though they generally enjoyed higher socioeconomic status. Perhaps due to the economic recession that characterized this period, the higher aspirations of middle class Richmond Heights blacks were not fully attained. If blacks in Liberty City had lower aspiration levels this might account for their somewhat lower level of disappointment. This explanation is consistent with the model of prograssive ralative deprivation mentioned earlier. Another explanation may be that Richmond Heights residents, because of their higher education levels and greater accessibility, were more aware of the adverse situation in Dade County and the United States than were Libarty City residents.

Finally, Table 8 shows the results of a question in which respondents were asked if they "would move out of Dade County because they don't like tha changes that have occurred." The Liberty City sample had the highest rate of agreement (48 percent), although this percentage is not significantly higher than the percentsge for the county sample (alpha =< .01). Since Libarty City blecks are the poorest and most disadvantaged of tbe three samples, this finding is reasonable. On the other hand, a significantly higher percentage (43 percent) of the county sample would like to leave the area than was tbe case for the Richmond Heights sample (31 percent). This finding may reflect the

TABLE 6

Responses to Question Five*

Response	County		Richmond Heights		Liberty City	
	N	%	N	%	N	%
More in Favor....	130	30.3	103	50.0	170	44.4
Less in Favor....	50	11.7	7	3.4	81	21.1
Same.....	228	53.1	93	45.1	122	31.9
Don't Know..	21	4.9	3	1.5	10	2.6
Total.....	429	100.0	206	100.0	383	100.0

Chi Square = 83.6, Alpha = .00

Source: Miami Herald Survey, 1981.

*Question: Do you think you are more in favor of black progress today than you were last year at this time, less in favor, or about the same?

TABLE 7

Responses to Question Six*

Response	County		Richmond Heights		Liberty City	
	N	%	N	%	N	%
Agree.....	293	68.1	164	79.6	273	71.7
Disagree....	109	25.3	30	14.6	91	23.9
Don't Know..	28	6.5	12	5.8	17	4.5
Total.....	430	100.0	206	100.0	381	100.0

Chi Square = 12.1, Alpha = .06

Source: Miami Herald Survey, 1981.

*Question: In spite of what some people say, the situation of the average man is getting worse, not better.

dissatisfaction many non-Latin whites often express with the changing ethnic structure of Dade County over the past twenty-three years. Between 1970 and 1980, the non-Latin white population declined by 25,000 as a result of out-migration, while the black and Hispanic populations increased. In 1950, approximately 83 percent of the county's population was composed of non-Latin whites,

TABLE 8

Responses to Question Seven*

Response	County		Richmond Heights		Liberty City	
	N	%	N	%	N	%
Agree.....	87	43.3	28	31.1	77	48.4
Disagree....	107	53.2	57	63.3	75	47.2
Don't Know..	7	3.5	5	5.6	7	4.4
Total.....	201	100.0	90	100.0	159	100.0

Chi Square = 8.4, Alpha = .21

Source: Miami Herald Survey, 1981.

*Question: Please tell me if you agree or disagree with this statement: If it were practical, I would move out of Dade County because I don't like the changes that have occurred.

only 4 percent was Hispanic, and 13 percent was black (Metropolitan Dade County Planning... 1979). In the 1980 census, the Hispanic percentage rose to 36 percent, and the black proportion increased to 17 percent. For the first time, the population of Dade County was less than one-half non-Latin white (46 percent) (Metropolitan Dade County Planning... 1982). Largely as a result of the refugee wave from Cuba shortly after the 1980 census, by 1985 the number of Hispanics had surpassed that of non-Latin whites. Current estimates are that Dade County's population is approximately 42 percent Latin, 40 percent non-Latin white, and 18 percent black (Metropolitan Dade County Planning... 1986).

It is clear from this discussion of the attitudes toward the statements reported in Tables 2 through 8 that there are significant differences in some of the attitudes of the Dade County, Richmond Heights, and Liberty City populations.*(4)* When this study was initiated it was hypothesized that, due to its racial and economic characteristics, Richmond Heights residents would exhibit attitudes that would be intermediate between those of Dade County and Liberty City. However, such was the case for only two of the seven statements analyzed. It may be that a confounding factor is that Liberty City directly felt the detrimental effects of the riot, whereas the residents in Richmond Heights and most of the rest of Dade County did not. Had the topic of study been something that none of the three populations had experienced in a significantly different way, the original hypothesis might have been closer to the truth.

Riot Postscript

Steps to Improve Conditions

Soon after the 1980 riot a flurry of activity occurred in an attempt to ameliorate some of the problems in Miami's black neighborhoods. The Administra-

tion of President Carter promised $83.1 million in aid, although less than $50 million was actually received. Some of the monev went unclaimed because black businessmen found it difficult to meet eligibility requirementa. The initial approach was to use federal government money channeled through local county, city, and neighborhood agencies. With the Reagan Administration, the funding of social programs, including employment training, food stamps, and mental health counseling was reduced. The State of Florida also cut back its contributions. In 1981 the state sent $1.8 million to Dade County as seed money for eleven Community Development Corporations (CDCs), which are companies that have developed from self-help neighborhood organizations. In 1982, however, these funds were drastically curtailed since the legislature appropriated only $1 million to be divided among thirty-eight CDCs across the state (Stein 1982).

As federal and state funds have lagged, city and county governments have tried to pick up some of the slack. Since 1980, Dade County has spent $6.7 million in buildiug five parks in Liberty City. The City of Miami has spent $1.2 million on two new parks. Tlie Greater Miami Chamber of Commerce and Dade's Private Industry Council have raised $5.4 milliou from local private companies to be invested in seed capital to help finance black businesses aud to fuud job training programs.

Two significant efforts toward achieving racial harmony have been made by the Dade County Public School System and the local police department. In 1978, 28 percent of the county's school employees were black, but blacks held only 13.7 percent of the administrative jobs. By 1982 blacks held 31 percent of the school system's jobs and accounted for 28 percent of its administrative positions (Silva 1982). This is especially significant when it is recalled that blacks represent only about 19 percent of the county's population. The Metro-Dade Police Department, which was despised by many Liberty City residents in the wake of the violent police-resident confrontations that sparked the 1980 riot, has been somewhat successful in mending relations with the Liberty City community. In 1980, only 15 percent of Metro's foot patrol in Liberty City was black. By 1983 this figure was 42 percent. Over this same period, the percentage of blacks among the department's officers increased from 8 to 12 percent. Likewise, the proportion of blacks in the City of Miami's police department has grown from 13 to 17 percent. In both the county and city departments, a greater emphasis has been placed on sensitivity training and mechanisms for third-party review of citizen complaints against county and city police (Zaldivar and Sachs 1982).

In 1980 (before the influx of Mariel Cubans), blacks accounted for 17 percent of Dade County's population, but black businesses received only approximately one percent of the county's purchasing and contracting busiuess. As a result, in 1980 the Board of County Commissioners established a policy goal of reserving 17 percent of county contract money for black-owned businesses. Also, in awarding bids, the county now favors contractors who have established their own programs of "affirmative action" for hiring, training, and promoting blacks. The City of Miami also now has a program whereby 10 percent of its contracts are to be awsrded to blacks (Tasker 1982).

The Overtown Setback

Despite these efforts, on December 18, 1981 Miami experienced another major setback in its race relations. A white police officer shot to death a young black man in a video arcade in the black district of Overtown (Fig. 1). Sporadic violence lasted for three days leaving two dead and at least twenty-five injured. Ten businesses were looted, vandalized, or destroyed and forty-three persons were arrested. The cost of the damages approximated one milliou

dollars. Although the Overtown disturbance was not as severe or extensive as the 1980 riot, this latest outbreak of violence illustrates the continued fragile nature of peace in many of Dade County's poor black neighborhoods.

It is somewhat ironic that Overtown was the site for racial disturbances because until the late 1950s it was one of the most vibrant of Miami's black communities. Its hotels were frequented by famous black entertainers who were barred from staying on Miami Beach where they often performed. Jazz bands and singers such as Sammy Davis, Jr., Nat King Cole, and James Brown played at the small night clubs along North West Second Avenue (known locally as Little Broadway). With integration in the 1960s, black performers and tourists began to stay on Miami Beach and many blacks migrated to such black residential areas as Liberty City and Richmond Heights. Finally, Overtown was gutted by two new expressways, I-95 and I-395. Between 1970 and 1980 its population declined from 10,603 to 4,583. It became an area of flop houses and vacant buildings and by 1980 was one of the poorest areas in Dade County, with an average household income only about one-fourth that of the rest of the county (Tomb 1982).

In 1980 a plan was unveiled by the City of Miami Planning Department for the redevelopment of Overtown and an adjacent area known as Park West. It is to be implemented over a 10 year period and is to cost $78 million. Approximately 5,000 new housing units, both apartments and condominiums, are planned, along with about one million square feet of new commercial space. In addition, space has been reserved for a historic zone that should recapture some of the flavor of the 1950s. One major thrust of the plan is to attract many of the middle class black families who left Overtown during the 1960s and 1970s (Wright-McQueen 1982).

The Future of Dade's Black Districts

It is evident from this discussion that significant efforts are being made by many local private and public agencies to promote the development of the poor black areas of the county. The Liberty City area offers many advantages for industrial growth such as proximity to both a major airport and seaport, tax incentives, and an existing infrastructure of water, sewers, streets, parts, cultural and government centers, a heavy-industrial belt, relatively low rent, and a good transportation system. Despite all these touted attractions, few businessmen have settled in this area recently. Undoubtedly, the most difficult factor that has to be overcome is its image as a site of the 1980 riot and the 1981 Overtown disturbance. In addition, efforts to recruit new business to the area are bucking a national antiurban movement that is taking companies into suburban and rural areas, away from the central cities. The future of Dade's black districts, therefore, is by no means clear.

* * *

1. Within Liberty City, the sample also included about fifty personal interviews with households without telephones. Such households were located by asking telephone respondents for the address of a neighbor without a telephone. This procedure was felt to be unnecessary in the other areas of the county where telephone ownership is much larger.

2. Most of the questions selected were based upon a desire to obtain specific information regarding certain characteristics, although some were selected to provide for comparisons with *The Miami Herald's* 1968 and 1980 attitude surveys. In addition, two surveys conducted in Chicago were used as sug-

gestions for possible questions (Surgeon, Mayo, and Bogue 1976: Davis 1977).

3. A similar attitude change was found by the Community and Family Study Center of the University of Chicago in two surveys performed in the Chicago metropolitan area in 1968 and 1975. In the 1968 survey, conducted shortly after a series of racial disorders, 33 percent of blacks and 4 percent of whites indicated approval of violent confrontation to promote the development of black areas. In the 1975 survey the figures declined to 3 and 1 percent, respectively (Surgeon, Mayo, and Bogue 1976).

4. In this paper a chi square figure that produces an alpha value equal to or less than 0.1 is considered as being statistically significant.

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ANNEXATION:

BOCA RATON'S EXPERIENCE WITH SPATIAL EXPANSION

Marie York

Nationwide, some urban areas are expanding, some declining in population. In South Florida, expansion is the rule, and as urban areas increase in population, so too do nearby unincorporated areas. Cities not only expand in population numbers, but also in geographical area through the process of annexation. This papar examines many of the issues of annexation of southern Florida communities, with examples primarily from Boca Raton (Fig. 1).

