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THE USE OF COMPUTERS IN THE CRIMINAL JUSTICE SYSTEM

Canberra
6-9 April 1981

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THE USE OF COMPUTERS IN THE AUSTRALIAN CRIMINAL JUSTICE SYSTEM

a Seminar held by the Australian Institute of Criminology, Canberra, 6-9 April 1981

FOREWORD:

In April 1980, the Australian Institute of Criminology was approached by Mr Roy Christie, one of the Western Australian members of its Board of Management, to assist in the deliberation of the Western Australian Government's Computing Policy Committee on the use of computers in the criminal justice system.

At that point in time, there was no obvious person or organisation in Australia to whom the Western Australian Committee could turn for relevant advice backed up by appropriate experience. Although several such organisations exist in the United States the applicability of their advice was, to say the least, dubious in the context of an Australian State - particularly one with the geographic and demographic features exhibited by Western Australia, as well as costly and time-consuming.

It appeared to us at the Institute the sort of information required to make rational decisions in the allocation of computing power could only be obtained from a detailed survey of current and proposed practices among the other Australian States. However, initial fact-finding interviews showed that, because of factors such as geography, population size and distribution, and political circumstances, the other States were almost as different from each other, in their patterns and extent of computer usage in the criminal justice system, as they were from overseas states and countries whose computer usage patterns were perhaps better documented. Furthermore, these interviews repeatedly brought to light the fact that, through pressures of work and the necessity of attending to a succession of ad hoc problems, those responsible for providing computing services to criminal justice organisations in the States had rarely been able to inform themselves of similar developments in other States or even to talk to their counterparts interstate. Consequently, many people were unaware that they were, quite frequently and at considerable cost in time and manpower, re-inventing computer techniques which had already been adopted elsewhere.

It is not irrational to have different patterns of computer use across the States, when the States themselves differ in so many ways. Indeed it is not always irrational to re-invent computing techniques either, if the cost of tracking down a ready-made solution may be greater than the cost of developing a solution in-house. However, if a ready-made solution could be only a telephone-call away it would be irrational to save the cost of the STD!

Clearly a meeting of minds was required not merely to solve Western Australia's immediate problem, but to improve communications generally between the users and providers of computer services within and between the various State and Commonwealth criminal justice organisations; and it was with this in mind that the Institute sent out invitations to the heads of all State and Commonwealth criminal justice system departments to send delegates to this seminar.

What follows is a summary of the statements and sentiments expressed at the seminar and as such it should be useful both to those who attended, to allow them to digest more fully the subtleties of the discussions, and to those who were not able to attend, to give them an insight to the status of the computing art in the Australian criminal justice systems in mid 1981.

Readers may well find great value in the appendices, which include a list of seminar participants, a useful 'contacts list', along with a small bibliography of existing computer packages and reading material. The Institute's quarterly newsletter, the Reporter, will also be used from time to time as a medium for communication amongst computer personnel in the criminal justice system.

Opening address by Mr W. Clifford,
Director, Australian Institute of Criminology

We are here to exchange information about methods systems and equipment. We are here because we all feel that spirit of impelling discontent with the limitations of our results which is the hallmark of all progressive science and technology. But I would like to suggest a link between that feeling of dissatisfaction and a process which is socially and historically deeper and, therefore, of great significance for criminology. I would like to suggest that some elements of that feeling of dissatisfaction are linked to the process of dehumanisation of modern technology which is at once the source of its greatest efficiency - and of its greatest danger. It has been suggested that an integrated package of computerised bureaucracy and telecommunications will serve to dissociate middle management from the fruits of its labour, just as certainly as the production line has severed the workers from the fruits of their labour, so that there is a real need to construct systems which will not at the same time be barriers to human communication.[1]

