

## Section of Psychiatry

President Peter Sainsbury MD

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### President's Address

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#### Suicide: Opinions and Facts

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'The long habit of living', Sir Thomas Browne wrote, 'indisposeth us for dying'. Yet this habitual indisposition is strangely contradicted by suicide; accordingly it mystifies and disturbs us. Suicide also affronts society; opting out with such apparent scorn is seen as a vote of no confidence in the social order. Consequently from man's social beginnings to the present day, suicide has been hemmed in by moral prohibition and cant; attitudes which continue to obscure the problem and hinder an objective examination of it. In this paper I want to consider, in the light of present evidence, some recently canvassed opinions about suicide which are, I suspect, rooted in such attitudes.

I will begin with the singular notion, recently advocated by one school of sociologists and quite widely adopted by medical writers, that the scientific method cannot be appropriately applied to the study of suicide; in particular the use of official mortality figures is deprecated. They are, it is claimed, worthless as a source of valid information about suicide. I find this difficult to accept for two reasons. First, I believe they have a privileged status among mortality figures because they are more extensive in scope and in detail than those available on any other deviant form of human behaviour; in England, for instance, records cover more than 150 years. Consequently, the rates of different social and demographic groups may be compared, trends studied and the ecology of suicide explored. Thus, it has been possible on the one hand to identify those social groups most at risk and so devise

ways of preventing it, and on the other to derive hypotheses about causes. And secondly, they present unique opportunities to the epidemiologist, as the statutory processes for investigating all violent deaths take care of his two major problems of method: defining the case, and then finding all the cases in a population. But it is just this advantage which is so strongly denied by the critics of mortality figures. One further point should be made: for all practical, epidemiological purposes, under-reporting or seeking the elusive 'absolute' rate of suicide is of small consequence. *What matters, and what the epidemiologist needs to establish clearly, is whether the differences he observes between the rates of particular social, clinical or other categories are valid: we discern causes by showing that certain groups of people differ in having an exceptional incidence of suicide.*

Douglas (1967), however, contends not only that official statistics are inaccurate to the point of being useless, but that they are invalid for research purposes because national definitions of suicide differ, and because coroners' definitions of it differ as well; for good measure he also adds that coroners use differing search and ascertainment procedures. In the face of such obstacles, he argues, no conclusions about national, district and social differences in suicide can be usefully drawn.

Dr Barraclough and I (Sainsbury & Barraclough 1968) were not convinced, so we decided to examine the obstacles and the arguments used to support them. First, we said, if the definition and reporting procedures were controlled and the nation's suicide rates were still found to be ranked in their customary order, then methods of reporting and ascertainment could be discounted as the explanation of their differing incidence. We therefore related the suicide rates of immigrants to the United States to the rates of their countries of

**Table 1**

Suicide rates of immigrants to the United States related to the rates of their countries of origin (from Sainsbury 1968)

| Country                    | Suicide rates per 100 000 |                       |               |    |
|----------------------------|---------------------------|-----------------------|---------------|----|
|                            | Foreign-born in USA (A)   | Country of origin (B) | Rank order of |    |
|                            |                           |                       | A             | B  |
| Sweden                     | 34.2                      | 18.1                  | 1             | 4  |
| Austria                    | 32.5                      | 24.8                  | 2             | 2  |
| Czechoslovakia             | 31.5                      | 24.9                  | 3             | 1  |
| Germany (Federal Republic) | 25.7                      | 18.7                  | 4             | 3  |
| Poland                     | 25.2                      | 8.0                   | 5             | 6  |
| Norway                     | 23.7                      | 7.8                   | 6             | 7  |
| England & Wales            | 19.2                      | 11.5                  | 7             | 5  |
| Italy                      | 18.2                      | 6.2                   | 8             | 9  |
| Canada                     | 17.5                      | 7.4                   | 9             | 8  |
| Ireland                    | 9.8                       | 2.5                   | 10            | 10 |
| Mexico                     | 7.9                       | 2.1                   | 11            | 11 |
| USA                        |                           | 10.4                  |               |    |

 $r_s = 0.90, P < 0.01$ 

origin (see Table 1). Suicide in the former is ascertained by the procedures used in the United States, and in the latter by the procedures peculiar to each country. The almost identical order of the two sets of rates shows us that countries really do differ in their incidence of suicide in spite of their different ways of defining or reporting it. I was recently able to confirm this using immigrants to Australia, and at the same time show that the findings hold for both sexes (see Table 2). The correlation between the sixteen immigrant male rates and those of their countries of birth was 0.79; and for females it was 0.76. The data were taken from Whitlock (1971).