Annexation Statutes

"I go to sleep: I'm in Broward County, I wake up: I'm in Plantation." The man's mobile home had not been towed away in the night, and it wasn't some prankster's joke or a Stephen King movie. The property owner had become a citizen of Plantation by legislative act, a decision made in Tallahassee by the Florida legislature. Plantation, hoping to solve some of its jurisdictional problems related to irregular boundaries, altered its geographic configuration through annexation, a legal tool designed to allow munieipalities to expand their jurisdictional size. At the city's beheat, the Broward County legislative delegation had proposed a bill to annex certain properties into the corporate limits of Plantation. As with most bills, it became law at midnight while our hapless speaker slept.

The anecdote of the nocturnal migration of boundary lines points to some serious flaws in Florida's annexation laws. Some cities have abused the existing statutes; Sunrise, for

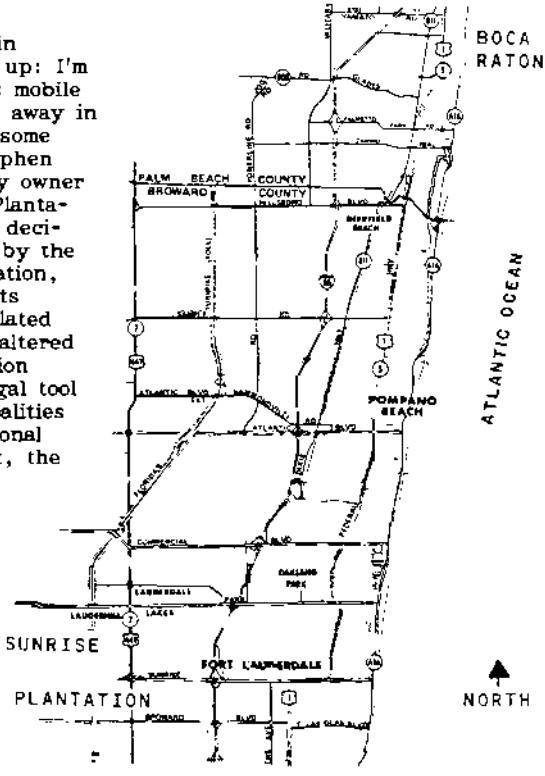

Fig. 1.

example, has been dubbed infamous for its point-to-point annexations, with boundaries running like tendrils down roads, canals, or other corridors in order to grab lucrative highly-assessed parcels of land.

Under Florida statutes, annexation can be accomplished by three different methods: (1) legislative action, as exemplified by the Plantation incident above; (2) involuntary annexation, where both the to-be-annexed property owners and the residents of the receiving municipality must approve by majority vote the proposed annexation; and (3) voluntary request on the part of the to-be-annexed property owner(s) and approval by the receiving municipality.

The Problem of Enclaves

Leapfrog annexation and annexation along corridors to grab desirable property is no longer allowed. The creation of enclaves -- pockets of unincorporated property surrounded by incorporated lands and vice versa -- is likewise forbidden. The to-be-annexed property must be compact and contiguous to existing city boundaries.

Unfortunately these rules were not in effect when the city of Sunrise ran down corridors to annex valuable property while bypassing those of less value. Pockets of low rent districts belonging to Broward County are surrounded by Fort Lauderdale because the city chose not to include them in its expansion plans years ago. Delray Beach has some fifty to one hundred outparcels within its corporate limits.

Enclaves are a nightmare for police officers, fire fighters, and emergency medical service teams (EMS). Often new residents, visitors, or employees do not realize that they are physically located in an unincorporated area. In an emergency the wrong jurisdiction is often called. Then there is the example of being involved in a traffic accident in one jurisdiction with the misfortune of the vehicle actually ending up in another. Ideally EMS units from both political entities will respond, stop the bleeding, and later figure out whose problem the victim becomes.

Enclaves are headaches to cities for other reasons than service provisions. Some billboard company representatives prowl through courthouse documents, hoping to find isolated, forgotten pockets within cities that have adopted tight sign restrictions. Boca Raton is proud of its signage program which only allows signs that identify, not advertise. Consternation plagues planners who discover a billboard company coveting previously unknown or forgotten enclaves. Railroad right-of-ways are popular sites because the chance of a small outparcel having been overlooked or exempted from city incorporation is high. Railways often run along major highways in urban settings. Railroad right-of-ways often get overlooked because intuitively there appears to be little developable land necessitating much zoning consideration.

Incentives and Disincentives for Annexation

From the Standpoint of the Property Owners

Property owners sometimes want to annex if the provision of city services is especially important. A county cannot and does not provide the same level of services as a municipality. Residents of Boca Del Mar, a development just west of the Boca Raton corporate limits, considered annexation because they were not

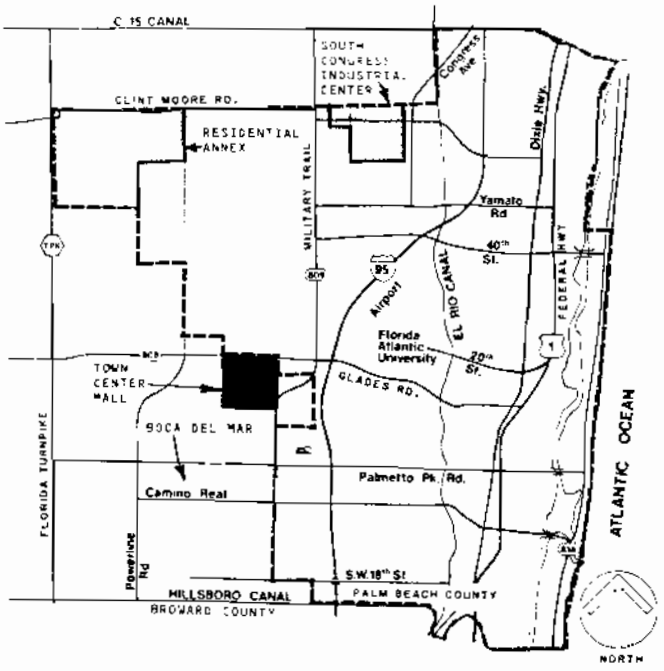

Fig. 2.

happy with their current level of police protection (Fig. 2). Joining the City of Boca Raton was a possible solution; however, in this instance annexation was abandoned for another measure. The Boca Del Mar residents hired an off duty Sheriff's Deputy to patrol their area. This was easier then uttempting to educate and convince 20,000 residents of the merits of annexation with its additional taxation. Besides, city officials were lukewarm to the idea of adding more residents to the city and were resistant to the idea of dramatically increasing the service area.

The provision of water and sewer service can be a big motivator for property owners to choose annexation. The development opportunities in Northwest Boca Raton in the South Congress Industrial Center (SCIC) were severely limited by lack of such facilities. After four years of debate the twenty-eight property owners of the sixty-seven lots in SCIC finally unified and petitioned the City of Boca Raton for a voluntary annexation. Prior to annexation septic tanks and wells only allowed limited development. With annexation SCIC got full water and sewer service and a beuutification program of a major roadway median. For these, the owners were assessed almost $9000 per lot. The general long run picture was an increase in value, but for those owners who had already developed their property the increase of land value was less significant than the increase of taxes. With auch diversity of land ownership, it was uot an easy task to convince all owners that the benefits outweighed the negatives.

Being brought into a city's corporate limits means abiding by new rules and regulation. Getting development approval in Boca Raton is not easy. The city is fuasy about setbacks, landscaping, height limitations, and signage. There are, moreover, substantial impact fees assessed for the privilege of building. Being in Boca Raton carries a perceived quality difference, however, so developers find the costs worth the benefits.

Several developers have capitalized on the prestige factor by promoting a spurious Boca Raton address. Imagine the surprise of those who purchased a home apparently in Boca Raton when they attempt to register to vote in city elections, buy a beach permit, or attain a library card -- only to be told they don't live within the corporate limita. This is a common circumstance. Some years ago, the mayor undertook a personal campaign to restrict developers from advertising "in Boca Raton," when they were not "in" the city at all. When advertisements proclaim "at" or "of" Boca Raton, prospective buyers can be pretty sure you are not within city limits. Buyer beware!

Besides improved services and a perceived prestige factor, other advantages to annexation into Boca Raton (from the standpoint of property owners) include free garbage pickup, twice monthly free trash pickup, inexpensive access to beachfront parks, and participation in local government. Government watching is a leisure-time activity in South Florida and the ability to participate in the process can be very important. Residents of Palm Beach County find it difficult to commute forty-five minutes from the Boca Raton area to West Palm Beach in order to reach the site of county government.

Clearly, then, property owners find incentives to annexation. However, there are arguments against as well, the major one being an increase of property taxes. Currently Boca Raton enjoys a low millage rate of 3.3894 mills, which compares very favorably to other cities. But on a $200,000 home with a $25,000 homestead exemption that becomes $593 in additional taxes. For many -- snowbirds,*(1)* for example, or those SCIC owners with developed property mentioned above -- the burden of increased taxes outweigha advantages. Other disincentives to developers are the additional requirements and fees that the city imposes, as well as the development restrictions.

From the Perspective of the City

Despite the Plantation or Sunrise experience, cities often do not view annexation quite as favorably as property owners. They face the prospect of serving a larger area. That means more fire engines, firefighters, EMS personnel, and fire stations. That means more police officers, police vehicles, and training programs. More garbage and trash trucks with their crews need to come on line. These are the obvious services demanded, but additionally, general government (attorneys, various managers, engineers -- and planners) will have increased work loads, but is seldom even considered. Few cities have any idea what the expenditures are on an employee per capita basis. Sometimes the dollar signs associated with increased assessable properties completely obscure the negatives. Boca Raton is fortunate in having a fiscal impact model which analyzes both the potential revenues and expenditures. It is rare for a city of 60,000 to employ such sophisticated analysis. But then, Boca Raton is rare in many ways.

Fiscal impact analysis has played a key role in Boca Raton's annexation decisions. Depending on location, residential property is generally a breakeven proposition in fiscal analysis: the cost of increased expenditures is evenly met by the increase in revenues. Boca Raton land values are higher than those of neighboring communities, the densities permitted are generally very low, and

the cost of development is relatively high. These factors, along with the exclusive Boca image, real or imagined, contribute to the production of expensive homes. Thus for Boca Raton, residential development has mostly proven to have a positive fiscal impact. The revenues collected from ad valorem taxes, franchise fees, and utility taxes are much greater than the expenditnres required for the provision of services. Communities with less valuable real estate may not be so lucky.

Commercial and industrial properties are usually considered economic pluses. In South Florida "industrial" means clean high-tech and doesn't carry the negative externalities of pollution or noise often associated with industry. The fiscal analysis of SCIC forecast a conservative net positive fiscal impact to the city's cash flow of $1.2 million annually, at full development. The lucrative 1.4 million square foot Town Center Mall is just outside the city limits. Annexation of the mall would mean $1.5 million in revenues per year with a net positive impact of $800,000 per annum. So long as it remaina outside Boca Raton jurisdiction, it presents something of a problem. There is significant congestion on the roads and streets created by the mall being right on the corporate edge; the "free rider effect" is in force for the mall.

One reason that commercial and industrial land, in contrast to residential land, will generate positive fiscal impacts is that the demand for service provision is usually very low. Residents demand parks for their children, insist upon beach access, parking, and renourishment. Residents want libraries and a responsive city government. Employees do not generate that type of demand. Employees and customers do require EMS, fire, and police protection, as does the residential sector. For large retail centers the additional expenditures can be substantial; notwithstanding, those increases are usually well compensated for by a substantial increase in revenues.

