

PRISON DISTURBANCES

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This talk described a catastrophe model for prison riots. Since the material is to be published elsewhere [1], I will comment here mainly upon the procedure adopted. For, although it is easy enough to use the crisis catastrophe to trot out models of human behaviour by the dozen, which may be both illuminating and entertaining, it is however quite another matter to test such models with data. And if catastrophe theory is going to be of any use in the human sciences, then its models must not only offer qualitative insight, but must also be susceptible to quantitative testing. The prison riot model is one of the first to be fitted to data, and although the results are not conclusive - indeed it is only the first crude test - nevertheless it is perhaps worthwhile discussing the procedure, because this might help in other applications, and perhaps stimulate better procedures.

1. Firstly it takes time; we have been discussing this model on and off for about 5 years: "

2. Secondly it needs a partnership between a mathematician and a

social scientist. The mathematician must be able to understand the social scientist's model, and the social scientist must be able to understand the mathematician's model.

3. Thirdly it needs a good example of a social scientist's model to test the

it a prison or a university; or it have you. An explosion is a catastrophic

jump in the level of disorder, and so we began to look for a catastrophe model. What are the causal factors?

4. It needs patience to collect data. Shanley decided to look for a Gaores prison, which experienced an escalation sequence. Incidents during 1972. He asked one of his staff, Chris Hall, to collect as much likely-looking

retrospective data as possible, Hall found many voices, such as the numbers of prisoners reporting sick, etc., and collected the 52 weekly totals of each during the year, standardised them, and did a computerised factor analysis. The factor analysis threw up two main factors, which it seemed reasonable to call "tension" and "alienation". The tension factor arose

Correlation between sickness, numbers of welfare visits, and numbers

of welfare visits. The correlation between the numbers of prisoners in the parliament requested suspension to avoid their own views.

5. It needs statistical skill to handle complex data. To do this we needed to attach to various analyses, knowledge to interpret the results. For this we called in the expertise of a statistician, Jeff Harrison, who quickly detected the oscillatory nature of the steady growth of alienation (see Figure 2).

6. Then came the plotting. Four people assembled together for a day, joined by a third, Ma Page, who had experience of different types

of graphs. The graphs were plotted for each of the factors, and the results were compared with the original data. The results were then compared with the original data.

their expertise with the hypotheses were plausible, and which unrealistic, which conclusions were valid, and which surprising, and they chose carefully the

right words to use. The matter of opinion was essential, however, for incident of

