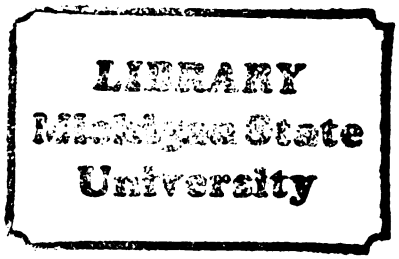

This is to certify that the

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Peter J. Burton

has been accepted towards fulfillment
of the requirements for

Master's degree in Sociology

Nan E. Johnson
Major professor

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THE DEATH-DIP PHENOMENON: AN EXTENSION

by

Peter J. Burton

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ABSTRACT

THE DEATH-DIP PHENOMENON: AN EXTENSION

by

Peter J. Burton

Recent research by Phillips suggested that fluctuations of mortality level in general, and of suicide, motor vehicle fatalities, and fatal airplane accidents in particular, are related to macro-level phenomena such as mass media coverage of murder and suicides (1974, 1977, 1978, 1980, 1981) and certain ceremonial occasions (Phillips and Feldman, 1973). For example, Phillips (1979) found a 31% increase in California motor vehicle fatalities on the third day after publicized suicide stories, and Bollen and Phillips (1981) found a similar increase in Detroit motor vehicle fatalities. Among the most fascinating findings of Phillips and Feldman's (1973) study was a significant dip in the number of deaths in the month preceeding birthdays, U.S. Presidential elections, and Yom Kippur, and further in the case of birthdays, a subsequent rise in number of deaths after the ceremony.

The present study extends Phillips and Feldman's analysis of the effects of a religious ceremony upon mortality level, in which they found fewer deaths than expected before Yom Kippur in New York City and Budapest, two heavily Jewish populated areas. We examine the relationship between mortality level and Easter in the U.S. We find a dip in deaths to occur in the month preceeding Easter for the U.S. population in 8 out of 9 cases examined ($p \leq .017$), but no significant rise in deaths after Easter. Differential relationships between male and female mortality levels before Easter are also examined. We find no significant

sex difference to exist in either number or magnitude of death-dips. No greater death-dip occurred in the U.S. than in Rhode Island, a state where Catholics comprise a majority (62% of the state population; see Bouvier and Rao, 1975). The implications are explored.

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I would like to express my sincere appreciation to the committee chairperson, Dr. Nan Johnson, for her generosity in time and interest in supervising this research. A further note of appreciation is extended to Dr. Craig Harris and Dr. Donald Olmsted for their cooperation in the research.

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INTRODUCTION

Durkheim sought to explain differential suicide rates in terms of "social causes," active, living forces. He assumed these social causes, as opposed to individual psychological characteristics, could account for variation and stability in suicide rates. Rooted in the nature of a general social milieu, the "suicideogenic currents" were thought to determine the rate of suicide but not who will commit it. For Durkheim, both egoism and anomie, important modern currents,[1] marked society's insufficient presence in individuals. Durkheim argued that an egoistic person was more likely to commit suicide because the bonds attaching him/her to society were weak. Anomic individuals were thought to be prone to suicide because their desires and aspirations were unregulated by society (Durkheim, 1951:258).

Durkheim maintained that a society is expressed and affirmed through its ceremonies. Phillips and Feldman thus hypothesized a dip in deaths before ceremonial occasions from Durkheim's dictum that an individual who is integrated into society must be involved with its celebrations. Citing Durkheim's discussion of the influence of morality on individuals to participate in a society's ceremonies (Durkheim, 1961: 446), Phillips and Feldman conclude that Durkheim is equating an individual's integration into society with his/her felt obligation to participate in the ceremonies of that society. Postulating that the strength of this integration varies between two extremes (high integration with

high participation in social ceremonies, and low integration with low levels of participation in social ceremonies), Phillips and Feldman suggest that those who are highly integrated into society will postpone death in order to participate in social ceremonies; as such, the highly integrated can be said to die post-maturely.