This aspect of computerisation is of far more importance to society and, therefore, to crime prevention than all the depredation we associate with computer crime. It is more important because it reaches to the very roots of the community involvement in crime prevention. The Americans have proved by more than a decade of multi-billion dollar expenditure on law enforcement hardware, advanced technology and communications, research and vast new programmes of education, that you cannot really help a community to reduce its crime as long as it does not want to be involved. But "not wanting to get involved" is a complex extending far beyond its crime prevention implications. It is a withdrawal, disassociation, escape from personal contact which increases every year via telephones, television, the encapsulated forms of public service, business, travel or package deal tourism which removes the problems of contact with foreigners. It is behind the fast foods that remove the social ritualism of eating and the vending machines and supermarkets which reduce the need for human contact to a minimum. And more of this kind of detached living is on the way. It fits well with the family disintegration, the selfishness and lack of caring which also characterise our society. And these not only create offenders from the alienated and unattached sections of the community but provide them with conveniently isolated victims who cannot expect help from neighbours who would rather not be involved. Trying not to be involved has become much more than a virtuous and defensive lifestyle - it has become an institutionalised, computerised pursuit of estrangement and dangerous lonely isolation.

We would be foolish if we did not expect to find a measure of this growing social distance and detachment reflected in the computer industry and even within the computer community which has developed around the information systems being established within criminal justice. These are tools which we all know can be used and abused. But this does not only mean that they can be equally advantageous in committing or preventing crime. It means that even within these two diametrically opposed types of use, there is scope for their negative, as well as positive, application. Computers organise and distribute

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1. See Telecom 2000: Australian Government Printing Unit, Melbourne, 1975, p.52.

the information we feed them but the very selectivity of their programming can make their impact weakest where it should be strongest.

It is publicly fashionable these days to talk about computer crimes and this Institute has taken a lead in helping to develop some of the procedures for reducing the risk of computer criminality. The public needs to appreciate, however, that when we survey the range of modern computer crime, it is also necessary to survey the vast range of computer assistance in crime prevention. Before I left America five years ago, every patrol car could get a read-out of stolen vehicles and a great deal of information about wanted offenders. Documents, photographs and forensic data were rapidly stored and distributed. Information was already being bounced off the satellite to ensure that cars approaching the frontiers had their licence plates photographed, checked against stolen car records and the information transmitted to checkpoints and frontier posts to which the car was heading. The retrieval of fingerprint information and modus operandi files has been revolutionised and police forces can now be more effectively deployed when so little manpower is required for information vital to investigations.

However, the depersonalised efficiency of such systems carried their own dangers for the systems themselves. There is the kind of selective misuse of computers which derives from their own inverted expansion of ever more highly specialised functions and from the tendencies of many departments and organisations using the computers to reinvent the wheel whenever modern technology has to be applied to some new area. This arises because of the disassociation process, the remoteness, the tendency to work at arms length from other agencies and departments. Not only does the criminal justice right hand not know what the left hand is doing, there is even, at times, a break in the flow of information above and below the elbows.

This, as already mentioned, contributes to the general danger of isolation but there is also an abuse. The abuse here is in the possible wastage of taxpayers' money if care is not taken to investigate the procedures already in use elsewhere, the possibilities for integration and the opportunities for coordination of the work which is being performed by different types of computers and information systems around the country. This seminar is intended to improve communication between experts in information systems. It is paradoxical that we find this necessary, but we would be lacking in sensitivity if we did not see this as another link in the chain of non-involvement. We have to be aware of this. It is also vitally important that we try, insofar as we can, to refine our techniques and to make sure that decisions on expensive machines and no less expensive, highly trained personnel, are made in such a way that we get the best return for the investment. This cannot be over-emphasized. The problem of spending millions of dollars on systems which are then found to be inappropriate for linkage with other systems or unsuitable for new developments or insufficiently flexible to deal with changing requirements, increases every year. Whilst on the one hand, there is a madness for coordintion and interfacing which is quite as mad as any other obsession - and which could prevent innovations because of the impossibility of providing for everything in advance - there is also a very costly mental blockage involved in the blind desire to be completely independent, or to always seek to have one's own data, to always be able to satisfy one's own needs without reliance on others. The amount of overlapping, the extent of waste, the possibilities of having to renew equipment after expensive decisions have been made, the

generalised inefficiency which could be a consequence of highly individualised and isolated efficiency, is potentially a very serious, as well as a very complex and expensive, problem. We all have to count the cost of not becoming involved - whether we are specialists or laymen, officials or victims.