Using a comparable procedure, we next looked at the further objection that comparisons are invalid because coroners use differing criteria and search procedures. If they do, then a change of coroner should alter the suicide rate of his district. We therefore correlated the suicide rates of all the

coroners' districts in England and Wales at two periods in time, 1950 and 1960; and then repeated the process for those districts where the coroner was the same person in both periods and for those where he had changed. Table 3 shows that the district rates in the two periods are indeed correlated; that is to say, districts with high rates tend to remain that way, as do those with low rates. But when the coroner changes, the correlation does not fall as it should have done were his criteria to have a significant effect on the reporting of suicide. Barraclough (1970) confirmed the fitness of this method by showing that when it is applied to 'open' verdicts an effect can be clearly discerned: a change of coroner decreases the correlation (see Table 3). Coroners were having difficulty in assigning deaths to accidental causes rather than to suicide.

Two further observations, not readily contained by Douglas's supposition, are, first, that suicide rates had been shown to relate to the social characteristics of five London boroughs all within the jurisdiction of a single coroner, in the same way as they did to the characteristics of London boroughs with different coroners. And secondly, many of the social factors statistically identified as relating to suicide by using official mortality figures can, and have been, verified by directly comparing consecutive cases and the normal population on the social factor in question (Sainsbury 1955).

It would appear, therefore, that the criticisms of Douglas and his school do not survive this kind of investigation. So we are led back to the more obvious conclusion that national and other differences between rates are valid; and that it is not reporting but variations in social ecology

**Table 2**

Suicide rates per 100 000: Australian immigrants and countries of birth, by sex (data from Whitlock 1971)

| Country         | Male suicide rates |                    |            |    | Female suicide rates |                    |            |    |
|-----------------|--------------------|--------------------|------------|----|----------------------|--------------------|------------|----|
|                 | A Immigrants       | B Country of birth | Rank order |    | A Immigrants         | B Country of birth | Rank order |    |
|                 |                    |                    | A          | B  |                      |                    | A          | B  |
| Hungary         | 57.7               | 40.3               | 1          | 1  | 34.6                 | 17.3               | 3          | 1  |
| Poland          | 56.6               | 14.3               | 2          | 7  | 28.8                 | 3.3                | 4          | 11 |
| Yugoslavia      | 38.6               | 17.8               | 3          | 5  | 16.2                 | 7.7                | 7          | 6  |
| Czechoslovakia  | 38.5               | 30.4               | 4          | 3  | 45.7                 | 12.3               | 1          | 4  |
| New Zealand     | 33.1               | 11.4               | 5          | 9  | 19.0                 | 6.4                | 5          | 8  |
| Austria         | 33.0               | 32.4               | 6          | 2  | 44.6                 | 13.9               | 2          | 2  |
| Germany         | 32.8               | 26.7               | 7          | 4  | 14.5                 | 13.6               | 9          | 3  |
| Ireland         | 30.5               | 5.3                | 8          | 14 | 10.8                 | 2.3                | 11         | 14 |
| Scotland        | 30.3               | 10.0               | 9          | 10 | 17.7                 | 6.6                | 6          | 7  |
| USA             | 29.5               | 16.3               | 10         | 6  | 13.8                 | 5.8                | 10         | 9  |
| England & Wales | 25.3               | 13.7               | 11         | 8  | 15.3                 | 9.6                | 8          | 5  |
| Spain           | 15.9               | 7.6                | 12         | 12 | 7.1                  | 2.5                | 12         | 13 |
| Netherlands     | 12.7               | 8.2                | 13         | 11 | 6.8                  | 4.9                | 13         | 10 |
| Malta           | 10.7               | 1.4                | 14         | 16 | 1.4                  | 0.2                | 16         | 16 |
| Italy           | 10.4               | 7.6                | 15         | 12 | 3.4                  | 3.2                | 14         | 12 |
| Greece          | 6.8                | 4.7                | 16         | 15 | 3.0                  | 2.2                | 15         | 15 |
| Australia       | 16.1               |                    | r=0.78     |    | 10.0                 |                    | r=0.79     |    |

which are accounting for regional differences in suicide.

The other problem, that of the accuracy of official mortality figures now seems less important. They are inaccurate and suicide is under-reported; they nevertheless deliver the goods. There is, of course, an error in all mortality figures as the Registrar-General's (1966) study on the 'Accuracy of Certification of Causes of Death' has shown; in England there is an error, for instance, of at least 15% in the reporting of deaths from lung cancer; but the value of the conclusions drawn from these sources is not in doubt, nor the wisdom of the preventive measures that have followed.