The most significant revenues are not necessarily ad valorem taxes. Boca Raton has a 6 percent franchise fee on electricity and an 8 1/2 percent utility tax on all other utilities except telephone, which is 7 percent. The next time you stroll through a comfortable air conditioned regional mall, look around at the high-ceiling and spacious common area. That translates to high energy consumption, which means big electric bills, which to the city means 14.5 cents on the dollar.

Another plus in favor of commercial and industrial lands is that they don't swell the ranks of the voters. Put another way, they don't add residents that dilute the existing political base. With residential annexations, politicians have more residents to try to please. The existing homeowners groups will likewise want to protect their turf.

In addition to a larger tax baae, greater service areas, and more citizena, another significant factor in annexation considerations is the issue of land nse control. At one point in Boca Raton's history the boundary extended much farther westward, beyond the Florida Turnpike. The City deannexed much of the land, making the city almost one-half of its current size. Gradually, development pressures brought back some properties to the 1986 boundaries. However, our 20/20 hindsight reveals that the city would have had land use patterns on its western border significantly different and much more to its liking if it had retained development control of those lands. The city staff daily grapples with transportation issues and congestion, much of which results from high density development approved by the county west of the city limits. A key factor in the previously described residential annexation was that the developer was requesting a density significantly lower than what was permitted under the county's land use plan. The development patterns in the neighborhood suggested that low density was the most feasible from a marketing standpoint, but Boca Raton could only be certain that the densities would meet city expectations if the land was within its jurisdiction.

When a city annexes land, the county gains. The property owner increases the tax payment, but the county generally gets the same amount in taxation as before. The advantage to the county is that it no longer has to provide the capital intensive services of police, EMS, and fire protection. Until recently Palm Beach County even had a say-so if a city wanted to award a more intense land use.

Too often we hear of the "Los Angelization" of South Florida. The image hurts, but in many locales the pattern of land development shows that the term is not inappropriate. The Florida Statutes are written such that only developed land or land to be developed for urban purposes can be annexed, eliminating a city's ability to annex vacant land to provide land use control. Additionally, every annexation case involves complexities and diversities of urban patterns specific to the location, while the law is written for the general circumstance. Thus there are inherent flaws and limitations to annexation as an effective growth management tool. If falling asleep in a county and waking up in a city is a shock, consider going to bed in South Florida and waking up in Los Angeles.

Yet as the Boca Raton experience shows, annexation provides benefits -- to the property owners, the city, and the county. Annexation is and will remain a valuable tool of growth management.

* * *

1. Snowbirds: a South Florida expression identifying individuals with primary residences outside of Florida, who, like birds shunning the cold, fly south in winter to their Florida second home.

SATELLITE DETECTION OF DEFORESTATION [1]

Steven E. Dicks and James A. Henry

The destruction of forests, along with desertification, is considered one of the most important land cover alterations presently occurring. Among the many potentially detrimental impacts on the environment are possible climatic changes. Potter et al. (1975) and Shukla and Mintz (1982) employed atmospheric circulation computer modeling techniques to show that substantial local snd large regional disturbnnces in precipitation and circulation are possible by large scale deforestation. Henderson-Sellers and Gornitz (1984) modeled the effects that forest clearing might produce to increase surface albedo. They studied a worst-case scenario by simulating the equivalence of thirty-five to fifty years of deforestation at the current global rate (0.6 percent), but entirely concentrated in the Brazilian Amazon. They modeled a replacement of 4.94 million square kilometers of tropical moist forest with grass/savanna and concluded that rainfall in the cleared area would decrease approximately 200 mm per year, annual evapotranspiration would be 180 mm less, and cloud cover conld be reduced as much as 15 percent.

A great deal of emphasis has also been given to the rise in atmospheric carbon dioxide produced by large-scale tropical deforestation. Recent lines of evidence suggest that forests loom large in the carbon dioxide balance of the atmosphere. Perhaps 55 percent of the stored carbon on land occurs in the tropical forests, so these areas represent a substantial pool of carbon, and tropical deforestation has the potential of changing the carbon dioxide content of the atmosphere.

A comprehensive review of the rates and canses of deforestation in developing countries is given in Allen and Barnes (1985). Clearly evident is a wide disparity in published estimates of forest clearing rates. Becanse of this disparity, remotely sensed data are increasingly being applied to deforestation mapping to obtain a more consistent and replicable data source. Common sources include air photos, radar, and satellite products. Landsat satellite multispectral scanner (MSS) imagery and digital data have been among the most widely used and have proven useful for forest and clearcut mapping for a variety of forest types and locations.

The long range objective of our study is to determine forest removal rates in tropical/subtropical areas, specifically in portions of Brazil and Florida, using Landsat satellite data and digital processing teehniques. The first area chosen to study, and the one reported on here, is in the Amazon Basin of Brezil, where an area roughly the size of Connecticut is eleared each year. As noted below, the area has some factors in common with Florida, which should facilitate the future adaptation of the technique in the state. Another recent Florida/Brazil study (Myere 1986), which diseusses nnclear winter effects in the tropies, addresses vegetational differences and similarities between the two areas. Because the vegetation cover is more heterogeneous in Florida, the Brazilian area, with its more uniform cover, should be a logical area in which to develop and test the technique. The potential application of the method in Florida is briefly discussed in the last section of the paper.

Study Area

The site analyzed here is located in the state of Para in the Amazon region of Brazil and encompasses 11,573 square kilometers (Fig. 1). The climate varies from tropical monsoon in the west to tropical wet-and-dry in the east. The area is in the transition zone between the drier northeast and the wetter

Amazon rainforest. The primary vegetation types are isolated tree savanna, parkland savanna, mixed open forest, and submontane forest. Forests cover 85 pereent of the study area.

Para is one of the states in Brazil in which forest clearing has been the most intense (Fearnside 1982). Of particular interest in the area is the regional development associated with the construction of the PA-150 and PA-279 highways. The town of Xinguara, the major settlement in the area, is at the junction of these two roads. It is here that development is taking place. Prior to construction of thc highways there was very little settlement or forest clearing in the region. With the completion of PA-150 and the beginning of PA-279, the population increased to 8,000 in 1978 and 30,000 in 1980 (Schmink 1981). As the population grew and access to the region became easier, cattle ranching, which is the main impetus for forest clearing in the area, increased dramatically (Godfrey 1979).

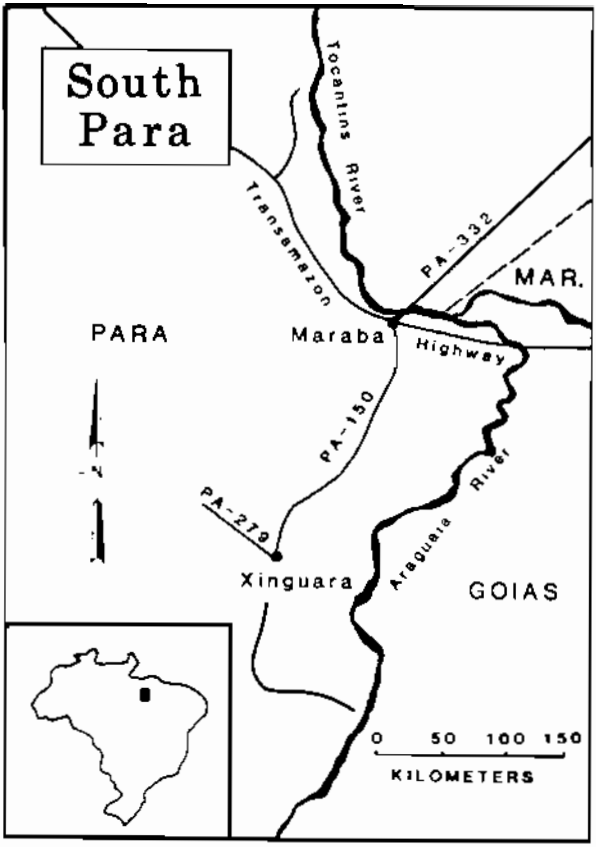

Fig. 1. The South Para Region.

Data

The primary data were collcted by Landsat 1 MSS on 1 June 1975 (Scene Id. 175152-123640) and by Landsat 2 MSS on 28 June 1979 (Scene Id. 27916-123924). This was a period of very rapid deforestation in the study area. The data were obtained in the following forms: digital data on computer compatible tapes; and 1:500,000 black and white single-band images for bands 4, 5, 6 and 7 (reflective portions of the elactromagnetic spectrum). Anniversary dates were used to minimize reflectance differences caused by seasonal vegetation changes, sun angle variation, and soil moisture differences (Jensen 1981). Ancillary dsta on vegetation, soils and geology were obtained from selected RADAM project reports (RADAM 1974).

Methodology

As noted previously, Landsat data have been used successfully in many forestry applications, including deforestation. However, these studies have also highlighted several caveats associated with the use of Landsat MSS data applied to tropical forest clearing. Singh (1984) noted that experience gained from using Landsat data to study temperate forests is not directly applicable to humid tropical forests because: (1) tropical forests are structurally more complex communities compared with higher latitude forests; (2) tropical forests display much weaker ecological site preferences than temperate forests; and (3) cultural practices in tropical areas exhibit a much greater variety than temperate areas. He concluded that Landsat data were optimally used for distinguishing forest/nonforest (80 percent accuracy), rather than attempting multiclass forest type classifications in tropical areas. Nelson (1983) also stated that Landsat data are best employed where forest/nonforest delineation is all that is required. Additionally, Woodwell et al. stated: "Experience led us to avoid to the greatest extent possible elaborate classification and inventory and to emphasize the detection of changes such as that from forest to nonforest" (1983, 1).

Based on these previous studies the methodology adopted here is a forest-to-cleared change detection. Many techniques have been developed to detect change in land cover between two dates. Jensen (1981) discussed five commonly used change detection algorithms: image differencing, image ratioing, classification comparison, comparison of preprocessed imagery, and change vector analysis. The method initially attempted in this study was a modified approach of Woodwell et al. (1983) and incorporating some of the techniques of Friedman and Angelici (1979) (e.g., eigenvector analysis and binary classification). The computer processing steps are outlined below.

Identical subsets of the two satellite scenes were extracted that were roughly centered on the settlement of Xinguara and included all of highway PA-279 (Figs. 2 and 3). Because some distortion is present in all Landsat scenes, it was necessary to "stretch" (a process called rubber sheeting) one of the images to geometrically match the other. In this study the 1975 data were chosen as the base to which the 1979 data were digitally overlayed. A third-degree polynomial mapping function was calculated from eighty-one control points located by an image correlation routine in the ELAS digital image processing software. This model was used along with cubic convolution resampling to obtain sub-pixel registration of the two images. Jensen (1981) noted that registration of one-fourth to one-half pixel is desirable for image differencing; registration of one-half pixel was obtained here.

The next step involved the detection and measurement of forest cover change between the two dates. Initially, the technique suggested by Woodwell et al. (1983) was tested, which involves interactive parallelepiped classification followed by image differencing -- subtracting the imagery of one date from that of another. They achieved forest/nonforest classification accuracies exceeding 90 percent using this technique. However, the results of this procedure when conducted on the Para, Brazil data were difficult to interpret because of differing amounts of regrowth in clearings and the spectral similarity between savanna and cleared land cover. These problems were particularly difficult to overcome because of insufficient detailed field data. It is also possible that the results were not as readily interpretable as those obtained by Woodwell et al. because of the slightly different parallelepiped algorithm used here.