One must view Phillips and Feldman's interpretation of Durkheim with caution for two reasons. First, Durkheim's conception of morality and its relationship to social order was one of his least developed theories. It was a task which Durkheim had intended to complete, but never did so. In the treatises which he did complete, Durkheim held morality to consist of two characteristics: one is a sense of duty or obligation; the other, a personal positive evaluation of that duty. In other words, utilitarian motives might operate in addition to socially obligatory pressures to participate in a social ceremony. Gouldner (1970:67) explains the nature of utilitarian motives:

> Utilitariansim has a built-in tendency to restrict the sphere of morality, to enlarge the importance attributed to purely cognitive judgment; to diminish the credibility of an intention-oriented morality such as Christianity; to select courses of action on grounds independent of moral propriety or impropriety; and, in its future oriented dependence on consequences not yet realized, to defer moral judgment by making it auxilliary to cognitive judgment. In brief, utilitarian culture has a tendency to ignore or deviate from established moral values however hallowed by tradition or religion.

Thus, participation in ceremonial occasions can occur simply because it presents an opportunity for individuals to satisfy basic personal needs. For these reasons one might expect a dip in deaths before ceremonial occasions.

Phillips and Feldman (1973) examined the month of birth and month of death in five samples of famous American and British people. Using

standard contingency table techniques, Phillips and Feldman (1973) found both a significant dip in number of deaths before the birth month and a rise in number of deaths after the birth month. They expected the birthdays of famous people to produce a greater death-dip than those of ordinary people[2] because a famous person's birthday is often publicly celebrated. Accordingly, the analysis revealed that the death-dip was greatest for the most famous people ($p < .028$). Similarly, mortality on a national level was lower than expected before 13 out of 17 U.S. Presidential elections between 1904-1968. Finally, mortality was examined before Yom Kippur (the Jewish Day of Atonement) in New York City, where the population was approximately 28% Jewish during the period examined (1927-1969) and in Budapest, where the population was 22% Jewish. Statistical analysis revealed a dip in deaths to occur in 8 out of ten Yom Kippurs examined in New York City, and in 9 out of 11 in Budapest. The authors concluded that highly integrated persons postponed death in order to participate in their birthdays, Presidential elections, and Yom Kippurs.

Phillips and Feldman cite the methodological strengths of measuring social integration with the death-dip technique as follows: mortality statistics are among the most accurate sources of social scientific data; the death-dip can be calculated for a wide variety of places and times; and the death-dip is an unobtrusive measure in contrast to many conventional indicators of attitude or opinion. Among the possible uses as a theoretical construct, Phillips and Feldman suggest the death-dip phenomenon can be used to investigate the relative importance attached to particular ceremonies by various segments of society, and that it holds the possibility to compare and contrast subcultures within a

society. This study will extend Phillips and Feldman's research by: first examining the relationship between mortality level and Easter in the U.S.; secondly, examining gender differences in mortality level before Easter; and finally, comparing mortality levels before Easter in the U.S. and in Rhode Island, where Catholics comprise a majority.

Some types of social ceremonies in a particular society may produce a death-dip because of a morally based motivation of the participants, while other ceremonies may produce a death-dip based on utilitarian motivations. For example, as the chief festival of the Christian year, Easter is the day when Catholics are encouraged to fulfill the mandate of attending mass at least once a year. As such, Easter might offer both moral and utilitarian incentives for postponing one's death. Moral incentives would inhere in Easter as the commemoration of Christ's resurrection and, thus, as the most important time at which Christians as a group pronounce their acceptance of faith in Christ. Utilitarian incentives would occur in the symbol of Easter as a promise of resurrection to all those who have accepted faith in Christ. Easter might also offer social incentives for death postponement to the non-religious since many families and friends gather on that day. Hence, we examine mortality levels before Easter for the U.S. population.

Methodology

The method of analysis used here is a quasi-experimental technique similar to that used in Phillips and Feldman's (1973) work. Our phenomenon under study requires us to control three temporal effects on mortality. For example, historical increases in the number of annual deaths would be expected due to increases in population size, in the average age of the population, and in suicide rates. Fluctuations in the weather would be expected to produce seasonal variations in the number of deaths within each year. Finally, the approach of Easter itself would be expected to result in a drop in deaths in the 30 days preceding the occasion. If a death-dip occurs in the month before Easter,[3] then the March mortality level should be lowest for those years in which Easter falls around 30 March, say 27 March through 3 April. In this way, the death-dip period would almost exactly coincide with the month of March. Because the month is the smallest temporal unit by which mortality statistics are published, it is convenient to choose as our test period those years in which Easter fell between 27 March - 3 April. Our control period became the March of the preceding and following years. Since the test and control periods occurred in the same calendar month (March), any variation in mortality could not be associated with seasonal effects on mortality.