Among Barraclough's (1973) studies on the under-reporting of suicide is one in which he made use of the WHO's new mortality category 'undetermined deaths'. He added the undetermined death rates of 25 countries to their suicide rates to obtain a combined rate. When the countries were ranked in order of these combined death rates, their sequence was nearly identical with that of their suicide rates alone, again suggesting that national inconsistencies about defining suicide do not account for national differences in its incidence.

Table 3

Correlations between A, suicide rates of County Boroughs 1950-52 and 1960-62 and, B, open verdict rates 1954-57 and 1964-67, by whether or not coroner changed (Sainsbury & Barraclough 1968, Barraclough 1970)

| Boroughs          | N    | Spearman's r | P       |
|-------------------|------|--------------|---------|
| (A)               |      |              |         |
| All               | 79   | 0.42         | < 0.001 |
| Same coroner      | 39   | 0.45         | < 0.01  |
| Different coroner | 19 ● | 0.49         | < 0.05  |
| (B)               |      |              |         |
| Sample            | 55   | 0.34         | < 0.02  |
| Same coroner      | 30   | 0.56         | < 0.001 |
| Different coroner | 20   | 0.27         | NS      |

● Boroughs in which coroner changed in the years during which average was estimated are excluded

A last point about epidemiological methods and suicide: my interest in the social correlates of suicide has not only been for what they have to tell us about the social circumstances or events, such as being an immigrant or socially isolated or bereaved, that predispose to it; but also because, having identified these factors, the likelihood is that they will also relate to the occurrence of other kinds of abnormal behaviour, particularly mental illness, whose epidemiology is so much more difficult to study than is suicide's (see below).

So, our analysis again points to the far more profitable conclusion that it is not reporting but

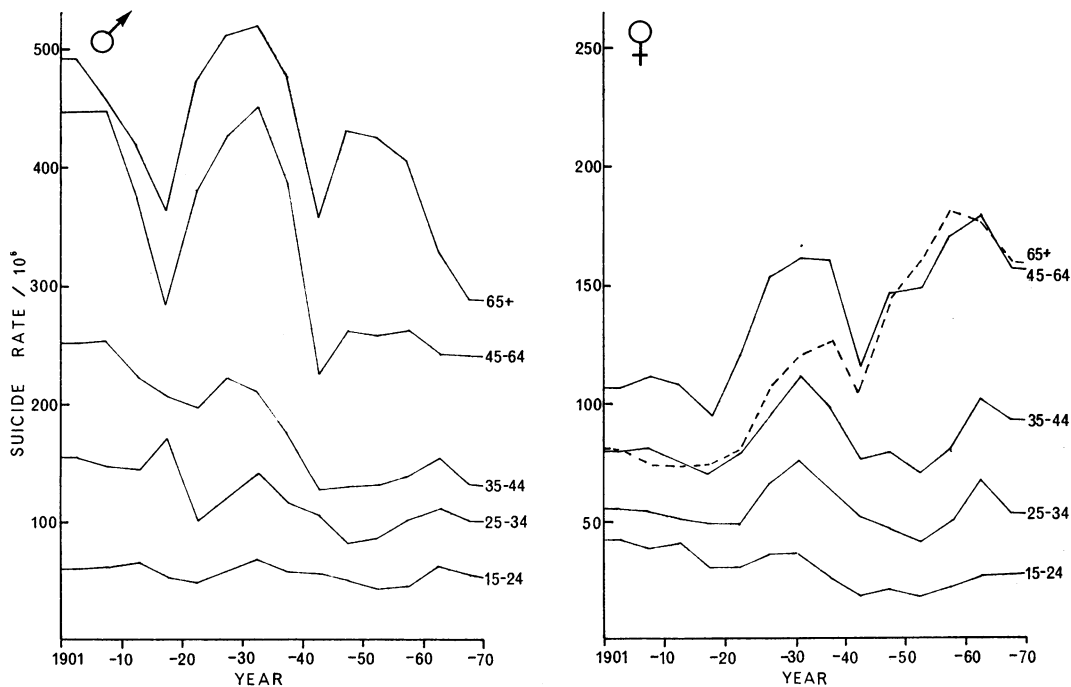


Fig 1 Suicide rates 1901-70 by sex and age

social effects that are likely to account for the differences in regional rates. Armed therefore with an apparently reliable technique, we can get on with the business of identifying the attributes of those at risk, of pursuing causes and investigating remedies. Though it was essential to deal with the criticisms, this scrutiny of official statistics may have seemed unnecessary; because it was by using these sources seventy-five years ago that Durkheim recognized the remarkable consistencies and regularities in the suicide rates of demographic groups and of districts. Briefly, he inferred that the incidence of suicide depends on the extent to which people are integrated with society and controlled by it. If its members share the norms and values of the society, they are protected against suicide; and conversely a loss of domestic, occupational and religious ties promotes it. And studies to test predictions from his theory confirm that the socially isolated are more prone to suicide.

