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The Numbers Game — Gay Lifestyles,
Epidemiology of Aids and Social Science

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In recent years, medical science has provided us with considerable insight into the nature and consequences of Human Immunodeficiency Virus (HIV) infection and AIDS. Medical scientists and epidemiologists have also attempted to predict or model the extent to which HIV infection may become more prevalent over the next few years. In order to make these predictions, mathematical models are frequently constructed out of the factors or parameters which are believed to influence the development of a particular epidemic. Of particular importance within the modelling of HIV infection are parameters which identify both the *number of sexual partners* an individual has and *particular sexual acts* (primarily anal intercourse) as critical factors affecting the rate of transmission of HIV.

But social science too is needed in order to understand the role played by particular patterns of sexual behaviour in the epidemiology of HIV infection. There are good reasons to suppose that epidemiological analyses which take at face value the self-reports which individuals give concerning the frequency and types of sexual acts they participate in may be seriously flawed in the predictions they make. The social context in which data is collected as well as expectancies about the uses to which it is to be put both influence the reliability and validity of the self-reports that people give.

In this chapter, I will try to identify some of the methodological, technical and substantive factors which interact in the collection of data relating to male gay behaviour. An attempt will also be made to explore the implications of these issues for efforts to predict the rate at which HIV infection may spread. In particular, attention will be focussed on two crucial parameters in epidemiological studies of AIDS — the number of sexual partners and the prevalence of receptive anal intercourse. In exploring the issues associated with making reliable and valid estimates of

these forms of sexual behaviour, reference will be made to research investigating changes in sexual behaviour of gay men within the context of AIDS. This project, Project Sigma — *A longitudinal study of the sexual behaviour of homosexual men under the impact of AIDS* — is concerned to investigate the current sexual lifestyles of gay and bisexual/married men. By interviewing respondents in this study at six month intervals and by asking them to keep detailed sexual diaries in between these interview points, it is possible to detect and evaluate changes in their sexual and related behaviour.

Medicine and Social Science

Many issues to do with AIDS, HIV infection, sero-positivity and infectivity are by their very nature medically defined. But being HIV antibody positive or being diagnosed as having AIDS is more than simply a medical matter, since these conditions profoundly affect people, their relationships and lives. The consequences of HIV infection can therefore be as serious socially and economically as they can be in medical terms. The competences required to study these latter aspects are not medical. Indeed an analysis of the psychological, sociological and economic aspects of HIV infection and AIDS may even be hindered by medical attitudes and orientations since here the issues are of a different order to those usually encountered in medical practice.

But this is not simply a plea merely for a fuller consideration of the social *consequences* of HIV infection and AIDS. In response to the claim made by many doctors that 'laypeople' are unable to contribute directly to purely medical matters, it may be important to point out that, equally, medical scientists and clinicians rarely possess the competence necessary to fully understand social aspects of their human data — competences which stem primarily from training within the social sciences.

Three interdisciplinary and professional rivalries would not be so serious if they did not have consequences for determining priorities in the funding of AIDS-related research. The most obvious example of this can be found in health education and AIDS. It is ironic that whilst enormous effort and cost is given to ensuring that drugs and vaccines are monitored and evaluated, it is assumed that health education to change sexual behaviour needs no corresponding investment. Only after considerable pressure have self-help groups such as the Terrence Higgins Trust and Body Positive received any government funding, and then the amount they have received has been small in comparison to their needs and activities. People

have become accustomed to government action which is purely responsive to crises and which enthrones financial self-help as a prime virtue. But the irony is that even on these terms many aspects of present policy are counter-productive. Lack of funding now not simply means more deaths, but also unnecessary suffering and grossly more expensive health care costs in the future.

However, brave claims about the value of social science analysis with respect to AIDS are not enough. We need to demonstrate how medical issues can be illuminated by social science and how an ignorance of social science may impede or even nullify medical findings. In those aspects of medical science in particular which aim to develop theory from the self-reports which people give about their own behaviour (and this includes activities as diverse as taking clinical life-histories and obtaining information on prevalence of certain behaviours, in addition to more obvious areas like medical counselling), approaches to data collection and analysis which ignore sociologically relevant insights are simply deficient; these areas *need* social science input, if they are to be scientifically credible.