U.S. mortality statistics were obtained for 1944-76 from the

National Vital Statistics Records; and Easter dates, from the 1981 World Almanac. Since only nine Easters fell between 27 March - 3 April in these years (Table 1), we had a small number of test cases for our hypothesis. Nevertheless, Phillips and Feldman (1973) had only 10 Yom-Kippur years in their death-dip test for New York City and only 11 Yom-Kippur years in the same test for Budapest. Therefore, the problem of small sample sizes is not unique to the present analysis.

The next step requires us to calculate the expected proportion of annual deaths occurring in March of an E-Year under the null hypothesis of no death-dip. Let us illustrate this <u>calculation</u> with an example from the 1948 E-Year. The proportion of the 1947 U.S. mortality level in March was:

$$_1E_i = \frac{\text{(number of U.S. deaths in March of 1947)}}{\text{(total number of U.S. deaths in 1947)}} = \frac{139,489}{1,445,370} = .0965$$

$$_2E_i = \frac{\text{(number of U.S. deaths in March of 1949)}}{\text{(total number of U.S. deaths in 1949)}} = \frac{130,349}{1,443,607} = .0903$$

The expected proportion of 1948 deaths occurring in March is given as the arithmetic average of the proportion of annual deaths occurring in March of the years preceeding and following 1948: (.0965 + .0903/2 = .0934. It will be seen that this method of computing the expected proportion controls <u>annual</u> fluctuations in mortality. The observed proportion of 1948 deaths in March was:

$$Oi = \frac{\text{(number of U.S. deaths in March of 1948)}}{\text{(total number of U.S. deaths in 1948)}} = \frac{129,842}{1,444,337} = .0899$$

The dip in deaths is thus the difference between the observed and expected proportions: .0899 - .0934 = -.0035.

Table 1. U.S. Death-Dips before "E-Year" Easters, 1944-1976

"E-Year"	Size of U.S. Death-Dip Before Easter	# of Excess (+) or Deficit (-) Deaths
1945	-.0017	-2383
1948	-.0035	-5055
1956	+.0035	+5476
1959	-.0013	-2154
1961	-.0047	-7997
1964	-.0067	-12047
1970	-.0018	-3458
1972	-.0025	-4910
1975	-.0045	-8518

Findings

Our death-dip hypothesis can be phrased in these statistical terms: Probability $(O_i < ({}_1E_i + {}_2E_i)/2) >$ Probability $(O_i > ({}_1E_i + {}_2E_i)/2)$. Our null hypothesis states: it is equiprobable that the observed proportion of E-Year deaths in March will exceed as fall short of the expected proportion. Table 1 shows there is a death-dip for 8 out of 9 E-Years in the 1944-1976 period. We will reject the null hypothesis in favor of the death-dip hypothesis if, under the null hypothesis, the probability of at least 8 out of 9 death-dips is less than .05. We can consider each E-Year as a Bernoulli trial in which: (a) each trial yields one of two outcomes: success (a death-dip) or failure (no death-dip); (b) for each trial the probability of success is the same; and (c) trials are independent. The probability of success in a trial does not change given any amount of information about the outcome of other trials. Given these criteria we can use the binomial distribution to determine the probability of 8 successes (death-dips) out of 9 trials. This probability is .017. Thus we find our death-dip hypothesis supported on a national level.

We can tentatively conclude that the desire to experience Easter helps a person to survive beyond that occasion. Other interpretations of the death-dip phenomenon have been examined in length by Phillips and Feldman (1973) and need not be discussed in full here. One

alternative interpretation is that late registration of deaths due to disruptions in registration activities prior to Easter is responsible for the appearance of the dip in deaths before that holiday. This is unlikely because the U.S. mortality data analyzed here is classified by date of occurrence, not by date of registration. A second alternative to our interpretation of the death-dip is that it resulted from the effects of extensive health care efforts. Physicians and other death personnel may work unusually hard to protect the lives of patients who are anxious to experience Easter. While it is difficult to determine the validity of this alternative explanation, it seems unlikely given that the death-dip isn't any less in the beginning of our period (1944-1976), when medical care was less effective than it is today.