With these comments – and recent speculations in the press – in mind, it might now be worth glancing at national trends in suicide to see whether, for instance, it is really increasing, and if so in men or in women; and whether more young or old people are resorting to it.

Fig 1 shows the five-yearly suicide rates of men and women by age groups in England and Wales since the beginning of the century. It is clear that the rates vary considerably over the years: the dips, however, relate to the two world wars, and the peak corresponds to the economic depression in the early 1930s, changes which are seen in all countries. But the interesting feature is that the general direction of male suicides is downwards, while that for females is upwards. This increase in female rates is found in all nine countries that have recorded mortality figures from 1900 to 1954. And in the 23 with records covering the period 1920 to 1965 a significant proportion show an increase. I hasten to add that though these figures may provide an index of woman's emancipation, the sex ratio is still far short of equality. Suicide in men, by contrast, decreased up to 1954 but the downward trend since then is not shown in a significant proportion of nations.

The graph lends little support for the cliché that the pace of life in this technological age is increasing suicide and mental disorder; if anything, there has been a gain in well-being if suicide is the criterion. Parenthetically, over 90% of suicides are found to be mentally ill, but as there are no statistics describing the changes in prevalence of mental disorder over the years, the suicide trends are the only evidence that I can

**Table 4**

Changes in the incidence of suicide in 22 countries between 1922 and 1953

| Age            | Countries in which suicide |           | Change   | P      |
|----------------|----------------------------|-----------|----------|--------|
|                | Increased                  | Decreased |          |        |
| <i>Males</i>   |                            |           |          |        |
| 20–39          | 5                          | 17        | Decrease | < 0.01 |
| 40–49          | 7                          | 15        | Decrease | < 0.1  |
| 60+            | 9                          | 12        | Increase | NS     |
| All ages       | 5                          | 14        | Decrease | < 0.05 |
| <i>Females</i> |                            |           |          |        |
| 20–39          | 7                          | 13        | Decrease | NS     |
| 40–49          | 13                         | 8         | Increase | NS     |
| 60+            | 16                         | 5         | Increase | < 0.02 |
| All ages       | 15                         | 6         | Increase | < 0.05 |

think of for supposing that serious mental disorder has not increased either.

The opposite trends in males and females demonstrate the variation between social categories although the net change in suicide is negligible or slightly downwards. The changes in different age groups are therefore worth looking at too. Fig 1 shows that it is suicide in elderly women that has been increasing most; and this has also been the experience of the majority of countries in the period 1922–54 (*see* Table 4, Sainsbury 1963). It has been suggested that the high rates in the old relate to their lack of a socially useful role, domestically and occupationally. And we have collected some support for this idea, because in societies in which it is the custom to honour their elders, the usual increase with age is not seen.

The rates of young people up to 25 increased between 1955 and 1965, not only here but in many other countries as well; and in the case of young men there has been a rise in a significant proportion of nations. Durkheim would have little hesitation in describing the social predicament of young people today as 'anomic'. There is less consensus within our society than previously: goals are contradictory and values fluid. Or to put it Wilde's way: 'The old fashioned respect for the young is fast dying out.'

A more salutary feature of the English figures is the substantial fall in suicide during the last few years at all ages excepting the youngest; a change which may be considered separately from the long-term trends. Is this dip, a surprising one in present circumstances, an indication that some new factor has been introduced? May it perhaps be related to more efficient lay services, as the Samaritans would affirm, or to improved medical and psychiatric ones? It may be relevant, for instance, that Barraclough (1972*b*) has shown that the fall in incidence correlates with the amount of antidepressant drugs prescribed. However, Hassall

& Trethowan (1972) find the reduced incidence also relates to the detoxification of domestic gas, while Hetzel argues the availability of barbiturates is a major determinant of incidence. The causal nature of these relations is a matter for speculation. And whether availability of a method truly affects incidence or merely the extent to which it is preferred is a question still to be answered.