My comments are, of course, directed to the general situation. I am aware that there are departments which have spent a lot of money trying to survey the technical and professional fields before making their investment decisions. There are many governments which have brought together different departments to ensure the inter-relationships and comprehensiveness of the work they are doing. There have been great developments in the best use of computer time. On the other hand, it is extremely difficult in Australia to always know what investments are being made, what new ideas are being developed, what new machines are being used by whom, what programmes are already provided or overlap and to what extent all these can be linked to the modern movement for freedom of information and the modern requirements for a protection of privacy. Wherever we are working, we have a great deal to learn from each other, and if this interpretation of the modern trends is only half correct, we have far more to gain from association than dissociation. It seems to us here at this Institute that Australia is in a very good position to ensure that in the criminal justice systems across the country there are the necessary lines of communication between computer-oriented people which would ensure that every effort is made to get value for money, improved management and a developing efficiency of computer systems in criminal justice. All this will come from computers and computer specialists seeking to promote as much association between human beings as they have to dispense with. If there are ways of doing this we should discover and exploit them as part of our crime prevention. Because organisational factors are going to be crucial in determining the social utility and adaptability of data services. It is now true that choices do not exist in the way we organise and design our technology. Like King Canute, we may not be able to stem the tide of change, but we have learned since his day how to channel it. This seminar is an attempt to put our own house in order first, by developing better lines of communication. If we want people to become more involved with others, we have to practise what we preach.

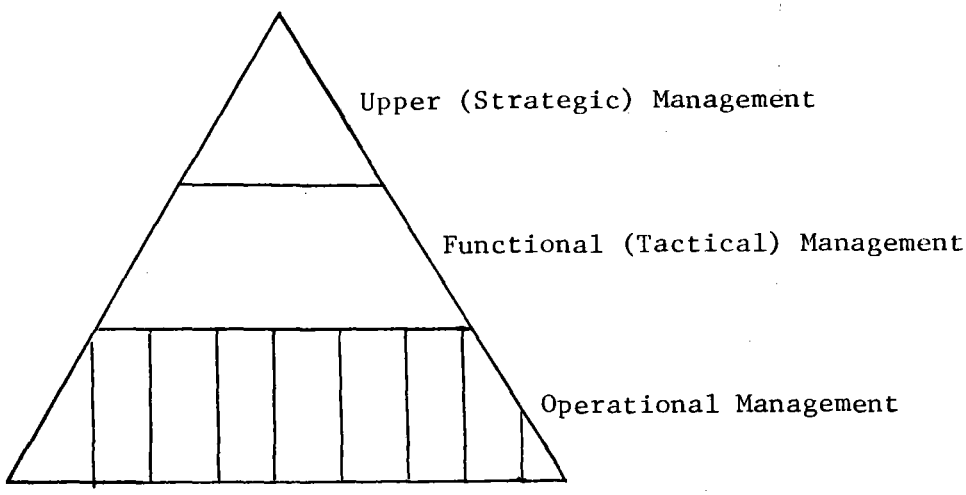
SESSION 1

THE COMPUTER AS AN OPERATIONAL AID

Leading off the discussion Mr Keith Smith explained the general position of government computing in Western Australia from its inception in the mid-1960s to the present day, and in doing so explained the function of his Information Systems Division in coordinating computer use between the various government departments.