As previously stated, while Phillips and Feldman's (1973) study found a death-rise immediately after the birthday death-dip, they did not seek to determine if a death rise occurred among the New York City and Budapest populations after Yom Kippur. As noted, depending upon the manner in which deaths are postponed, one may or may not expect a rise in deaths immediately after the death-dip. "The death-dip could arise because some people hovering between life and death unexpectedly recovered or because some do not die before Easter but survive a few more days or weeks longer than expected" (Phillips and Feldman, 1973: 680). Assuming that those who postpone their death die shortly after Easter, for each death-dip found in the E-Years, in March, there should be a corresponding death rise in April of each year. Using the same methodology as in Table 1, we find a death rise in the month after Easter to occur in only 3 out of 9 E-Years (Table 2). The binomial probability of 3 successes in 9 trials is 0.1641. Thus the death-rise

Table 2. U.S. Death-Rises after "E-Year" Easters, 1944-1976

"E-Year"	Size of U.S. Death-Rise After Easter	# of Excess (+)or Deficit (-) Deaths
1945	-.0018	-2523
1948	-.0033	-4766
1956	+.0029	+4537
1959	+.0039	+6461
1961	+.0016	+2722
1964	-.0011	-1978
1970	-.0012	-2305
1972	-.0023	-4517
1975	-.0012	-2271

hypothesis is rejected. Those who postpone death either unexpectedly recover, or postpone death until after April. Alternatively, this finding might be a result of our month-long control period, which may be too long to allow a death rise which may occur for only a few days after Easter to be observed. That the death-dip effect appears to be one month long does not mean that the death-rise should occur for an entire month.

Phillips and Feldman proposed that the death-dip phenomenon might be used to compare and contrast subcultural integration within a society. In particular they suggested that females would probably value religious ceremonies more than men would. Indeed, some studies have indicated that women typically have been more active than men in church-related activities (Glock, Ringer, Babie, 1967). If this is the case, then we would expect that women's greater interest in religious activities would lead to a greater death-dip among women than among men before Easter. We therefore separately examine male and female death-dips before Easter (Table 3).

There is a female and a male death-dip ($O_i < ({}_1E_i + {}_2E_i)/2$) for 8 out of 9 years in the period 1944-1976. Under the binomial distribution formula, both dips are significant at the .017 level. We can conclude that the desire to experience Easter helps both men and women to survive beyond that occasion.

While the number of death-dips experienced by females and males is the same, perhaps a more appropriate measure of sex difference would be to compare the magnitude of the death-dips (Table 3). We see that the magnitude of female death-dips is greater than male death-dips in 5 out of 9 cases. Using the Wilcoxon matched pairs signed rank

Table 3. U.S. Male and Female Death-Dips before "E-Year" Easters, 1944-1976

"E-Year"	Size of Male Death-Dip	# of Excess (+) or Deficit (-) Deaths	Size of Female Death-Dip	# of Excess (+) or Deficit (-) Deaths	Difference F-M	Rank
1945	-.0026	-2049	-.0007	-430	+.0019	+9
1948	-.0038	-3120	-.0031	-1933	+.0007	+5
1956	+.0038	+3394	+.003	+2013	-.0008	-6
1959	-.0015	-1415	-.001	-714	+.0005	+3.5
1961	-.0049	-4737	-.0047	-3453	+.0002	+1
1964	-.0065	-6616	-.007	-5461	-.0005	-3.5
1970	-.0014	-1510	-.0023	-1938	-.0009	-7
1972	-.0024	-2631	-.0028	-2430	-.0004	-2
1975	-.0037	-3888	-.0052	-4378	-.0015	-8

Sum of negative values = 26.5
(Wilcoxon rank sign statistic)

one-tailed test, this result is not significant at the .10 level. Accordingly we reject our hypothesis of a greater female death-dip in magnitude.

These interesting findings thus raise at least two important issues. First, one might assume that the recent women's movement has challenged distinctive male/female roles and attitudes so much as to create a convergence in their religiosity and, hence, in their pre-Easter mortality behavior. Our data, however, do not support such an interpretation. We see that even before the women's movement began in the late 1960's, every year in which a death-dip occurred for males, we witnessed a death-dip for females, too. Thus, our findings question the assumption that women are more religious than men even though women participate more than men in church activities (Glock et al., 1967). Further, N. Demerath (1965:8) concludes that "clearly church membership is not coterminous with religious feeling or personal commitment, nor is it a prerequisite." Confidence in our reinterpretation shall be bolstered if future research fails to show gender differences in death-dips before other religious holidays (e.g., Ash Wednesday or Yom Kippur).