In what has been said it has been assumed that suicide relates to mental disorder as well as to social factors; and that introduces another matter on which convictions differ. I refer to the division between those who think of suicide as being socially determined and those who hold that it can be fully accounted for in terms of the individual's psychology. Few people probably take up either of the extreme positions; nevertheless, social and psychological investigations have both developed methods and theories, and reported findings which are seen by many as irreconcilable. I believe this to be unimportant. The facts obtained by carefully planned work remain 'facts': their assimilation into a satisfactory socio-psychiatric theory is another problem, and one which fresh minds and new knowledge will, in due course, solve. Meanwhile, to take up an 'either-or' position – to applaud one lot of findings and deny others – is wasteful of knowledge and proliferates sterile argument.

Again we must resort to dull, sublunary facts to argue, first, that mortality statistics can also be used to identify likely causes of suicide, which can then be confirmed by case studies; and secondly, that this outcome is a consequence of both social and psychological factors.

Consider, for example, the hypothesis that moving house is a psychosocial stress predisposing to suicide. The figures on immigrants (Tables 1 and 2) provide a suitable starting point. They show that the suicide rates of all the immigrant groups are higher than the rates of their countries of origin. So the Australian and WHO statistics indicate that people leaving their native country for another are more at risk for suicide. Do other figures confirm this? Some time ago, I also became interested in Englishmen who leave their native county and move to London (Sainsbury 1955). This was because the proportion of residents from other parts of the country, of London-born residents and of immigrants from overseas was used as a measure of social isolation in the boroughs. My purpose was to see whether Durkheim's theories accounted for the differences between the boroughs' suicide rates. As it happened, each measure showed a close relationship with suicide; the boroughs with the most

immigrants had the most suicides, and those with the most London-born the fewest. But correlations of this sort do not by themselves carry much conviction; they could be artifacts, and they say nothing about causes. As a next step, therefore, the coroner's records of all suicides in five of the boroughs were examined to see if, in fact, more suicides came from overseas than did the population in general. They did. So the case reports had supported the statistical findings; and it was concluded that immigrants are suicide prone; but also that the communities they congregate in are the more socially isolated ones which have a high incidence of suicide. It was not clear, however, whether boroughs with many immigrants have more suicides because the newcomers kill themselves, or because they cause the population into which they move to do so; nor how either of these explanations depends on social isolation.

Table 5

Correlations between borough suicide rates and percentage of population resident for a year or less, by previous residence

|                                 | Males | Females |
|---------------------------------|-------|---------|
| Immigrants, moved into borough  | 0.10  | 0.38 ●  |
| Migrants, moved within borough  | 0.11  | 0.13    |
| Emigrants, moved out of borough | 0.05  | 0.07    |

●  $P < 0.001$

Barraclough & Warnke (unpublished) extended the London findings by relating the male and female suicide rates of all boroughs of England and Wales to the census data on immigration. They showed, first, that only female suicides related significantly to the numbers moving from one borough into another; but secondly, that suicide related neither to moving house within a borough, nor to the number of people leaving the boroughs (see Table 5). It would therefore appear that if too many people come into an area its social stability might be disturbed in a way that predisposes the women residents to suicide.

Next, they related suicide and duration of residence in the boroughs. Table 6 now shows a quite striking association; and again it is very clear that women rather than men are being

Table 6

Correlation between rates of suicide and of duration of residence of men and women in 83 county boroughs

| Duration of residence (years) | Males<br><i>r</i> | Females<br><i>r</i> |
|-------------------------------|-------------------|---------------------|
| < 1                           | 0.13              | 0.35 ■              |
| 1-2                           | 0.09              | 0.37 ■              |
| 3-5                           | 0.28 ●            | 0.32 ●              |
| 6-15                          | 0.14              | -0.01               |
| > 15                          | -0.19             | -0.05               |
| Since birth                   | -0.18             | -0.45 ■             |

●  $P < 0.01$  ■  $P < 0.001$

adversely affected, but now it looks a bit more likely to be a consequence of having moved rather than the unsettling effect of too many strangers upon the indigenous population.

It was possible to explore these alternatives as Barraclough *et al.* (1970) were also engaged upon a combined epidemiological and case study of suicides in West Sussex and Portsmouth. It was a case study in that they visited the homes of all suicides soon after the inquest. Using a prepared schedule they interviewed the relatives, friends and doctors in order to obtain details of suicides' psychiatric and medical status, and of their management prior to death; to describe their social circumstances, in particular whether, as we predicted, they lacked ties with their family, religious, work and neighbourhood groups; and to see what social and personal crises preceded or might have precipitated their death. The study was also an epidemiological one, because the suicides were consecutive so they could be compared with the population at risk on various social items contained in the census. But these, of course, are limited, so a matched sample of the normal population was also interviewed to provide comparable data on the other social items: the sample was randomly drawn from general practitioner registers.