Three other means of differentiating between forest and nonforest were tested, including band 7/band 5 ratios, principal component transformation, and binary density slicing using band 5. Evaluation of each method was performed by visual comparison of the results with RADAM vegetation maps and with previously identified areas of known deforestation on the Landsat imagery. The simple

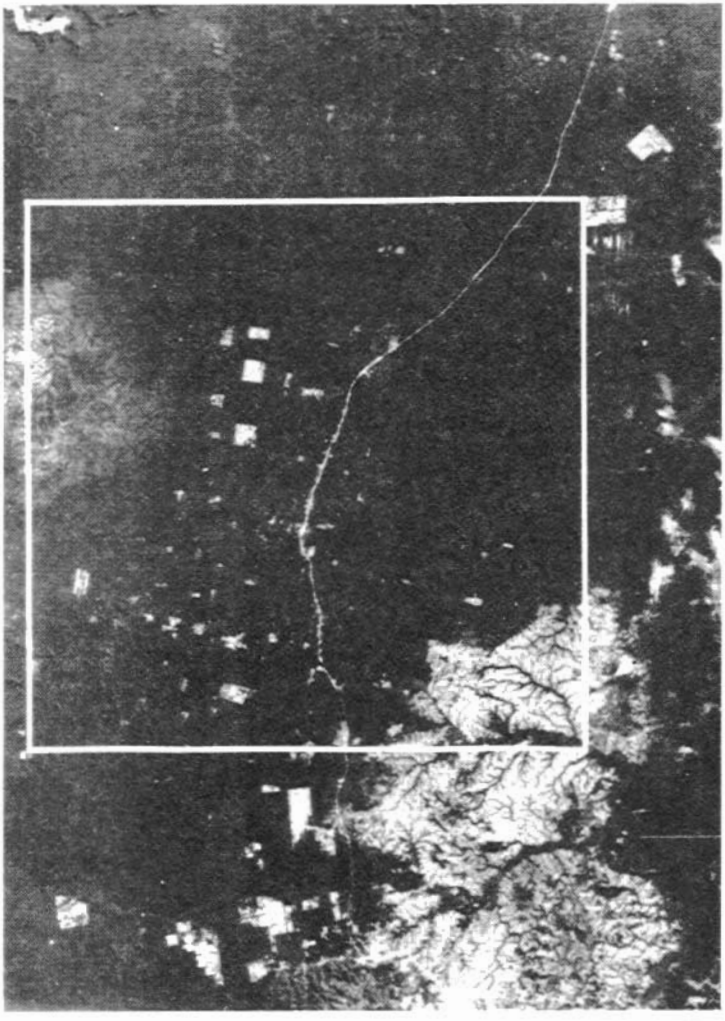

Fig. 2. The Xinguara study region, 1975. The white square is approximately 107 kilometers on a side.

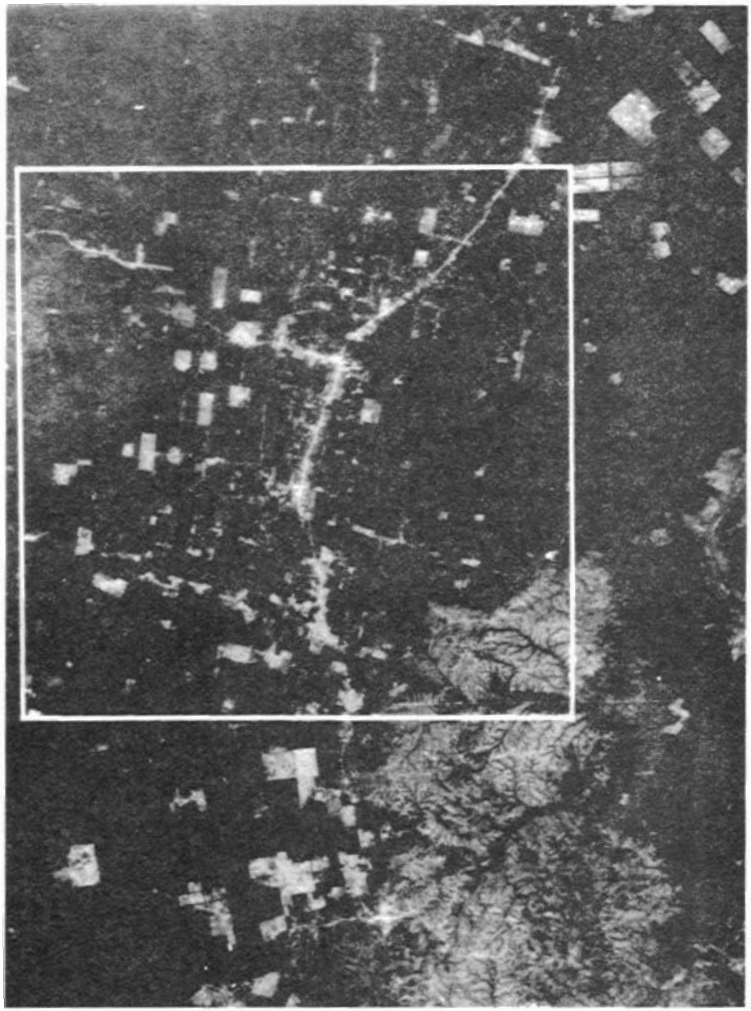

Fig. 3. The Xinguara study region, 1979.

binary density slice technique produced results comparable to the much more complex methods and was therefore chosen for the forest/nonforest analysis.

Next, the two resulting images produced by the binary density slice were digitally compared pixel by pixel. If a pixel was classified as nonforest in 1979 and forest in 1975, it was designated as a change area. If a pixel was forest in 1979 or nonforest in both dates, it was designated as not having undergone change. This method allows the detection of change from forest to nonforest and excludes areas of regrowth, thus produeing a change-detection image that represents deforestation.

Woodwell et al. (1983) pointed out that even with sub-pixel registration of two images it is still possible that the edges of deforested areas and single-pixel-wide features such as roads snd rivers may be incorrectly classified as areas of change when image comparisons are made. To minimize such misclassification, areas designated as change that consisted of five contiguous pixels (approximately 2.2 hectares) or less were removed from the final change image. This value was seleeted by visual comparison of the results produced from iterations using various values. Nearly all of these removed pixels were located along cleared boundariea and rivers. Visual comparison with Landsat band 5 imagery showed that the number of truly changed areas removed by this method was minimal.

Total amount of change (deforestation) between 1975 and 1979 was then calculated from the number of pixels in the resulting change image. This amount was then adjusted for mixed pixel effects at deforested boundaries as suggested by Woodwell et al. (1983) by subtracting one-half of the edge pixels from the total area of change.

Results and Conclusions

Using Landsat MSS digital data snd the method described above, an area of 731 square kilometers of deforestation was measured in the study area between June 1975 and June 1979. This represents 6.3 percent of the study area and 7.4 percent of the forested area, and does not include land cleared prior to 1975. Because there was very little cleared land in the study area in 1975, these figures indicate nearly the entire deforestation that had occurred to 1979. The 7.4 percent value yields a 1.6 percent average annual deforestation rate, which is four times greater than the highest estimated annual rate for Brazil as a whole that was cited in Allen and Barnes (1985).

The primary difficulty encountered using digital techniques during this study was distinguishing between natural nonforested areas and anthropogenically produced nonforest land cover (i.e., deforeated areas). Deforested areas were easily recognized by their shapes and/or locations adjacent to roada, but their spectral similarity to savannas made automatic detection based on spectral response alone impossible. The image comparison method, however, provides a means of separating natural from anthropogenic nonforest covers since savanna areas were largely unchanged between the two dates and were therefore excluded from the change class.

Florida Application

Recent discussions of the possible impact of deforeatation (as well as river chsnnelization and the draining of wetlands) on Florida's climate have appeared in the popular and scientific literature. The "special report" by Boyle and Mechen (1982) suggests the same possibility propounded by Small (1929): large-scale human interference in the hydrologic cycle in Florida could

produce desert-like conditions in the state. Some of the suggested impacts are perhaps journalistic hyperbole, but because vegetation transpires water to the atmosphere up to three times faster than water evaporates from an open water surface, and because modeling results indicate potential effects on the climate, forest clearing rates should be closely monitored.

A modified form of the method discussed above is presently being used in four north-central Florida counties (Baker, Bradford, Columbia, and Union) to test its applicability to determine forest clearing rates in the state. Deforestation in Florida is perhaps at a smaller scale than that in Brazil, and often the harvesting of trees in Florida is within areas maintained for that purpose. Therefore environmental consequences of deforestation in Florida may not be as great as in Brazil and other developing countries. Still, assessing total deforestation in planted and pristine areas over time within the state will aid in understanding one of the many human impacts within Florida.

* * *

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HISPANICS IN FLORIDA

John W. Stafford

This paper examines the impact of Florida's rapidly growing and unevenly distributed Hispanic population. The central theme is that the unusually heavy concentration of Hispanics in the Miami area has and will continue to exacerbate various social problems, including housing, jobs, politics, and racial attitudes, not only in southeastern Florida, but throughout the state and beyond.

It is not my intention to suggest or imply that Hispanics make poor immigrants or citizens. Similar negative impacts would be expected from any immigrants who come in similar numbers from the same origin in the same short period of time and concentrate in a relatively small area. Hispanics came under circumstances similar to earlier immigrants and had to work hard and fight their way up the economic ladder. They have performed admirably in education, arts and science, professions, skilled and unskilled trades, and various entrepreneurial endeavors, and have become outstanding citizens. This paper does not in any way intend to minimize the positive contributions of Hispanics to this nation. Both Florida and the nation have benefited enormously from Hispanics, who have enriched our architecture, music, dress, food preferences, linguistic diversity, and values and attitudes. Hispanics are a growing positive influence in American society. At least nine Hispanics serve in Congress, one is a governor of a state, and three major U.S. cities (San Antonio, Denver, and Miami) have elected Hispanic mayors. Only 30 percent of Hispanics of voting age cast ballots in the 1980 presidential election (compared to the national figure of 58 percent), but voter registration drives should significantly increase future Hispanic political influence (Davis, Haub, and Willette 1983, 40). At least thirteen television stations and 118 radio stations broadcast in Spanish full time, and perhaps another 100 or more broadcast ten or more hours a week in Spanish. Several supermarket chains stock Hispanic food specialties and Mattel markets an Hispanic Barbie doll. Thus, Hispanics are a growing influence, politically and economically.

TABLE 1

U.S. HISPANIC POPULATION

Year	Millions	Percentage of Total U.S. Population
1950...	4.0	2.7
1960...	6.9	3.9
1970...	10.5	5.2
1980...	14.6	6.4

Source: Compiled from various census reports.

Various attempts to classify Hispanics by Spanish origin, surname, language, heritage, birth, or parentage have floundered for a variety of reasons. Therefore, this paper uses the term Hispanic based on the subjective method used by the United States Census Bureau in both 1970 and 1980, namely asking people if they are Hispanic, i.e. people of Spanish origin who trace their heritage to Spanish-speaking countries (Haub 1981, 9). Using this method in 1980, the United States Census identified 14.6 mil-

lion Hispanics in the United States, representing 6.4 percent of the total population (Table 1). This number includes an estimated 2 million illegal immigrants (Davis, Haub, and Willette 1983, 27). In 1950 nearly all Hispanics in the United States were of Mexican-American origin and lived in the Southwest. In recent years changes in United States immigration laws have made it easier for large numbers of Hispanics to enter from other Spanish-speaking nations. The overall impact has been especially significant for several states, including Florida. Hispanics, the fastest growing minority in the United States, are now second largest after blacks. They could replace blacks as our largest minority.