Durkheim found Protestants to have higher rates of suicide than Catholics. He wrote that "the only essential difference between Catholicism and Protestantism is that the latter permits free inquiry to a far greater extent than the first" (Durkheim, 1951:157). Durkheim saw this individualism as rooted in the very structure of the Protestant religion and concluded that "Protestantism concedes a far greater freedom to individual thought than Catholicism because it has fewer common beliefs and practices" (Durkheim, 1951:158). He equated Protestant

individualism with a lack of cohesion and vitality among adherents. For these reasons Durkheim held that the Catholic religious community was far more tightly integrated than was the Protestant religious community. Therefore Catholics would be hypothesized to produce a larger death-dip before Easter than would Protestants.

Although U.S. death certificates do not show religion of the decedents, we can test the hypothesis by seeking whether a smaller death-dip occurs before Easter in the national population than in a state such as Rhode Island, where the Catholics are the majority. Our test of a death-dip before Easter in Rhode Island (Table 4) shows there is a death-dip ($Oi < ({}_1E_i + {}_2E_i/2)$ for 6 out of 9 E-Years in this period. To determine if the death-dip is greater in the U.S. population than in the Rhode Island population we employ once again the Wilcoxon matched pairs one-tailed signed rank test (see Remington and Schork, 1970, for a discussion of this statistic). Our Wilcoxon signed rank statistic T- (the sum of ranks of negative differences) is 26.5 and falls within the critical region of 5,40. Thus we fail to reject the null hypothesis of no significant difference. We can tentatively conclude that Catholics and Protestants have similar death-dips before Easter.

Our explanation of this result is quite simply that Easter has become a secularized holiday. This explanation seems to fit well our earlier expectation that even before a religious ceremony utilitarian motivations might be operating to produce a death-dip. This explanation remains to be confirmed in future research which compares mortality level before other Christian ceremonies in areas where the Catholics and Protestants are, alternatively, the religious majority.

Table 4. Rhode Island Death-Dips before "E-Year" Easters, 1944-1976

"E-Year"	Size of Rhode Island Death-Dip before Easter (1)	# of Excess (+) or Deficit (-) Deaths (2)	Size of U.S. Death-Dip (3)	Difference in Rhode Island - U.S. Death-Dip, U.S. - R.I.	Rank
1945	-.003	-24	-.0017	+.0013	+3.5
1948	+.0051	+42	-.0035	-.0086	-9.
1956	-.0018	-15	+.0035	+.0053	+6.
1959	+.0015	+13	-.0013	-.0028	-5.
1961	-.0036	-32	-.0047	-.0011	-2.
1964	-.0075	-70	-.0067	+.0008	+1.
1970	-.0093	-88	-.0018	+.0075	+8.
1972	-.0012	-11	-.0025	-.0013	-3.5
1975	+.0016	+14	-.0045	-.0061	-7.

Sum of negative values = 26.5
(Wilcoxon rank sign statistic)

Conclusion

While Phillips and Feldman's (1973) study of mortality level before Yom Kippur in New York City and Budapest provides evidence of a death-dip related to a religious ceremony, these results have not been obtained for another religious ceremony until now. Our findings support the claim of a death-dip before Easter in the U.S. population. Since the death-dip was not greater in the U.S. population (most of which is Protestant) than in Rhode Island (most of which is Catholic), we conclude that there are no significant Catholic-Protestant differences in the postponement of death before Easter. We suggest that Easter has probably become a secularized holdiay; i.e., the death-dip associated with it may be based on utilitarian motivations, such as the desire to socialize with friends and relatives on the festive occasion.

The current study also represents the first attempt to determine if males and females produce differential death-dip levels before a religious ceremony, a claim which was not supported. Our findings challenge the commonly held assumption that greater participation of females in church-related activities leads to more strongly held religious beliefs among females. We suggest the need for future studies to examine gender differences in death-dip level before other religious ceremonies in additional populations. Further, our unexpected findings suggest the need for future research to examine gender differences in

death-dip level before non-religious ceremonies.

We can add to ideas for the useful application of the death-dip phenomenon, which Phillips and Feldman allude to, the study of conflict within social and cultural processes. Whereas religious, political, civil and other ceremonies become symbols of pride, faith, joy and integration for particular dominant segments of society, i.e., classes, races, ethnic and religious groups, we can anticipate that for various subordinate segments of society these ceremonies may become symbols of their own position within that society that is to say, symbols of domination, oppression, exploitation, etc....