HIV Infection, Epidemiology and AIDS

Nowhere is this need more obvious and important than in epidemiological studies, dependent as they are on behavioural observation, report and information. In the case of the epidemiology of AIDS in particular, we are dealing with a domain that is only slightly less delicate to enquire into than income. For much of the relevant data will of necessity relate to groups that are socially stigmatized (intravenous drug users, prostitutes, gay and bisexual men) and to sexual activities that are personal, sometimes illegal and often socially invisible. Taken together these issues are likely to make us question the reliability and validity of conventional data-collection procedures, and manifestly require the use of sophisticated research skills.

Instead of this, in most epidemiological studies of HIV infection, sexual behaviour and AIDS we typically find a heavy reliance on data collected in *clinical settings*, combined with an uncritical willingness to extrapolate from dubious American studies of sexual behaviour conducted within from the pre-AIDS era. In this chapter I do not intend to discuss in any detail the distortions which can be introduced into our understandings of sexual behaviour by inappropriate sampling techniques nor by the social dynamics of the interview situation. Nevertheless, we need to recognize that sexual behavioural studies of those who already have a history of

sexually transmitted disease (a persistent and clearly powerful co-factor in the etiology of AIDS) are unlikely to provide an unbiased picture of the behaviour of the entire at-risk population. Furthermore, being interviewed within the medical context of a clinic, by an interviewer who may be far from informed and possibly homophobic, augurs ill for truth-telling.

Reliability and Self-report Data

More disturbing in many ways is the clear and repeated evidence from research which suggests that *in general* the reliability of data gathered in such studies of sexual behaviour may be low (Coxon, 1986a; McManus and McEvoy, 1985). This is especially true of the very detailed information necessary for sophisticated epidemiological modelling. The main points concerning this lack of reliability can be summarized schematically as follows.

First, we rely on people's willingness to *report* sexual behaviour to *infer* information about its quality and quantity. This raises serious problems concerning the reliability of the estimates that people may give. Very few studies have attempted to triangulate upon the 'same' sexual events in order to assess the reliability of the claims that one of the parties involved may make. In our own work exploring the dynamics of gay behaviour we have used diary methods to examine the sexual practices of our respondents. On occasions where both sexual partners have been project subjects (either as a couple or contingently) and have completed daily sexual diaries, it has been possible to study triangulated accounts of these 'same' events. Preliminary findings concerning the reliability of data collected by this method suggests that the convergence between accounts is usually surprisingly good so long as the events concerned are recorded soon after their occurrence and the people reporting these are well-motivated and accept the guarantees of confidentiality and anonymity they have been given.

Second, studies of the *reliability* of self-reports of sexual behaviour show that in general, the retrospective recall of information tends to be selective, ordinally distorted and unreliable. Research which attempts to identify when respondents *first* gained particular sexual experiences is likely to show the same biases. However, our research suggests that when it comes to investigating more recent events, it is possible to increase the reliability of the data by repeatedly asking the same questions or by implying them at several points in the course of the same interview. In linear regression analyses of respondents' estimates of their reported daily

behaviour, however, we find systematic individual differences both in overall accuracy and in distortion. Knowing this, individual accounts can be compared; without it, individual comparisons can be highly misleading.

Third, in trying to track the detail and sequencing of sexual behaviour, time-lapse is also an important factor to take into account in assessing the reliability (in the test-retest sense) of the data. The further back in time an event occurred, the less reliable people's reports become. In general, our research seems to suggest that people seem generally incapable of recalling accurately what happened a fortnight ago, let alone before this.

On these three sets of grounds we should be critical of the reliability of data emanating from routine inventories of sexual behaviour collected in a busy clinic for the treatment of sexually transmitted diseases. When this same data is subsequently used to provide parameter estimates of the frequency and nature of particular sexual acts for use in modelling the spread of infection within a particular population, there are grounds for further concern.