**Table 7**

Percentage of suicides and controls resident in the area for different durations

| Duration of residence (years) | Suicides (N=75) | Controls (N=150) | P      |
|-------------------------------|-----------------|------------------|--------|
| < 1                           | 27              | 5                | < 0.01 |
| 1-2                           | 13              | 7                | < 0.05 |
| 3-5                           | 17              | 25               | NS     |
| 5-10                          | 11              | 21               | NS     |
| > 10                          | 32              | 42               | NS     |

$P < 0.001$ , 4 d.f.

When the duration of residence of the 100 suicides was compared with the matched normal population, a much higher percentage of suicides had recently moved (Table 7). The findings on the boroughs are therefore explained, at least in part, by the immigrants killing themselves; in any case the associations first disclosed by the official figures were amply confirmed by examining actual cases.

Analyses by age indicate, not unexpectedly, that elderly men and middle-aged women are the groups most vulnerable to the effects of moving house; adjusting to a new environment is more difficult in later life.

More detailed studies of the suicides who had moved in the last two years – the most risky

period – supported our predictions that immigrants dying in this way are more isolated than are the controls who moved, and than suicides who did not.

Table 8, for example, shows that the suicides who had moved house in the last two years were much more likely than the controls to be either single or widowed; and less likely to be married than were the other suicides. Similarly, suicides of all ages were more often found to be living alone or in hotels following a move; and here again the elderly stood out.

**Table 8**

Marital status and moving house in previous two years among 75 suicides and 150 controls

| Marital status     | Percentage of those moving house |            | P      |
|--------------------|----------------------------------|------------|--------|
|                    | Suicides ●                       | Controls ■ |        |
| Single             | 52                               | 17         | < 0.01 |
| Married            | 14                               | 10         | NS     |
| Widowed            | 47                               | 0          | < 0.01 |
| Divorced/separated | 73                               | 40         | NS     |

●  $P < 0.005$  ■ NS

In this context, a group of particular interest are the elderly who retire to seaside resorts. In moving they are likely to rid themselves of the many, often life-long, social supports of their previous neighbourhood. So a finding of some importance was that more suicides than controls over the age of 60 had moved to Worthing to a greater extent than to other areas.

But that is not all. Table 9 shows that the immigrant suicides complained of loneliness, had fewer children living, and had fewer of their relatives living within a ten-minute journey than had the controls who moved. So I think it is fairly plain that suicides who have moved house are more isolated in so far as they have fewer links with their family and with their neighbourhood. Similarly with occupation, the suicides who moved house had had more unemployment and had changed jobs more often. All these findings are significant at the 5% level or less.

How about crises and other outrages of fortune? When we assessed recent social stresses and events

**Table 9**

Suicide, moving house and domestic isolation among 75 suicides and 150 controls

| Status                         | Percentage of those moving house |          | P      |
|--------------------------------|----------------------------------|----------|--------|
|                                | Suicides                         | Controls |        |
| Living alone                   | 49                               | 23       | < 0.05 |
| Childless                      | 46                               | 20       | < 0.01 |
| No relatives within 10 minutes | 43                               | 13       | < 0.01 |
| Lonely                         | 50                               | 27       | < 0.05 |
| Living in hotel, &c.           | 52                               | 23       | < 0.05 |

that might add to the loneliness of someone who has moved to a new locality, we found the suicides had experienced more recent bereavements both before and after moving, particularly the women. Misfortunes, then, may very well aggravate the adverse effects of moving and precipitate the suicidal act.

And lastly, does the mover's mental state differ from the more sedentary suicides? Two groups of movers were differentiated: those who had made a number of moves, and those who had made only one. The first or peripatetic group differed from the others in having more cases with an abnormal personality, more alcoholics, more previous suicide attempts, and more encounters with the law; in short, these suicides had asocial personalities. Nearly all the other group, that is those moving only once, had a depressive illness; and they did not differ in this respect from the suicides who had not moved at all.

Though this account of people who move house has been detailed, the results are consistent and support the predictions. I think three conclusions may be drawn: first, the findings indicate the importance of social factors in general in predisposing to suicide; secondly, that social isolation, and socially isolating events in particular, contribute to the suicide of immigrants; and thirdly, that the suicide's social characteristics interact with his psychological ones in causing the act. That is to say, although the suicide's social situation, or his misfortunes, or his depression do not differ, except perhaps in degree, from those that any of us might encounter – living alone, despair and bereavement are all too common – it is the way in which these threads are woven that determine the outcome.

Earlier on I said that it is technically easier to see how social factors relate to suicide than to mental disorder; but once a definite association has been established with suicide, then postulating a similar relation to mental disorder and the more difficult task of investigating it becomes worth while.