opinion as to what exactly they the distinction implied: what has

it placed, what freedom it permitted, and what predictions would

from it - difficult questions to answer without discussing at some

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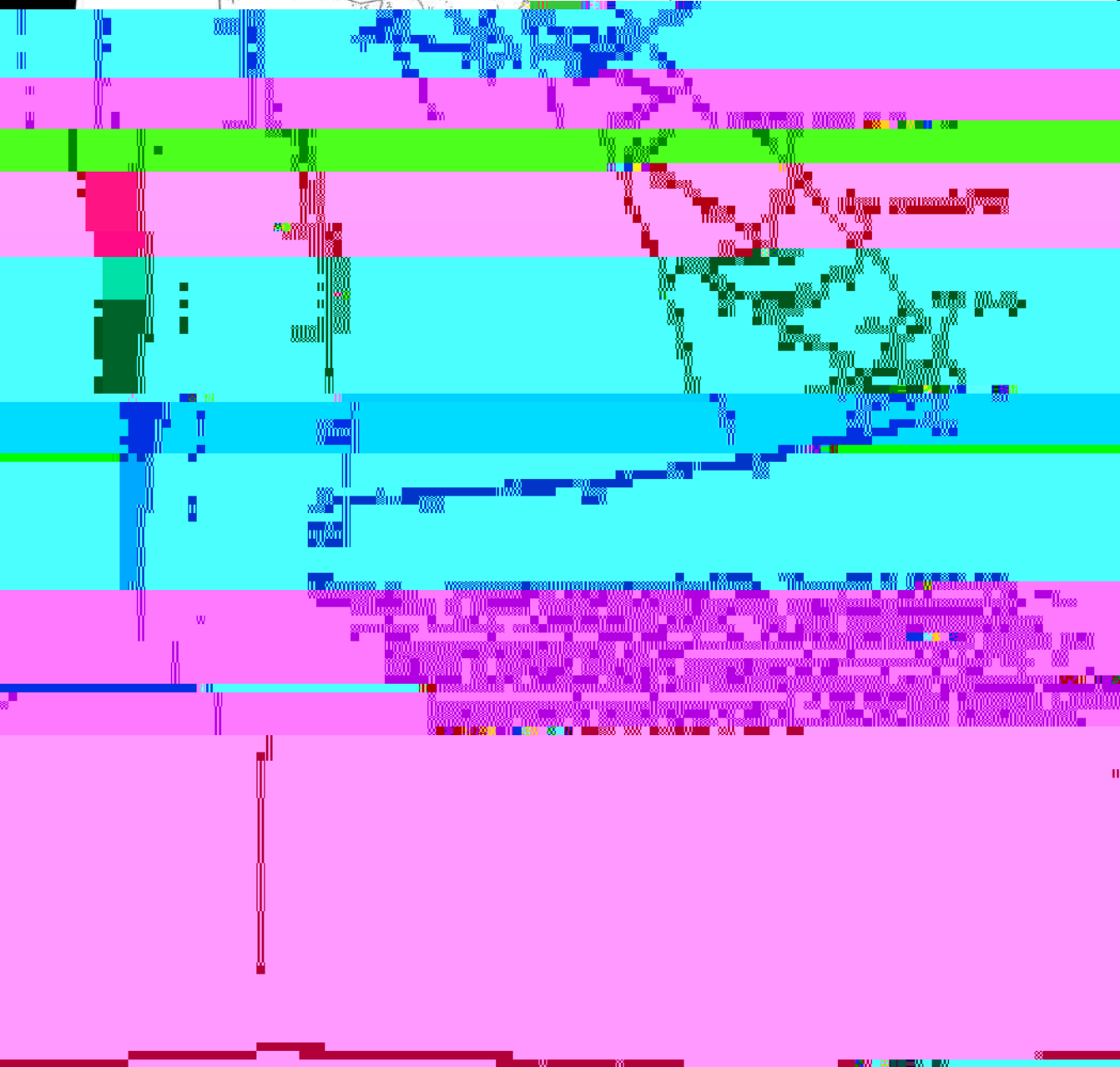
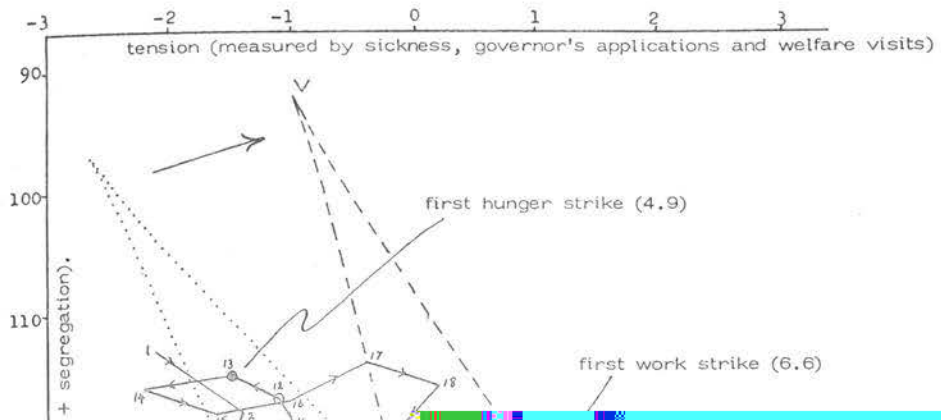
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3-dimensional graph, indeed the only measurements of disorder available



... cause a gradual ... release of tension, and therefore suddenly become spent.

10. An on-plate ...