Reliably Estimating the Number of Sexual Partners

Nowhere are the consequences of low-quality data-collection more important than in assessing the reliability (and hence the validity) of the responses given to apparently innocuous questions about the 'number of partners' an individual may have had. On *a priori* grounds it might be imagined that those who are sexually exclusive/monogamous would have no difficulty answering such a question, those who have multiple (regular) partners might have some, and that the rest (the promiscuous, the sluts or the sexual athletes according to one's point of view) might have a great deal. In fact two quite different issues are intertwined here: *accuracy of recall* on the one hand and *definitional problems* relating to what is meant by the term 'sexual partner' on the other.

Problems to do with accuracy of recall are easier to deal with, since they relate to the issues of reliability earlier discussed. In recalling sexual encounters, there certainly seems to be a recency effect (people remember best what has happened in the immediate past), but from our research the accuracy of their recall also depends on how varied a person's sex-life is and how large or significant a fraction of it is comprised of one-off contacts. As in the case of reliability of reported sexual acts, we have been able in our work to check the estimates our respondents give of the number of sexual

contacts they have against the actual number they record in their sexual diaries. When we do this, however, the news is not good since estimates of the number of partners (and hence of the rate of change in partners) seem to be *least* dependable when people make reference to their non-regular partners. Since their sexual behaviour is also least predictable for such contacts, and their partner's antibody status is less likely to be known (and as there is a higher chance of alcohol and/or drugs being involved), there are important consequences here for attempts to estimate epidemiological parameters from such data. This is to put on one side entirely the issue of health risks.

But this is not all. If we look more closely at some of the questionnaires that have been to gain estimates of the number of sexual partners that gay men attending clinics for the treatment of sexually transmitted diseases may have had, we find that in many cases answers to questions about the 'number of partners' could not be given in an openended way. Rather, subjects are often provided with fixed pre-supplied categories. Significantly, these categories are rarely of equal-intervals, but follow an implicit power relation: small intervals at the least frequent end of the scale, working up to large ones at the most frequent end. They thus produce *as an artefact* the evidence of 'promiscuity' so often uncritically quoted in the medical and other press (figure 1).

There are good grounds therefore to be suspicious on technical grounds of the reliability and validity of data collected in clinic situations concerning the number of sexual partners an individual has had. But there are other important issues here to do with cognitive and socio-semantic matters.

Figure 1: Questions asked during a recent survey of male homosexual behaviour

- 18 How many different male sexual partners have you had in the past year?
- None
 - Less than 5
 - 6-50
 - 51-100
 - 101-500
 - 501-1,000
 - 1000 or more
- 19 How many different male sexual partners have you had in your lifetime?
- None
 - Less than 5
 - 6-50
 - 51-100
 - 101-500
 - 501-1000
 - 1001-2500
 - 2501-5000
 - 5001-10,000
 - 10,000 or more

Even were we to provide potential respondents with an open-ended or evenly graduated scale of categories, it is important to know how much confidence the respondent gives to the estimate. In this respect, it is surprising how often crucial prefatory comments which indicate that respondents are unsure about the estimates they are about to make can be ignored in recording and analyzing the data. Bell and Weinberg (1978) are virtually unique in asking their interviewers to find out how respondents arrived at their estimated numbers of sexual partners by providing them with the following coded alternatives: 'Rough guess/grossing up/reasonably precise number/exact number'.

Again, not surprisingly, we find that the reliability of these estimates is negatively associated with stated number of partners. There are exceptions: some people appear to carry around a mental diary which they can quote from *ad libitum*, and others clearly set themselves targets. But however celebrated the latter category of person may be in the world of literature, they tend to be rare in practice. In our research, we have been struck with how often a strategy of 'grossing up' is used for estimating anything over a week. As we have found for reported sexual behaviour, the week is usually the critical period of time which can be recalled quite well. When asked to provide estimates over a longer period, subjects will typically 'multiply up' their weekly figure. To the extent that this is true, what one gets in response to such questions is *not* a report on a longer period, but an extrapolation from one (perhaps atypical) week. It may well be that the responses people also give to questions about changes in their sexual behaviour over the last *n* weeks or months have exactly the same shortcomings.