Hispanics are widely distributed throughout the United States, but most are clustered in a few states and metropolitan areas. Nearly 70 percent live in California, Texas, New York, and Florida (U.S. Bureau of the Census 1982). In 1980 Florida ranked fourth among all states in total number and seventh in percentage of Hispanic people. Hispanics have a strong preference for urban location. In 1980 approximately 80 percent of all Hispanics were living in metropolitan areas. Nearly one-third lived in five metropolitan areas. Los Angeles, New York City, Miami, Chicago, and San Antonio (U.S. Bureau of the Census 1981).

Since World War II Florida has experienced an unusually rapid population increase. Although most of this increase has resulted from large-scale migration from the "Snow-Belt" states, approximately 400,000 of the 3 million people moving to Florida during the 1970s were Hispanics. Florida's Hispanic population nearly doubled from 450,000 in 1970 to 858,000 in 1980 (U.S. Bureau of the Census 1980, Table 16, pp. 11--26).

TABLE 2

CUBAN-AMERICAN IMMIGRANTS TO THE U.S.

Year	Number of U.S. Immigrants	Percentage of U.S. Immigrants
1950-1959....	71,000	7.4
1960-1969....	249,000	19.2
1970-1979....	278,000	20.0

Source: Davis, Haub, and Willette 1983, p. 22.

Since 1950, Cuban-Americans have made up an ever-increasing percentage of immigrants to the United States (Table 2). Between 1960 and 1980 a total of 527,000 Cubans entered legally into the United States, according to the United States Immigration and Naturalization Service, and an additional 100,000 or more were admitted as political refugees or other categories of special entrants (Davis, Haub, and Willette 1983, 22). Most of these Cubans settled in southeastern Florida.

In addition to this large number of Cuban-Americans, Florida also has significant numbers of various other Hispanic groups including Puerto Ricans, Mexicans, and "other Hispanic" (Table 3). It is the large Cuban-American population, however, that

TABLE 3

HISPANICS IN FLORIDA (1980)

Hispanic Group	Number of Hispanics	% of Total Hispanics	Percentage Urban
Cubans.....	470,250	55	99.1
Puerto Ricans.....	94,775	11	93.4
Mexicans.....	79,392	9	69.4
Other Hispanics...	213,741	25	95.0
Total.....	858,158	100	94.7

Source: U.S. Bureau of the Census 1980, 11--26.

DISTRIBUTION OF FLORIDA HISPANICS BY SMSA (1980)
(Percentage of Total Hispanics by Groups Who Live in SMSA Indicated)

Hispanic Group	SMSA				
	Miami	Tampa-St. Pete	Ft. Lauder-dale	West Palm Beach	Orlando
Cubans	87	4	3	2	1
Puerto Ricans	47	12	10	6	10
Mexicans	17	12	4	10	6
Other Hispanics	54	18	7	3	3
All Hispanics	68	9	5	3	3

Source: U.S. Bureau of the Census 1980, 11--26.

Gives Florida its special Hispanic identity. According to the 1980 census, 55 percent of the 858,000 Hispanics in Florida were Cuban-Americans. Prior to 1959 only about 50,000 Cubans had entered the United States (Population Reference Bureau 1983). From 1959 to 1962 an additional 260,000 entered before the Cuban Missile Crisis temporarily ended migration to the United States. In 1965 Cubans were once again allowed to leave Cuba, and 344,000 came to the United States before Castro terminated emigration in 1973. Shortly after the official 1980 U.S. Census was taken in the spring of 1980, Castro permitted an estimated 125,000 additional Cubans to migrate to the United States. Most of these settled in the Miami area. Thus, as of the spring of 1985, somewhat more than 925,000 Cubans were known to be in the United States, and 590,000 (64 percent) of these were living in Florida. (In 1980 the figure was 59 percent.)

The uneven distribution of Hispanics in Florida, with an unusually heavy concentration in the Miami area, is perhaps a greater problem than the total number of Hispanics in the state. This adds considerably to social tensions and problems of assimilation. Hispanics in Florida, as elsewhere, display a strong urban preference (Table 4). Approximately 85 percent of Florida's Hispanics live in urban areas. Eighty-eight percent live in five of Florida's eighteen Standard Metropolitan Statistical Areas (SMSAs). Three contiguous SMSAs in southeastern Florida (Miami, Ft. Lauderdale-Hollywood, and West Palm Beach) are home for 77 percent of Florida's Hispanics, and Dade County (the Miami SMSA) contains 68 percent.

Four of the five cities in Florida with the largest number of Hispanics are located in Dade County. The city of Miami, with 194,000, had the most Hispanics, 56 percent of Miami's total population. This was 26 percent of all Hispanics in Florida in 1960 (Table 5). Nearby Hialeah was nearly 75 percent Hispanic. Miami Beach and Coral Gables also have significant numbers of Hispanics with 22 and 30 percent respectively.

The only other major Florida city with a large Hispanic population was Tampa with 36,000, or 13 percent of that city's total population. Tampa has had a sizable Hispanic population since cigar workers began relocating there in the 1880s.

In addition to the large number and uneven distribution of Hispanics in Florida, other factors may add to social tensions: variations in national, racial, ethnic, and religious backgrounds. Hispanics include Caucasians, Indians,

blacks, and Asians (Filipinos). Furthermore, a considerable range exists among Hispanics in education, income, and levels of acculturation and assimilation.

TABLE 5

FLORIDA CITIES WITH LARGE HISPANIC POPULATIONS (1980)

City	Total Population	Total Hispanic	Percentage Hispanic
Miami	346,865	194,037	55.9
Hialeah	145,254	107,908	74.3
Tampa	271,523	35,982	13.3
Miami Beach	96,928	21,408	22.2
Coral Gables	43,241	12,794	29.6

Source: U.S. Bureau of the Census. 1980, Table 16, pp. 11--27-33.

Hispanic immigrants have experienced problems typical of most immigrant groups to the United States including various degrees of hostility and prejudice in housing, jobs, and education. And as with earlier immigrants, the large number of Hispanics has raised fears ubout American values being undermined. Early in this century immigrants from Eastern and Southern Europe came in large numbers and were perceived to be inferior by many Americans who predicted a deterioration in the vitality of American society. Clearly such was not the case. However, Hispanics are somewhat unique as immigrants in that they share a common language and, aided by governmental action, are holding on to their native languages more rigidly than earlier ethnic or linguistic groups. Many of the problems faced by Hispanics in Florida are in part related to pre-existing racial-ethnic attitudes and tensions and have been made worse by a peraisting language barrier. By clinging to a common language, Hispanics have benefited by development of a strong group consciousness which has led to increased political leverage in demands for special attention in edncation, the political process, and job opportunities. But this has in turn led to a negative response from some non-Hispanic Americans who fear a drift toward bilingualism conld alow the rate of assimilation. Debate concerning bilingual edncation has become involved in political processes, as should be the case in a democratic society, but the result has been increased social tension. Voters in Dade County in 1980 overturned a connty-wide bilingualism policy that had been adopted in 1973. As Hispanic political influence increases, it is likely that bilingualism will repeatedly emerge as a political issue.

Other causes of social tension include worries that large numbers of Hispanics, especially illegal immigrants, might take jobs from people already in the country and may work for lower wages. Some people fear that large numbers of newly arrived immigrants will make excesaive use of public services snch as welfare, edncation, and medical care. Such fears are often exaggerated and manipulated by politicians and others, despite evidence that illegal immigrants probably pay more in federal, state, and local taxes than they receive in benefits (Davis, Haub, and Willette 1983, 28). The cost of providing certain services clearly falls most heavily on local jurisdictions with large numbers of immigrants. Such has been the experience of southeastern Florida where large numbers of recent Cuban immigrants have created serious problems and added to the burden of local and state taxes. Although the federal government has agreed to underwrite part of the cost of housing, feeding, educating, and providing medical care for the 125,000 Cuban refugees who came in 1980, the total dollar amount is still disputed.

The problem of soaring crime rates is national, but is especially critical in the Miami area. A two-year study completed in 1984, headed by Robert

Stephenson for the Dade-Miami Criminal Justice Council, indicated that the crime rate among the Marielitos who came to the Miami area in 1980 is overall five times greater than for Cubans living in the Miami area prior to 1980 (Study: Crime rate rising... 1984). Theae Marielitos accounted for only 5 percent of Dade County's population but were responsible for 9 percent of the felony arrests and 23 percent of misdemeanor arrests. Miami Herald Publisher Dick Capen has written that "no one is aafe in South Florida anymore" (Miami "paradise" tarnished... 1985). Two weeks earlier the headline in the Miami Herald read "Dade County Murder Rate Leads the Nation." Dade County is not only the murder capital of the United States, but also has the second highest overall crime rate in the nation. There seems to be no single cause of increased crime rates, but a clear asaociation with the large influx of Marielitos seems obvious. Drugs are related to 40 percent of Dade County's murders, and nearly 70 percent of all United States cocaine seizure takes place in South Florida (Miami "paradise" tarnished... 1985). Many of the Marielitos were known criminals involved with traffic in drugs. Since Castro has agreed to accept the return of approximately 2,700 known criminals and mental problems among the Marielitos, crime rates and related problems may ease a bit. Still, the tension remains.

Florida and the nation have an opportunity to learu from problems related in part to governmental programs which encourage migration while doing little to relieve pressures resulting from the heavy concentration of immigrants in a few areas. Existing political institutions and American values would not permit, nor is it recommended, that newly arrived immigrants be forced to locate in areas not of their own choosing, but surely financial incentives for jobs, housing, education, and free or cheap land might help encourage a greater disperaal of immigrants. Such action, especially at the national level, would certainly help mitigste some of the social unrest and political alienation that has occurred in recent years and affected policy makers at all levels of government.

TABLE 6

POPULATION PROJECTIONS, HISPANICS IN THE U.S. IN THE YEAR 2020

Estimate	Population in Millions	Percentage of Total
High.....	32	11
Low.....	47	15

Source: Davis, Haub, and Willette 1983, 38-39.

Projections for future Hispanic population growth in the United States are compiled by the Population Reference Bureau (Table 6). The low projection suggests that an annual net migration of 500,000 Hispanics to the United States would result in a total Hispanic population of 32 million by 2020. This would make the Hispanics 11 percent of the total populatiou of the Uuited States. The high projection assumes 500,000 legal and an equal number of illegal Hispanic immigrants, which would result in a total Hispauic population of 47 million by 2020, or 15 percent of the natioual population.

Future prospects are not encouraging unless governments at all levels coordinate efforts to accommodate problems that are likely to arise. Most of the 120,000 Marielitos who settled in southeastern Florida in 1980 are or soon will become eligible to apply for residency status which will permit the bringing of spouses and unmarried children. Eventually, full citizenship can permit the bringing of parents, siblings, married children, and their families. An estimated 300,000 or more additional Cubans may seek to enter the United States in the uext few years. If history repeats, most of these uew migrants will settle in the Dade County area. This would likely have a tremendous impact on

local politics and the cultural landscape of southeastern Florida for many years to come.