Given these circumstances, we may expect to find in specific cases:

1. A dip in death before a particular ceremony among a dominant group, while a rise in death for the subordinate group before the same ceremony.
2. The degree of conflict among the groups may change over time, in which case we could expect to find corresponding changes in both death-dip and death-rise levels.

An obvious case where pattern #1 of the death-dip phenomenon may occur is in Northern Ireland where major group conflict has taken, in part, the form of a religious oriented confrontation between the politically/economically advantaged Protestants and the subordinate Catholic population. Since the relative dominant position of the Protestants in Northern Ireland has historically been associated with its political and economic links to Britain, we might expect ceremonies which are either specific to the Protestants or which celebrate Britain's hold on Ireland to be viewed by many Catholics as symbols of their own oppression. Such

a ceremony might be Reformation Sunday, a Protestant ceremony which commemorates the day when Martin Luther nailed his "Ninety-Five Theses" to the church door at Wittenburg, thus beginning the Protestant Reformation. Here we may expect to find a death-dip among Protestants and a death-rise among Catholics before Reformation Sunday.

We may find in Nigeria a further example where this pattern of the death-dip phenomenon will occur. Briefly, the expectation for such an occurrence is as follows: Nigeria is composed of three major ethnic groups; the Haussa, a predominately Muslim group in the North, and the Yuroba and the Ibo in the South, two predominately Christian groups. Further it is generally recognized that the Northern area has historically been politically and economically subordinate to the South. While major conflict in Nigeria cannot be simply reduced to religious and ethnic dimensions, these dimensions have been significant. As a general phenomenon, we might expect Christian religious ceremonies to exhibit larger death-dips in the South, and conversely be viewed as symbols of domination by the Haussa in the North. That conflict along religious lines exists, is in part verified by a report concerning the recent visit of Pope John to Nigeria (Ettē-lā-āt, 1982:20).[4] Given the importance of Easter to the Christian population, we might expect a dip in death before Easter in Southern Nigeria while a death-rise before Easter in Northern Nigeria.

C. Geertz (1960) holds out a possible example for case #2 in his discussion of religious conflict and integration in Java. Geertz maintains that while traditionally there has been a great deal of conflict among the three dominant religious groups in Java (the Abangan, Prijaji and Santri), in post-revolutionary Java national holidays have gained

in importance relative to traditional religious ceremonies. Thus we might expect any death-dip or death-rises associated with traditional religious ceremonies to decline in post-revolutionary Java.

While the death-dip phenomenon has a great deal of utility for sociological studies, one very important qualification is in order. Reconsidering the methodology which was used to determine the existence of a death-dip, it should be noted that the only social ceremonies which lend themselves to examination under this method are those in which the dates of occurrence vary considerably over time. Only in this way can death-dips before the ceremony be statistically separated from seasonal variations in mortality.

Although this issue is not examined in this paper, we might further suggest that the death-dip phenomenon might be investigated for specific causes of death. Since the death-dip or postponement of death would occur only for those types of mortality which are under individual control, we can expect the death-dip level to be greatest for those types of mortality which are subject to the greatest amount of human control. Arranged on a continuum from most to least susceptible to human control would be suicides, motor vehicle accidents, and mortality caused by natural catastrophes. In this case, we would expect to find the greatest death-dip in suicides before a ceremony. A hypothesis such as this quite easily lends itself to testing and should be the focus of future research. Despite these qualifications and limitations, the death-dip phenomenon appears to be useful to explore many of those aspects of social reality which are of most interest to sociologists.

Footnotes

1
While Durkheim included among the "suicideogenic currents" the converse to egoism and anomie, altruism (an excess of attachment to society) and fatalism (an excess of regulation), he did not view these forms as particularly prevalent in modern societies, except in the case of altruism during wartime.

2
Phillips and Feldman did not test this hypothesis because individuals' birth and death rates are not available from conventional vital statistics.

3
Phillips and Feldman assumed that the death-dip would begin approximately one month before Yom Kippur because that is the time when advertising for such occasions generally begins. For this reason, we expect the death-dip before Easter to be approximately one month long.

4
The failure of Muslim leaders to take part in this historic occasion was explained by Nigerian officials as due to: the failure of Muslim leaders to win concessions from the Pope's representatives; a lack of Muslim people's interest in the affair; and insufficient notice of the Pope's visit. (Ettē-lā-āt, Feb. 20, 1982. Translated by Hamid Reza M. Tehrani.)

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