But the most critical issue is: what do people actually mean when they talk of a 'sexual partner'? (and, for that matter, what do researchers?). Without this knowledge we have no basis to make inter-individual comparisons. In particular, if a respondent's conception of a 'sexual partner' does not conform to the researcher's idea of what is meant by this term, then data collection and subsequent analysis will at best be biased and at worst meaningless.

In our own longitudinal studies of the sexual behaviour of gay men, we initially adopted as a tentative working definition of a 'sexual partner' — 'anyone with whom you had any form of sexual experience except wanking when no-one came' — only to find that this failed to do justice to the range of definitions with which our respondents operated. Subsequent work has shown the variety of respondents' definitions to be truly immense. At one extreme may be the man who enjoys sado-masochism (S & M) and who counts as any 'sexual partner' any other man who manifests

an erection in an S & M scene. At the other may be men who only count as 'sexual partners' those with whom they have had anal intercourse to the point of orgasm. Between these two extremes lie many other variations. In the light of this, in studies attempting to gain reliable estimates of sexual behaviour, respondents and researchers need to explore carefully and systematically what each other mean when they talk of 'sexual partners' and 'sexual acts'.

Modelling the Transmission of HIV Infection

How are these points relevant to the broader medical and sociological referred to earlier in this chapter? Given what we currently know about the processes involved in HIV transmission, epidemiological modelling of the likely spread of infection is crucially dependent on the availability of reliable and valid estimates of the prevalence of those acts most intimately connected with viral transmission. Two such parameters are *the number of sexual partners* an individual has and the extent to which *receptive anal intercourse* is practised. For reasons already discussed, reliable and valid estimates of these two parameters will be difficult, if not impossible, to come by using conventional data collection procedures.

But there are other problems too. Modelling the spread of an epidemic such as HIV infection (amongst gay men at least) may be further complicated by the fact that there is an asymmetry of partner exchange rates amongst gay men. Whereas within the heterosexual context the *rates* of partner exchange are equal between men and women, in the case of homosexual populations this is not so because gay men engage in anally insertive and anally receptive acts with different and unequal rates of partner exchange for each of these acts. It would be simpler from the point of view of epidemiological modelling if those engaging in anal intercourse would adopt a consistent role — and indeed for some time epidemiological models assumed that they did. The picture is further complicated by the fact that these two forms of sexual behaviour are associated with considerably different risks of infection. Knox (1986) for example has recently claimed that, 'about 95 per cent of all known AIDS-infected homosexual and bisexual men are reported as A(nally) R(eceptive)'. Whilst statements like these are important in identifying the sexual acts which are particularly dangerous insofar as the transmission of HIV is concerned, they effectually presuppose that gay and bisexual men adopt a consistent role in anal intercourse: a claim which needs further consideration.

Kinds of Homosexual or Types of Sexual Behaviour?

Effective epidemiological modelling of HIV infection crucially depends on information about sexual behaviour obtained from *non-clinical populations*. Until very recently this information has been derived from what elsewhere I have identified as 'a willingness to conjure information out of thin air or by extrapolation from dubious American studies of the pre-AIDS era' (Coxon, 1986b). In this context it may be salutary to think about an incident some months ago when within the space of the same week two eminent medical experts proclaimed, and with no qualification, that 'the' fraction of homosexuals who were 'passive' was 90 per cent in one case and 50 per cent in the other. It can firmly be said that there are *no* reliable estimates of this sort currently available for Britain, not least because to obtain them we would have to pre-suppose that amongst gay men, behaviour is thus segregated. Certainly preliminary data from our own research suggests that a far higher fraction of men engage in both of these practices (but with different rates of partner exchange for each of them) than restrict themselves to one.