In summary, Florida's large and rapidly growing Hispanic population has significant social, economic, and political implications for the state. Because of the unusually large concentration of Hispanics in southeastern Florida, social tensions have increased and are likely to remain high. Evidence of these tensions may be seen in rising crime rates; political squabbling at local, state, and fedecal levels over financial responsibility for political refugees from Cuba; over-crowded facilities such as schools, jails and hospitals; and debate over the issue of bilingualism. Reluctance on the part of most Hispanics to relocate outside of southeastern Florida could create increasing social and political problems. It seems highly probable that the future impact of the growing Hispanic population will depend largely on the degree of assimilation into the American "melting pot." Like earlier immigrant ethnic groups Hispanics have changed and will continue to change the cultural landscape of America, especially southeastern Florida. The problems are by no means beyond solution, but proper recognition of potential problems and the responsibility of various levels of government accompanied by proper planning can play a major role in alleviating the pressures and aiding eventual assimilation of recent immigrants.

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Editor's Note.

The previous article by John Stafford was reviewed by four individuals who have knowledge of ethnic studies and Miami's Cuban population. All expresaed reservations about the tone of the article, and based on their comments, Dr. Stafford revised an earlier version of this paper. Of major significance is the added material of the second paragraph, in which he points to accomplishments of America's Hispanic population. Still, the paper views Hispanics as the source of problems, a polemical position to which some might object. As editor, I suggested that the reviewers submit their viewa to be published as comments on the article. Only one chose to do so, Dr. Arthur S. Evans, Department of Sociology, Florida Atlantic University. The following are his thoughts about Dr. Stafford's article:

> The impact of the Hispanic population on Florida is an important topic that needs to be addresaed by social scientists. However, I am concerned about certain points in this article. In the first paragraph, the anthor suggests that the heavy concentration of Hispanics in the Miami area has and will continue to exacerbate various social problems. From there he discusses problems that are associated with the Hispanic community. From the author's perspective it seema that population growth among Hispanics is the key to understandiug their social problems. While this explanation for the exacerbation of social problems of Hispanics has received overwhelming support among conservatives, it is nothing more than a theory which seeks to place the blame for the Hispanic's minority situation on the Hiapanics themaelves. Behind all the fancy words is tha bottom line: Hispanics are flawed characters. I do not concur with this view of blaming the individual group to the exclusion of structural factors working externally. Could it not be that the Hispanic's social problems are related to discrimination or acculturation and adjustment to a new way of life? How would a Marxist explain the problems associated with Miami's Hispanics? Instead of examining competing schools of thought, the author instead accepts the idea of blaming the growth of the Hispanic problems on the growth of Hispanic population.

Dr. Stafford's reply to Dr. Evans follows:

> It puzzles me why Dr. Evans interprets the manuscript as a somewhat devious ploy to denigrate Hispanic character. Perhaps he does not think in terms of regions the way geographers do. His main concern seems to confuse the use of a theory which suggests (to him) that the paper is attempting to derogate Hispanics through innuendo or "fancy words." I deny that this was the iutention of the paper, and thus his criticism has no validity whatsoever. Or perhaps I failed to mske the case clearly enough that a central problem I was addressing was one of distributions in a relatively small region, and that rapid population growth rates, among other issues, exacerbates problems. The fact that Hispanics are involved, although important, is peripheral to the main contention I am trying to make, namely that popnlation distributions can and often do create problems or add to their severity. Dr. Evans challenged my interpretation rather than my facts. I think this is healthy and an important aspect of research -- to get scholars talking and thinking. I appreciate his taking the time to comment about the paper.

ETHNIC BLOC VOTING IN MIAMI

Gerald R. Webster and Roberta Haven Webster

From the standpoint of ethnicity, the Miami-Dade County SMSA has recently become one of the most diverse areas in the United States. This growing diversity largely resulted from political and economic events which transpired in Latin America and the Caribbean in the past three decades (Boswell 1983; Boswell and Curtis 1984). Though Hispanics comprised under 7 percent of Dade County's population in 1960, today people of Latin and Caribbean heritage are estimated to constitute over 42 percent of the SMSA's total population. The Cuban minority alone numbers one-half million, or 26 percent of the county's estimated 1983 population of 1.9 million. The "Latinization" of Dade County has further involved substantial numbers of Colombians (50,000), Puerto Ricans (45,000), Nicaraguans (25,000), Dominicans (25,000), Mexicans (14,000), and Argentines (6,000) among others (Boswell 1984, pp. 4-8). The SMSA also has a sizable and growing black population which constituted 17 percent of the county's 1980 population. Since 1980, the metropolitan area's black population has been augmented by significant in-migration from the Caribbean. The SMSA's Haitian population alone was estimated at 50,000 in 1983 (Boswell 1984, 8; see also Boswell 1983). Additionally, Dade County is 15 percent Jewish, and 26 percent non-Jewish and non-Latin white (Winsberg 1983a, 367; Winsberg 1983b 307; Winsberg 1984).

This tremendous rate of demographic change has produced other modifications in the character of Dade County, most notably in the SMSA's aggregate political outlook and in its voting behavior. The electorate of Dade County has historically been liberal and supportive of the Democratic Party, but in the presidential elections of 1980 and 1984 the proportion of the SMSA's major party vote cast for the Republican Party nominee (Ronald Reagan) exceeded the level of support found nationally. Dade County's growing conservatism and support for the Republican Party was earlier predicted by Salter and Mings (1972). Based upon cartographic and survey analyses of the Miami metropolitan area, Salter and Mings predicted that "the traditional support of Miami towards more liberal candidates will decrease proportionate to the increasing involvement of Cubans in the election process," and that "it is conceivable that the Cuban voter will turn Miami from a traditional liberal stronghold to a source of conservative strength" (Salter aud Mings 1972, 130). These predictions were not only based upon the size of Miami's rapidly growing Cuban community, but also on the well-founded coutention that the great majority of Dade County Cubans would actively support the Republican Party because they perceive that it takes a stronger anti-communist stand than the Democratic Party. As they noted, "it is recognized that such a minority (Cubans), if 'bloc votiug,' could possibly be pivotal in any election" (Salter and Mings 1972, 129).

The purpose of this research note is to examine the level of ethnic bloc voting which occurred in Dade County during the presidential elections of 1976, 1980 and 1984. (Bloc voting is defined below as 70 percent or more of a group's members voting in agreement.) We emphasize the role played by the Cuban community in producing Dade County's recent electoral outcomes, but also consider the level of bloc voting among the SMSA's black population for comparison.

The data on ethnic group distribution is drawn from the 1980 census at the tract level of resolution. Comparable electoral data on percent Republican voting were calculated by agglomerating the returns of the nearly 500 voting precincts in Dade Couuty to correspond spatially to the boundaries of the

SMSA's 235 census tracts for all three presidential elections examined. In many cases we apportioned the voting returns of a single precinct between two or more census tracts where the boundaries of reporting units overlapped. An assumption of equal population distribution within voting precincts was employed in the apportionment of electoral returns (O'Loughlin 1981, 365).

Before discussing the level of ethnic bloc voting in Dade County, we examine partisan leanings in presidential elections. Table 1 presents the results of a simple r correlation analysis between percent Republican vote in the 1976, 1980 and 1984 presidential elections, and ethnic divisions by census tract. Percent Cuban yielded the most substantial positive association with percent Republican vote in the three presidential elections, and the size of this association (simple r value) has grown significantly, from 0.63 in 1976, to 0.67 in 1980, and finally to 0.71 in 1984. Percent other Hispanic and percent Puerto Rican were also found to be positively correlated with Republican voting. Percent other Hispanic (non-Cuban, non-Puerto Rican, and non-Mexican Hispanic) registered strong positive correlation coefficients of 0.58, 0.61 and 0.61 with Republican voting in the presidential elections of 1976, 1980 and 1984 respectively. Although the level of association between percent Puerto Rican and percent Republican vote by census tract was substantially weaker than for percent Cuban and percent other Hispanic, this association grew in each successive election from only 0.19 in 1976, to 0.25 in the presidential election of 1984.

TABLE 1

CORRELATIONS BETWEEN ETHNICITY AND REPUBLICAN VOTE
(Dade County Census Tracts, 1976, 1980, 1984)

	Pearson's r		
Ethnic Division	1976	1980	1984
Blacks	-0.64*	-0.65*	-0.65*
Cubans	0.63*	0.67*	0.71*
Puerto Ricans	0.19*	0.24*	0.25*
Mexicans	-0.07	-0.05	-0.03
Other Hispanics	0.58*	0.61*	0.61*
Anglos	0.18*	0.13**	0.14**

Note: correlation coefficients are between percent of population in categories given and percent Republican vote in those tracts.
* Significant at 0.01
**Significant at 0.05
Source: Calculated by authors.

The only ethnic division found to have significant negative associations with percent Republican vote in all three presidential elections was percent of the population which is black. The level of this correlation remained relatively stable during the three elections, yielding coefficients of -0.64, -0.65, and -0.64 in 1976, 1980, and 1984 respectively.

The results of this simple correlation anslysis of the distribution of Dade County's ethnic groups and Republican voting clearly points to the growing predilection by metropolitan Miami's non-Mexican Hispanics for supporting the Republican Party in presidential elections. The level of non-Mexican Hispanics support for the Republican Party is tempered to some degree by the strong negative correlation between percent black and percent Republican vote. While this finding is of little surprise, it does serve to underscore the polarization of presidential voting behavior between blacks and non-Mexican Hispanics in the Miami metropolitan area.

The term "bloc voting," though appearing frequently in the electoral and voting research literature, is rarely given specific definition (for instance, see Lewis 1865; Nie, Verba, and Petrocik 1976; Frye 1980; Davidson 1984). "Bloc voting" is normally used to indicate the substantial support by some identifiable social or cultural group for a candidate or issue as expressed in the group's voting behavior. A pertinent but rarely addressed issue is the proportion of a group's voting support which must be cast for a candidate or position before that group may be said to be bloc voting. One of the few sources to

provide an actual proportion in their definition of bloc voting is the Salter and Mings (1972) article examining the potential impacts of Cuban settlement on the voting behavior of the Miami metropolitan area. They state that "the term 'bloc voting' is used here to signify more than 50 percent of the voting electorate" (Salter and Mings 1972, footnote 9). We do not find this definition adequate, however. The assumption of a minimum of 50 percent of a socio-cultural group's vote supporting a particular candidate or issue to define bloc voting is contradictory to the intended meaning of the term. This is particularly clear when there are only two principal candidates vying for office. Conceivably, each could garner 50 percent of the vote. Thus we use a minimal figure of 70 percent of a group supporting a particular candidate, party, or position on an issue to signify bloc voting. The term "bloc voting" has been associated with the voting behavior of black Americans more than any other ethnic group (Key 1950; Lewis 1965; Frye 1980; Davidson 1984). Since Roosevelt's New Deal, black Americans have traditionally supported the Democratic Party in substantial voting proportions (Sitkoff 1984). For example, in the 1984 presidential election, Democratic presidential nominee Walter Mondale received an estimated 90 percent of the black vote nationally (Mollison 1984). In this paper, therefore, the level of bloc voting among Dade County's black population provides a basis for comparison with the voting behavior of Cubans.