Thus when the proportion of all referrals to the psychiatric services in the Chichester district who had been resident for less than a year were compared with the population at risk, nearly twice as many psychiatric patients had moved house (Grad & Sainsbury 1966).

Furthermore, Mrs Collins and I (Sainsbury & Collins 1966) interviewed consecutive referrals to the psychiatric clinic in Crawley New Town and a random sample of healthy neighbours. For the

Table 10

Length of residence in Crawley New Town of psychiatric patients and controls

| Length of residence (years) | Males (%) |          | Females (%) ● |          |
|-----------------------------|-----------|----------|---------------|----------|
|                             | Patients  | Controls | Patients      | Controls |
| 0-2                         | 37        | 36       | 40            | 17       |
| 3-5                         | 33        | 31       | 40            | 47       |
| > 5                         | 30        | 33       | 19            | 36       |

●  $\chi_1=6.8$ ; d.f. 0.2;  $P < 0.05$

most part, residents had moved to Crawley because they had to: the factories employing them moved. We asked both groups why they moved and when, and also scored their social participation in and attitudes to Crawley as well as to their previous locality.

Findings relevant to our present problem were that the women patients, but not the men, had moved more recently than the controls (*see* Table 10). The women were also less favourably disposed to Crawley than were the controls; they found it less congenial than their previous address; participated less in local activities; were more bored and lonely; and missed their relatives more. The psychiatric patients who moved were therefore similar to the suicides: the period of maximum stress was about two years after moving, and loneliness, loss of family ties and poor social participation in the New Town were the patients' main problems.

In both examples, therefore, the social findings on suicide anticipated those on the mentally ill.

But I have yet to provide factual support for the contention that nearly all suicides are psychiatrically ill. In the survey in which the homes of suicides were visited, one of the aims was to assess the suicide's mental state prior to his death; in other words, to see to what extent he was suffering from a recognizable mental illness.

We found, as had Robins *et al.* (1959) in a similar clinical study in St Louis, that over 90% had an unequivocal psychiatric disorder; over two-thirds had a depressive illness; another 13% were alcoholics and 8% had other mental disorders (schizophrenia 3%, phobic anxiety 3%, drug dependence 1%, acute psychosis 1%). The diagnoses were independently confirmed by three consultant psychiatrists. Moreover, the proportion of depressives with a family history of psychiatric disorder and with histories of previous manic or depressive episodes was at least the number to be expected in an unselected series of primary depressions. Nor did the incidence of

their clinical symptoms differ from those recorded in the referrals from the Chichester district diagnosed 'endogenous depression' (Grad & Sainsbury 1966). But the crucial point is that the large majority of suicides are suffering from an easily recognizable condition, and one which responds rapidly to modern methods of treatment. For example, a quarter of the cases had a clear history of frequently recurring depressions, a form of the illness in which the drug lithium carbonate has recently been shown to prevent relapses. Barraclough (1972a), using the criteria and success rate of the lithium trial reported by Coppen and others (1971), calculated from our suicide sample that there would have been about 750 fewer deaths last year in England if the recurrent cases had been treated in that way. The implications of these facts for prevention are therefore considerable.

This brings up the problem of whether suicide is in fact preventable. Many are sceptical about the possibility or even the desirability of identifying the potential suicide, and then enforcing or cajoling him into treatment. The Samaritans maintain prevention is not only possible, but already achieved; but others think the evidence warrants a carefully designed evaluation. The findings on mental disorder just mentioned are, I believe, in themselves sufficient grounds; but when added to the data on the medical management of the suicide, which my colleagues obtained, the evaluation of prevention becomes a priority. Barraclough *et al.* (1970) found nearly half the suicides had visited their general practitioner in the week before they died, and that over 70% had done so in the previous three months. The family doctor was apparently recognizing the patient as 'emotionally disturbed' because he prescribed tranquilizers or psychotropic drugs to 80% of them, mostly in the form of barbiturates. However, he was not recognizing those with a depression because only a few of them were given anti-depressive drugs, and then in deficient doses. What is more, 45% died from barbiturate poisoning; and 15 of the 17 suicides categorized as 'impulsive' used barbiturates recently prescribed by their general practitioners (Barraclough 1971).

It would therefore appear that a substantial proportion of suicides could be prevented if their family doctors or the hospital physicians were as well trained in the recognition and management of depression, and of other psychiatric conditions known to have high rates of suicide, as they are, say, in the diagnosis and treatment of pneumonia.

New information hints, rather than proclaims, that other preventive measures are feasible.