In obtaining estimates of key parameters within their epidemiological models, Knox and others rely primarily on studies by Kinsey (1948) and on Gagnon and Simon (1974) for their data. There are problems with this data however since not only was it collected some time ago but within a cultural context very different to that of modern Britain. Unfortunately, the estimates given for the prevalence of certain forms of sexual behaviour in these studies have a tendency to become accepted 'truths' or 'facts'. As an example of this, we can consider Knox's (1986) recent claim (taken accurately, it should be stressed from Gagnon and Simon's work) that, 'the AP ("active") homosexuals are many times (for example $\times 20$) as promiscuous as the AR ("passive") homosexuals, and therefore much less (for example, $\times 0.05$) frequent in this sub-population (of homosexuals)' (p. 167).

Now the empirical basis for Gagnon and Simon's original claim is tenuous to say the least, being based on estimates obtained from non-representative samples even within the American context. But here we can see what was originally a provisional estimate becoming part of received wisdom -- being written into an epidemiological model as a key parameter predicting future patterns of HIV infection in Britain. Given our general lack of knowledge concerning the prevalence of particular types of sexual practices amongst members of non-clinical populations in Britain it is hard at present to counter such claims empirically but data from our research on Project Sigma may in time allow this.

But where do such dangerously misleading images and understandings of male homosexual behaviour come from? Their recent origins can be traced back to psychiatric explanations which seek to understand this behaviour in terms of 'conventional' heterosexual practices. At their crudest, such theories argued that all gay men simply identified with the female gender. Subsequent accounts identified two exclusive types: the socially visible 'effeminate passive' homosexual and the (unseen) 'dominant active' homosexual.

Following Bieber's *et al* (1962) work in the early 1960s, these two types of homosexual men came to be equated with two types of sexual behaviour. It was they who coined the terms 'insector' and 'insertee' to reflect this supposedly fundamental difference in sexual activity. Significantly of course the data which allow such claims to be made derive from clinical samples. It is important to recognize though that views like these were challenged by more sensitive observers at the time they were made. Westwood (1960), for example, was already insisting that all homosexual men could not be typified as exclusively active or passive and pointed out that a significant number of them regularly interchanged roles. These views were subsequently echoed in Harry and DeVall's (1978) work.

Elsewhere I have argued that we should abandon the notion that gay men are predominantly anything, and adopt instead the more realistic assumption that gay males engage in a range of both types of behaviour (Coxon, 1986a and 1986b). This means abandoning the insertor/ee and active/passive typing of *people*, to reserve this distincting only for *acts*. Which of these acts individuals engage in depends critically upon the situation and the type of relationship they are in. In order to develop more sophisticated epidemiological models relating to HIV infection we need to know precisely what differentiates sexual behaviour in these various contexts.

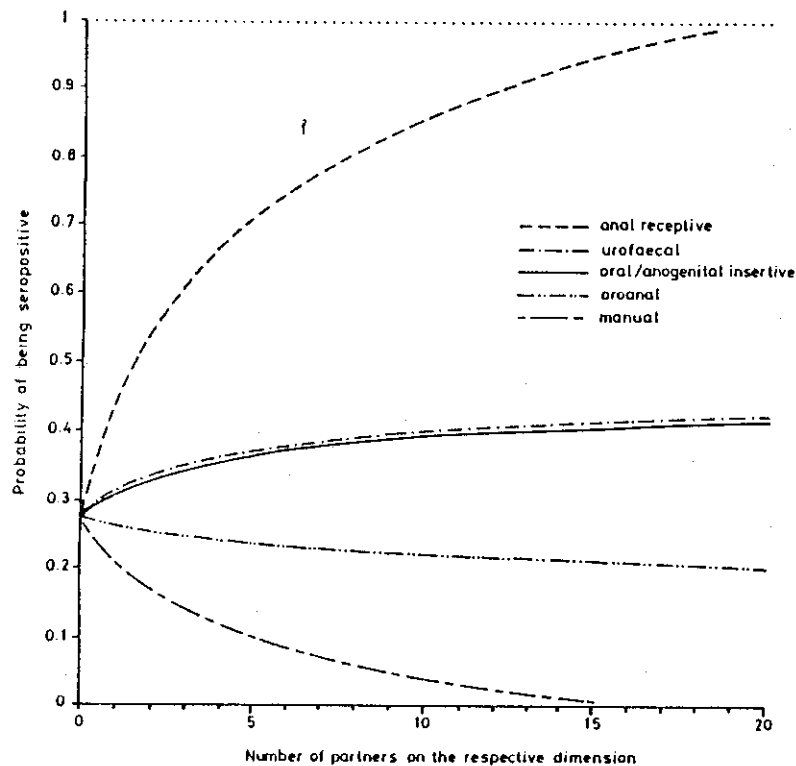
Interaction Between the Number of Partners and Types of Sexual Acts