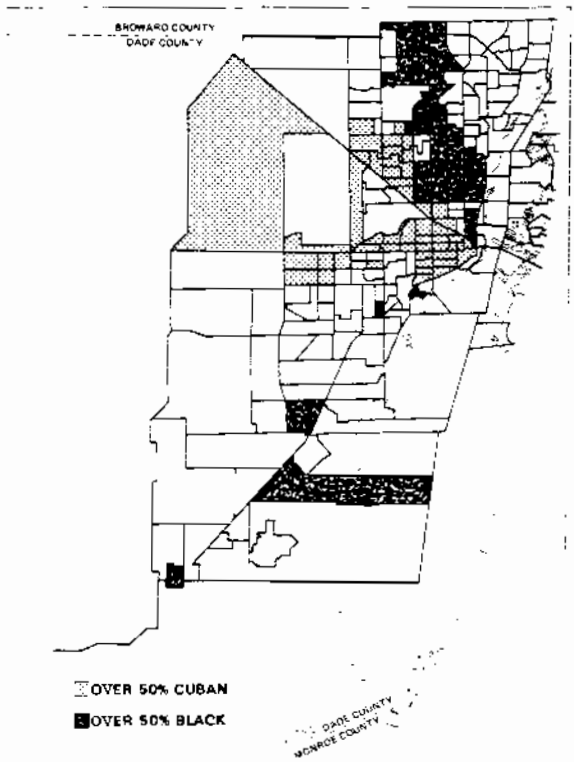

Fig. 1. Predominantly Black and Cuban Census Tracts in Dade County, Florida.

We gauged the level of ethnic bloc voting first by identifying all census tracts with populations over 50 percent black or 50 percent Cuban (Fig. 1). The 1980 census revealed that there are forty-nine tracts where Cubans constituted the majority. The mean Cuban proportion of these forty-nine tracts was 66 percent; seven tracts exceeded 75 percent Cuban. Over 62 percent of all Cubans residing in Dade County in 1980 lived in one of these forty-nine census tracts. Additionally, large numbers of non-Cuban Hispanics lived in these predominantly Cuban census tracts. The average percent total Hispanic of the forty-nine majority Cuban census tracts exceeded 78 percent. Four tracts were over 90 percent Hispanic.

In 1980 there were forty-six Dade County census tracts having populations greater than 50 percent black. Over 77 percent of all Dade County blacks resided in one of these forty-six tracts. The mean pereentage black of these majority black tracts exceeded 78 percent. Eleven tracts were over 95 percent black. The internal ethnic homogeneity of Dade County's predominantly

black census tracts, therefore, was significantly greater than in the SMSA's predominantly Cuban tracts. But if percent total Hispanic is considered instead of percent Cuban, the ethnic homogeneity of the predominantly black and predominantly Cuban census tracts was nearly identical.

The percent Republican vote for each of the majority black and Cuban census tracts was then calculated for the presidential elections of 1976, 1980, and 1984 (Table 2). Since these voting figures reflect the returns for the entire census tracts, they do not demonstrate conclusively how Cubans or blacks voted,

TABLE 2

ETHNICITY OF TRACT AND PERCENT REPUBLICAN VOTE
(Percent Republican Vote by Cuban or Black Tract, 1976, 1980, 1984)

Percent Republican Vote	1976		1980		1984	
	Number of tracts	Percent of tracts	Number of tracts	Percent of tracts	Number of tracts	Percent of tracts
	Cuban Tracts (Tracts 50% or More Cuban)					
0.0 - 10% ..	0	0	0	0	0	0
10.1 - 20% ..	0	0	0	0	0	0
20.1 - 30% ..	0	0	0	0	0	0
30.1 - 40% ..	2	4.1	0	0	0	0
40.1 - 50% ..	19	38.8	2	4.1	0	0
50.1 - 60% ..	22	44.9	4	8.2	1	2.0
60.1 - 70% ..	6	12.2	16	32.6	1	2.0
70.1 - 80% ..	0	0	27	55.1	8	16.3
80.1 - 90% ..	0	0	0	0	36	73.5
90.1 -100% ..	0	0	0	0	3	6.1
Total ..	49	100.0	49	100.0	49	100.0
Mean Percent Republican Vote.....	52.0		68.9		83.3	
	Black Tracts (Tracts 50% or More Black)					
0.0 - 10% ..	22	47.8	21	45.6	14	30.4
10.1 - 20% ..	4	8.7	9	19.6	13	28.3
20.1 - 30% ..	14	30.4	10	21.7	11	23.9
30.1 - 40% ..	5	10.9	6	13.0	7	15.2
40.1 - 50% ..	1	2.2	0	0	1	2.2
50.1 - 60% ..	0	0	0	0	0	0
60.1 - 70% ..	0	0	0	0	0	0
70.1 - 80% ..	0	0	0	0	0	0
80.1 - 90% ..	0	0	0	0	0	0
90.1 -100% ..	0	0	0	0	0	0
Total ..	46	100.0	46	100.0	46	100.0
Mean Percent Republican Vote.....	16.5		14.9		17.6	

Source: Compiled by authors.

only how the populations of areas which are predominantly black or Cuban voted. In the 1976 election, not one predominantly Cuban ceusus tract supported Republican Party presidential nominee Gerald Ford with 70 percent or more of its vote. But four years later, twenty-seven (slightly more than half) of the Cuban tracts bloc voted in excess of 70 percent for Republican Ronald Reagan. In the 1984 election, bloc voting occurred in all but two of the forty-nine majority Cuban census tracts. Thirty-nine Cuban tracts cast over 80 percent of their vote for the Republican. The mean percentage of Republican vote in the Cuban tracts increased from 52 percent in 1976 to over 83 percent in the 1984 presidential election. Clearly, Dade County's predominantly Cubsn areas have become increasingly supportive of the Republican Party in their electoral behavior, although it is presently impossible to judge what independent effect the personality of Ronald Reagan has had in the intensification process.

The level of Republican support in Dade County's predominsntly black census tracts during the three elections remained relatively stable when contrasted with the growing support in the majority Cubau tracts. Forty of the forty-six majority black tracts gave the Republican Party less than 30 percent of their vote in both 1976 and 1980. In 1984 a slightly reduced number, thirty-eight tracts, provided the Republican Party with less than 30 percent of their electoral support. The voting returns for 1976 and 1984 can be interpreted as a lack of support for the Republican Party, and at the same time as bloc voting for the Democratic Party. The lack of significant third party activity in either of these elections means that Democratic Party support is the aimple reciprocal of Republican Party support. The voting percentages for the 1980 election must be interpreted somewhat more cautiously, however, because of the campaign of John Anderson as an Independent. Anderson garnered 8.5 percent of Dade County's vote in 1980, so the perceut Republican vote in that year was not the simple reciprocal of the percent Democratic vote. But even considering Anderson's impact, it is clear that the electorate in many of Dade County'a predominantly black areas voted as a bloc for the Democratic Party. In the three presidential elections here examined the Republican Party averaged leas than 18 percent of the vote from the forty-six black census tracts.

Salter and Mings (1972, 130) stated that "in no way do {we} interpret 'bloc voting' to signify the Cuban vote as a monolithic force." Our findinga indicate, however, that in the near future Cubans may well constitute a "monolithic" votiug bloc in presidential elections. To some degree this will depend on whether the Republican Party continues to uomiuate candidates who espouse strongly anti-communist views like those of the Reagan administration (Boswell and Rivero 1985, 7-9).

There is little doubt that the Cuban community has been a major factor in the transition of Dade County from liberal and supportive of the Democratic Party to conservative and supportive of the Republican Party, and that this trend will continue. Cubans now comprise an estimated 26 percent of Dade County'a population (Boswell 1984, 8), and Cuban aupport for the Republican Party is growing. Cubana now appear to be bloc voting st levels traditionally asaociated with black Americans. A study of pre-Mariel boatlift Cubans living in Florids found that 47 percent were not yet United States citizsns, and thus not yet able to vote (Boswell 1984, 32). Given the influx of nearly 125,000 Cubans into South Florida during the Mariel boatlift following the 1980 census enumeration, this proportion is probably now much higher. As greater numbers of more recently arrived Cubans gain citizenship, they are likely to support the Republican Party in voting proportions similar to the Cubans who now vote.

Cubaus currently represent not only a substantial proportion of Dade County's population, but they will soon become an immensely larger percentage of the SMSA's electorste. Their uumbers, in conjunction with the solidarity of their Republican Party support, will therefore be a "pivotal" factor in all future presidential elections in Dade County.

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Beth Kirk and Sherry Maer

The 1985 annual meeting of the Florida Society of Geographers had as its theme the teaching of geography in secondary schools. A panel discussion at that meeting addressed the problem of geographic education in Florida. The consensus was that there is a lack of emphasis in geography instruction in our public schools. Since geography has been a special interest of ours, we vowed to do something to improve geographic education in the junior highs. We asked the assistant principal of our school (McMillan Junior High) to insert a geography course into our curriculum. This was agreed to for Fall, 1986.

Our "badgering" for a geography course revealed the sentiment that, although we didn't have geography as a separate offering, we did teach geography in some of our courses (civics, U.S. and world history). We explained that a University of Miami survey showed many U. M. freshmen had difficulty on a place name pre-test. Geographic education has been much maligned, we pointed out, even in the national news (Schultz 1985; Pupils can't find Europe... 1985). Apparently the schools were not doing enough. We demonstrated that our students had an interest in geography and convinced the administration that the best way to show that interest was by a competition.

We decided to write a proposal for a geography bee and and send it on to our area office. Approval came back in just one week. In October we sent out invitations to all assistant principals of curriculum and department chairpersons in the forty-eight middle and junior high schools in Dade County. Eventually sixteen schools (one-third of those eligible) sent teams to the competition.

We realized that we needed a sponsor to help coordinate the event and cover the expenses of the competition. One of our Dade Partner groups was willing to help. Dade Partners are business and civic organizations voluntarily working with Dade County schools to promote excellence in education. The group which helped us was the Optimist Club of West Kendall.*(1)* Not only did they cover costs, they also provided much help to see that the First Annual Dade County Geography Bee ran well. During the two months prior to the contest they helped us establish competition rules and arranged for the trophies and the plaques that were awarded. The Optimist Club of West Kendall and their female counterparts the OptiMStics also provided refreshments during the event.

We wanted each participant to have something to carry away from the experience and our sponsor provided a professionally printed certificate of participation for each participant and a program that listed the participants and sponsors. Each runner-up in the final round received an individual plaque and their school also received a plaque. The winners and their schools received a first-place plaque and a traveling trophy that will be kept in their school until next year's competition.

Although our school hosted the event, we were only one of many schools involved. This was to be a Dade County Public Schools competition. We asked all participating schools to submit questions, which were screened by Pat Kixmiller, geography professor from Miami-Dade Community College (North Campus), and Simine Heise, an Area Office Social Studies Project Manager. Moderators at the event were professors from local universities and colleges.*(2)*

Because we had been involved in setting up the event, the team from our school had to prepare on its own. We provided interested students with research

to do and then tested them. Six were chosen, four seventh graders, one eighth grader and an alternate, a ninth grader. They were chosen just three weeks before the first round. After watching them during both sessions of the competition (February 13th and 27th), we realized that they knew more geographical trivia than we did.