Besides becoming more alert to the psychiatrically disturbed person, in whom a probability of suicide is high, an improved psychiatric service and one more effectively planned to care for the high risk patients also has a part to play.

One-fifth of the suicides in our survey were currently in contact with the psychiatric services, half of them as community care patients, though many had not been seen in the previous month. Since depressives are now known to be particularly at risk during convalescence, an efficient procedure for following up patients should clearly be an important feature of any preventive service, especially now that community care is so widely advocated.

But there are observations on the credit side too. One is Walk's (1967) evaluation of the effects of the Chichester psychiatric service on the incidence of suicide. This community service had previously been found to provide treatment for many more people in the district, especially the elderly ones. Walk estimated the suicide rate of patients in contact with the service for the periods before and following its introduction. He found the rate had decreased in patients over 60, that is those who had gained most from it. The likelihood that the improvement in services was responsible should encourage further research of this kind.

In conclusion, I want to put forward an opinion as to how the causes of suicide might be usefully formulated by taking into account the facts now available to us. So, allow me to pick up the three strands that may have become somewhat tangled; and add a fourth one.

The first is a psychological predisposition, which in 93% of suicides is gross enough to be readily classified into one of the conventional diagnostic categories. But, in particular, as Robert Burton had perceived long ago, 'black bile is a shoeing horn to suicide'. This, however, does not preclude some more covert attributes of personality, which for example may account for the fact that only a fraction – about one-sixth – of 'endogenous' depressives eventually kill themselves. In what respects, one wonders, do they differ from depressives who have not attempted suicide.

The suicides who moved house more offer a hint. It will be recalled that they had many of the clinical characteristics of the unstable personality: frequent previous attempts, alcoholism, and conflicts with the law. But these are also the features of attempted suicide that are known to predict suicide or a repetition of the attempt. It may well



be, then, that these suicides with unstable personalities are recruited from the 2% of attempters who each year go on to kill themselves.

Secondly, there is a social predisposition. When discussing moving house, it was clear that a change of residence diminishes the mover's bonds with his family, neighbours and workmates; and in many instances to a greater extent than the immobile suicides, who are also found to be more isolated in these respects. William Cowper, depressed and suicidal, recognized this sense of being a social outcast: 'Man disavows, and Deity disowns me.'

The suicides' participation in their religious community deserves mention, as we were, indeed, able to show that whereas the suicides and normal population did not differ as regards their baptismal or nominal religions, when they were compared in terms of whether they attended their church, the suicides had been significantly less active; interestingly enough, nearly half the controls, but only 25% of the suicides, were practising Roman Catholics or nonconformists, denominations which keep a tighter rein on their congregations.

The third predisposing strand is the personal crisis, or chance events that add to the stresses of life. The calamities and strains that afflicted our suicides more than was to be expected were money and legal problems, illness in the family (though the incidence of physical illness was unexpectedly no greater than among the controls), and bereavements.

A recent bereavement has so far been found to be the most prominent precipitating stress. Bunch *et al.* (1971) have shown that suicides had suffered the recent loss of a parent to a much greater extent than had the normal population; moreover, certain psychiatric and family characteristics had clearly affected the chances of committing suicide following bereavement. Sixty per cent of the bereaved, for example, had had a history of previous mental illness; and males who had lost their mothers were more at risk, especially if they were also unmarried. On the other hand, contrary to some workers, they obtained no evidence that early parental bereavement, that is before the age of 16, had any effect on suicide. The observations on bereavement and on moving house again exemplify the interaction of psychiatric disorder, social isolation and psychosocial stress in suicide.

The last strand is a hypothetical one; nevertheless it deserves further consideration. I believe that

the attitudes to death and self-destruction prevailing within a society and its institutions, particularly its religious ones, must also be a potent influence on the occurrence of suicide. If, for instance, the church anathematizes it, then its practising members will be protected simply on this account; while perhaps the medical community's familiarity with death might engender a more cavalier approach.

Suicide then can best be understood as an interaction of a person's psychological attributes; his social circumstances, especially the extent to which he is isolated; and his capacity to cope with adversity and life's stresses. For the present, then, we must make do with the bare realities that misfortune, mental illness, and detachment from society are the ingredients of suicide; but also with the consoling probability that well-planned social and medical services can provide the means for recognizing and remedying them. I think on the evidence now available it can be said that suicide is to some extent a preventable condition; and that its incidence could be reduced.

Perhaps the 'résumé' should be Dorothy Parker's verse:

Guns aren't lawful;  
Nooses give;  
Gas smells awful;  
You might as well live.

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