But that is not the end of the matter. As was pointed out earlier, epidemiological models quite rightly identify as key parameters affecting HIV transmission, anal intercourse and rates of change of partners. But until recently many have failed to explore the crucial role of interaction between these two variables in determining the relative 'safety' of particular sexual acts. Recent research by Van Griensven *et al* (1986) in the Netherlands has begun to investigate some of the behavioural factors

discriminating between those who do and those who do not acquire HIV infection following particular patterns of sexual activity. The results are striking. Not just for anal intercourse, but *in general*, it is the *interaction* of the particular sex act and the number of partners (NP) that does the discriminating between whether or not a person becomes HIV infected, rather than either factor separately (figure 2).

Shown as an operating characteristic, it is clear that 'number of partners' accelerates in different ways depending on the risk of the behaviour concerned. Sometimes, indeed usually, it does this linearly with a varying slope. However, in the case of anally receptive (AR) acts it does this as a strong power function. The difference between $AR \times NP$ and $AP \times NP$ here is quite striking.

Figure 2. HIV seropositivity, number of sexual partners and sexual acts



Source: Van Griensven *et al.* (1986)

For those involved in health education there may be a number of lessons to learn from this data. Perhaps future health education messages should not simply urge gay men to use condoms when having anal sex, but should say quite plainly, 'If you are fucked, you are at by far the greatest risk, and this risk increases dramatically with every different partner'.

Conclusions

In this chapter I have tried to do two things. First, efforts have been made to identify some of the social factors influencing the reliability and validity of data relating to gay male practices. I have been critical of the inferences clinicians and others have drawn from research based on clinical samples of gay men, and have argued that further enquiry is needed to identify the nature and variability of gay male practice. Data from Project Sigma — *A longitudinal study of the sexual behaviour of homosexual men under the impact of AIDS* — may in time provide this.

Second, I have tried to identify some of the problems inherent in the epidemiological modelling of HIV infection. Until we have reliable and valid estimates of various kinds of sexual behaviour it would seem likely that we shall continue to have difficulty in making predictions about the possible spread of infection and in devising health education programmes based upon sound knowledge about the relative 'safety' of particular sexual practices.

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8
AIDS — A Trade Union Issue

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In this chapter I intend to explore why HIV infection and AIDS is an issue for the British trade union movement by identifying some of the ways in which different trade unions have responded to AIDS so far. I will focus in particular on the rather different factors which have led two major trade unions to make very different responses to AIDS and AIDS-related issues. Finally, I hope to show that the trade union movement could play a greater role in tackling the issues raised by HIV infection and AIDS than it has done so far.

Initially, however, it is important to put discussion of these issues in context. Trade unions are far from peripheral to any debate concerning the social aspects of AIDS. The British trade union movement plays a unique role in British society. Proportionately it is the largest and strongest trade union movement in the non-communist world. Despite assaults on trade union rights over the last seven years, mass unemployment and the defeat of the miners' strike, the trade unions are still a major social force, with in excess of ten million members and negotiating rights in most major industries and services. They have also, to some extent, been responsible for much of the progressive social change that has occurred over the last century.

What therefore are the implications of AIDS for this movement? In this chapter four separate, but interconnected, areas of trade union interest will be discussed. These concern conditions of service, health and safety at work, equal opportunities, and National Health Service resource provision.