He described the changing philosophy of computer use by reference to the "organisational pyramid" (Figure 1), explaining that

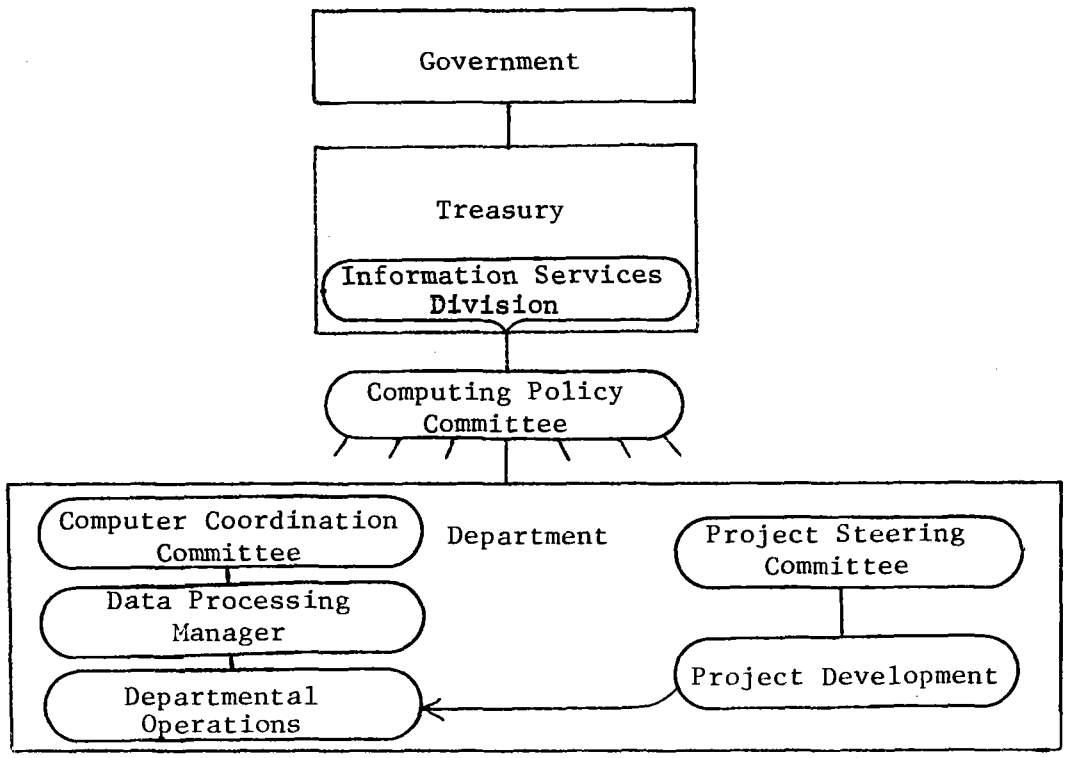
Figure 1: The organisational pyramid



the middle "layer" was the first to gain access to computing facilities with centralised functions such as accounts and payrolls. Other users, often in the operational divisions, were serviced by a centralised systems section and this frequently gave a poor response to relatively simple but urgent problems. The resulting frustration led to a process of decentralisation whereby the operational divisions recruited their own computer personnel who worked in batch-mode on the central machine. One problem with this system was the difficulty of coordinating and rationally allocating machine-time, and so the era of "distributed" processing, aided by the introduction of remote terminals and time-sharing facilities, arrived. Under this system, some processing takes place in the centre, some on the periphery and hopefully those who need to talk to each other can make arrangements to do so. One problem, particularly relevant to such a heterogeneous area as the justice system is that all too few have done so.

A typical government bureaucracy has a computing structure something like Figure 2. Some small departments do not have a Data Processing Manager and in many instances the Computer Services Branch of the Treasury is used as a software consultancy. In any case, in Western Australia, computing is a departmental responsibility. The

Figure 2: Government computing structure



Computing Policy Committee, chaired by Treasury, exists to coordinate departmental activities - computing resources are a scarce and expensive commodity so it is right that their use should be controlled to achieve an overall efficiency. If a Department wants to go against Information Systems Division advice our attitude is firstly "let managers manage" but if the cost-benefit studies indicate an adverse result we have the final veto - no money. Our role is basically advisory - we effectively act as consultants, having the biggest computing library in Perth, available to both public and private sectors.