The first round of the competition was held at McMillan Junior High, and the final round, also held at McMillan, took place in late February of this year. Sixteen schools started, and all but two, McMillan and Arvida Junior High, were eliminated. Little did we realize when we initiated this competition that our team from McMillan Junior High would dominate. They had been nervous going up against the Arvida team comprised of ninth graders but were ready for the challenge. We were thrilled when John Clarke, captain of the team representing McMillan Junior High, was handed the traveling trophy as a reward.

The First Annual Dade County Geography Bee was successful because much effort went into planning and implementing the competition. We are sure that there are many throughout the state who would like to duplicate this experience in their own county and would like to see this idea spread to other counties and eventually result in a state-wide or regional event. If anyone would like information about our model, please contact either of us at McMillan Junior High, 13100 S. W. 59 Street, Miami 33183. Plans are under way for a South Florida Regional Geography Bee to be held in Miami in March 1987. Several counties are planning on attending. We have also heard from several other states requesting information about this competition. We anticipate a national competition in the future.

* * *

1. Many of the members of the Optimist Club were involved in the various phases of preparation, but three were essential to the experience: Matt Paris (president of the club), Joseph Gagliano and Frank Carpenter. Mr. Paris was involved in all phases from the beginning. Mr. Carpenter helped us with printing and with the format of the double-elimination rounds. Mr. Gagliano was our Competition Official who ran the two sessions.

2. The moderators were Dr. Thomas Boswell, University of Miami; Dr. Nancy Erwin, Florida International University; Professor Pat Kixmiller, Miami-Dade Community College (North Campus); Professor Paige Cubbison and Dr. Dennis Shaw, both from Miami-Dade Community College (South Campus); and Professor Gary Feinberg, St. Thomas University. We deeply appreciate their support and the time they spent in helping make this a successful event.

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World Canals: Inland Navigation Past and Present. Charles Hadfield. New York: Facts On File Publications, 1986. $24.95 cloth.

Charles Hadfield has spent a lifetime immersed in canals, the evolution of their design, engineering, and economic consequences. He is an authority on waterways of England and his first-hand knowledge of the intricate networks of northwestern Europe is remarkable. However, this book is a world survey in which we predictably find the depth of his treatment inversely proportional to the distance from his home. His course through Southeast Asia is shallow indeed and virtually runs aground here in Florida in his analysis of the Cross-Florida Barge Canal. Hadfield considers the demise of this ecological disaster a "set-back" (p. 380) which he attributes to its "effect on the environment, especially the scenic Oklawaha Valley."

This book has sixteen chapters divided into two parts -- Old World and New World, two-thirds of the text devoted to the former. But this is no watered down bargain barging through exotic places; it is an attractive, profusely illustrated account that will please many cultural geographers, historians, folklorists, and canal buffs (who it seems are internationally organized and the acknowledged sponsors of this book). The simple maps are nicely done and the selection of illustrations most appropriate and up-to-date (some are 1985 events). In fact, the entire book is a quality publishing effort that seems strangely underpriced.

It is clear that Hadfield knows his canals and the boats that use them. His limpid prose is free of the chanteyman's jargon, and we sense he is a formidable scholar. There are five packed pages devoted to meticulous citations of the quotations that appear in every chapter. There is an eleven page cross-referenced index with well over one thousand entries.

Why then, with such potent cargo in the hold, are the scholarly references to his source material missing from his manifest? Captain Hadfield claims there was no room in his vessel for such dead weight, but I suspect the owners told him to discourage academic stowaways for a more lively passenger list. What a shame to launch so fine a study and leave the sources locked up in the Captain's cabin. Barratry, I'd call it!

A. K. Craig

A FRANK AND ERNEST LOOK AT GEOGRAPHERS

What kind of person makes a geographer? The question has long interested me, finally resulting in this discourse, which has pushed aside my NSF (Not Sufficient Funds) application to research the Caribbean origins of the Abdominal Snowman.

In general, geographers tend to be real down-to-earth, with the exception of climatologists (who have their heads in the clouds), and a few starry-eyed navigators. They are also people who know where it's at, although it is the cartographers who really know how to keep the world in perspective, no doubt a projection of the left hemispheres of their brains.

Geography is such a diverse field, however, that the practitioners of the various subfields often have little in common with each other and frequently don't know, much less care, what people in other branches are doing.

Take physical geographers (please take them!). Since geography is usually divided into human and physical, logically a physical geographer is one who is not human. Geomorphologists certainly have their faults and some have rocks in their heads; they often have dirty minds. Some become so immersed in their work that they risk drowning in fluvial processes. And while we don't wish to be too intrusive, let's give vulcanism a plug (if that's not sticking our neck out too far); it's a hot topic, after all.

Not all physical geographers work on the earth surface, many study the atmosphere. These are known as air-heads. They often make vane attempts to figure out why the wind is not blowing the way it should.

Human geographers come in many varieties. Interbreeding occurs, but this gives rise to aberrant genetic anomalies. Their traits are adaptive, however. For example, most urban geographers live in the suburbs; as do specialists in agricultural geography.

Agricultural geography is a difficult specialty, requiring a lot of Hart. There are a lot of clods in agricultural geography, and a good sense of humus is essential if you want to be out standing in the field.

Economic geographers are always putting in their two cents. Many of these are quantitative geographers, a dependable lot. You can always count on them. Frequently they spend their time figuring out why the variables won't and the constants aren't.

Transportation geographers are difficult to classify; they are rarely seen at professional meetings because they took the wrong plane. However, they do arrive before the historical geographers (they are always the farthest behind the times).

Some geographers specialize in remote sensing and become quite detached from their study areas. Some are so remote that one wonders if they ever visit the real world. Exposure to an excess of ultra violent light makes them spaced out.

People outside the field tend to associate geography with regional studies. Often this reduces our image to no more than a Trivial Pursuit. Modern geography is more than knowing place names, but such knowledge is still essential in the more specialized segments of the field. Regional specialists will always have a place in our hearts, if not our departments.

Regional geographers, to establish their credentials, must travel. It doesn't matter how long the trip lasted, or how long ago it was taken, so long as they have been there. (One famous geographer said he did not consider

himself an expert on a country unless he had at least flown over it in the daytime.) I once gained credibility as a minor expert in arctic environments on the basis of a one-day bus ride through Monnt McKinley National Park. I was also assigned to teach oceanography because I had lived many years in Florida -- anyone who has lived in Florida, of course, must have been to the beach many times. I had in fact often been to the beach in my younger daze. That may not make me an oceanographer, but certainly I can claim expertise in coastal geography and associated cultural events (e.g., Spring Break).

I trust that the majority of my colleagues will have the latitude to share my sediment that this article should be rated P.G. But enough of this. Back to the Abdominal Snowman. After that, I must return to my research on the grits-hash browns line, the only true cultural demarcator which unequivocally defines the South as a region. After all, what's important in geography is really a matter of taste. Chacun a son goo.

Donald Brandes

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Nancy Erwin, Florida International University, Miami 33199.
Ex Officio (Past President)

FLORIDA SOCIETY OF GEOGRAPHERS

Minutes of the 1986 Business Meeting
Annual Meeting, Ft. Myers, February 1, 1986

President Nancy Erwin opened the Annual Business Meeting at 1:15 p.m. She announced that the current meeting will break even financially and will earn some money for the organization.

The past Secretary/Treasurer, Hal Gilman, who was unable to attend last year's business meeting at Miami, did not present a report. It appeared, however, that very little transpired. Nevertheless, during the general meeting there was a lengthy discussion about the orientation of the organization which focused on the role of Community Colleges in annual meetings and the structure of these meetings with regard to field trips and picnics. At the Miami meeting Cliff Holmes was appointed by the President to fill the office of Secretary/Treasurer, the post vacated by Hal Gilman.

The new Secretary/Treasurer, Cliff Holmes, indicated that the treasury had $632.00 when he assumed office. After paying the bills for the Miami annual meeting, the cost of the last issue of the Florida Geographer, and receiving new dues, the current balance was $151.77. The results of the Fall 1985 elections by mail were: Allen Lippert, Vice President, and James Anderson, Executive Committee member. The Dues Resolution passed setting the annual membership dues effective in 1986 at $3.00 for students and $7.00 for all others.

David Lee, editor of the Florida Geographer, stated there will be only one annual issue of the journal and he has already received several manuscripts. The next issue will appear in the Fall of 1986. Dave also said he will include in the journal the minutes of the annual business meeting and a list of the current officers of the organization.

The incoming President Allan Lippert announced that the 1987 annual meeting will be held in Bradenton, the location of his college. He asked the Society for approval to move the date of the meeting from the customary months of January/February (the peak of the tourist season) to March or later. If this is done, Allan stated, the cost of the meeting would be much less. The consensus of those attending was that the meeting might be held during the first week of April. To schedule the meeting in March would conflict with spring break of universities and colleges, a period many professors cannot set aside for attending a geography meeting. In any event each school should send Allan their spring break schedule for 1987 so he can make the final decision. In conjunction with the upcoming annual meeting, Allan mentioned that corporate financial sponsorship will be forthcoming. Ronald Schultz mentioned that in the past, corporate advertisements were printed in the Florida Geographer; he asked if these should run again.

As a follow-up to the Miami meeting, which included special sessions on geographic education, Nancy Erwin devoted the next portion of the meeting to this subject by first calling upon George Hepner. Mr. Hepner is compiling a Workbook, funded by Exxon Oil Corporation, to further international ideas through geography and the teaching of world regional geography.

Pat Kixmiller then discussed a special program at the Miami-Dade Community College which prepares elementary teachers to teach geography. Tom Boswell noted that a so-called "Geography Bee" was being developed in 17 junior high schools in Dade County and that Pat Kixmiller, Nancy Erwin, and he are participating in the program. Tom noted that this particular program was good publicity for geography.

Concerning new elections: In preparation for upcoming elections, a motion was passed electing to an ad hoc nominating committee Ronald Schultz, James Henry, and Tom Boswell. This committee will nominate a Vice President, a second Vice President (since there was not a fall balloting, this temporary post is needed), a Secretary/Treasurer, and one Executive Committee member to replace Jeanne Fillman Richards. The other two executive committee members are James Anderson and Bill Knyper.

Old Business

The need to file papers pertaining to the tax-free status of our Society was discussed. However, as James Henry indicated, the complexity of filing the papers precludes the advisability of the action, especially since the Society has so little money.

A consensus believed it appropriate to have an additional member of the Society who could sign checks in the absence of the Secretary/Treasurer. It was agreed that the Editor of the Florida Geographer, who has held that post for many years, should have this authority. Therefore, Dave Lee will also be able to sign checks for the Society.

John Rickerson discussed the use of air photos and census materials of the South West Florida Water Management District.

The meeting was adjourned at 2:20 p.m.

Respectfully submitted,

Roland C. Holmes
Secretary/Treasurer
September 17, 1986

Florida Society of GEOGRAPHERS

The Florida Society of Geographers was chartered in 1964 as a non-profit organization for the purpose of furthering professionalism in geography through the application of geographic techniques in all areas of education, government, and business in Florida.

The society supports these objectives by promoting acquaintance and discussion among its members and with scholars and practitioners in related fields by stimulating research and field investigation, by encouraging publication of scholarly studies, and by performing services to aid the advancement of its members and the field of geography in Florida.

The society holds a meeting once a year, usually in February. At this meeting papers are presented and matters of mutual concern are discussed.

Persons interested in membership in the Florida Society of Geographers should contact:

Regular membership is $7.00 for a calendar year; student membership is $3.00.