Figure 3: Data flows in the Western Australian Justice System

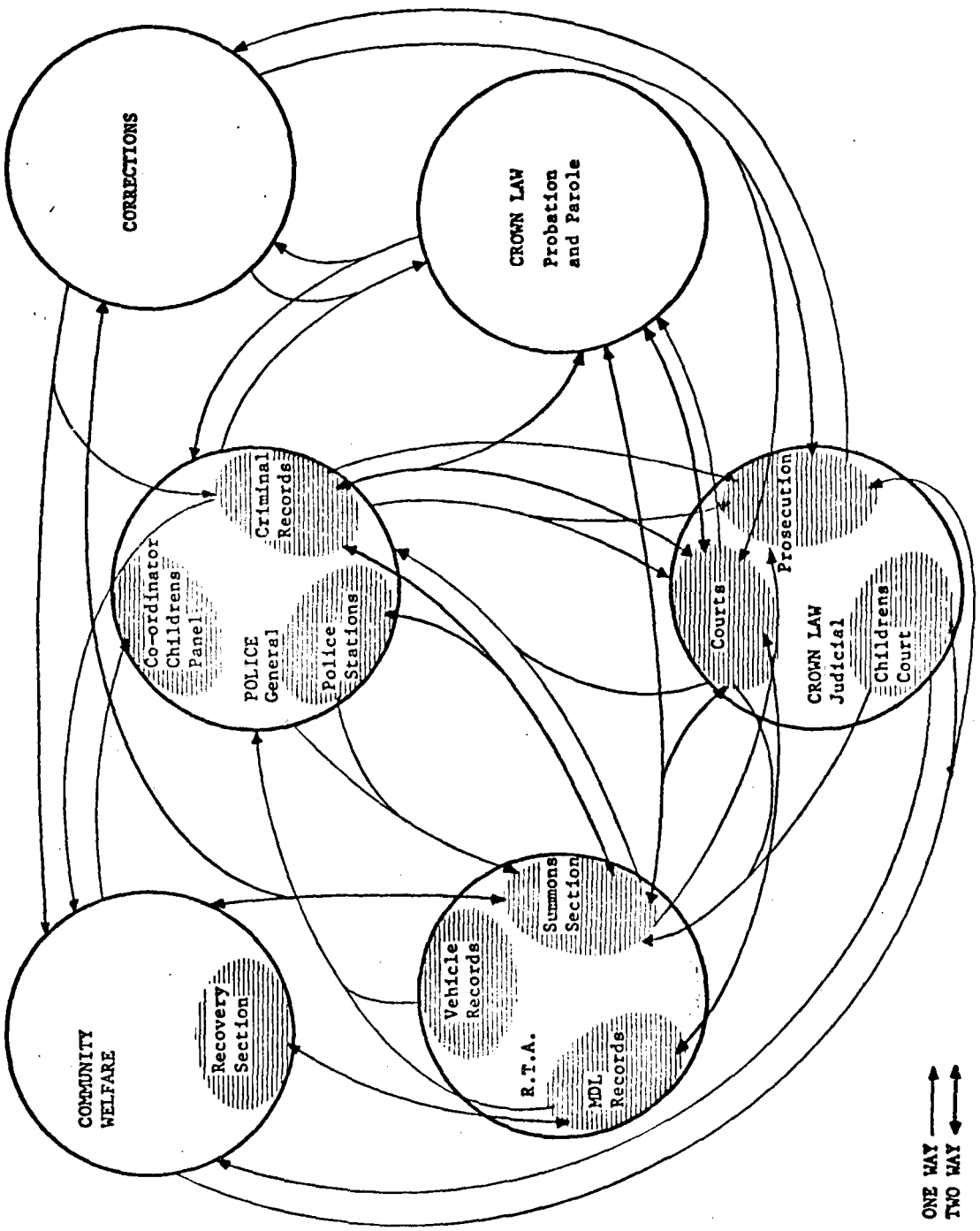


Figure 4: Data flow between Corrections and other Departments

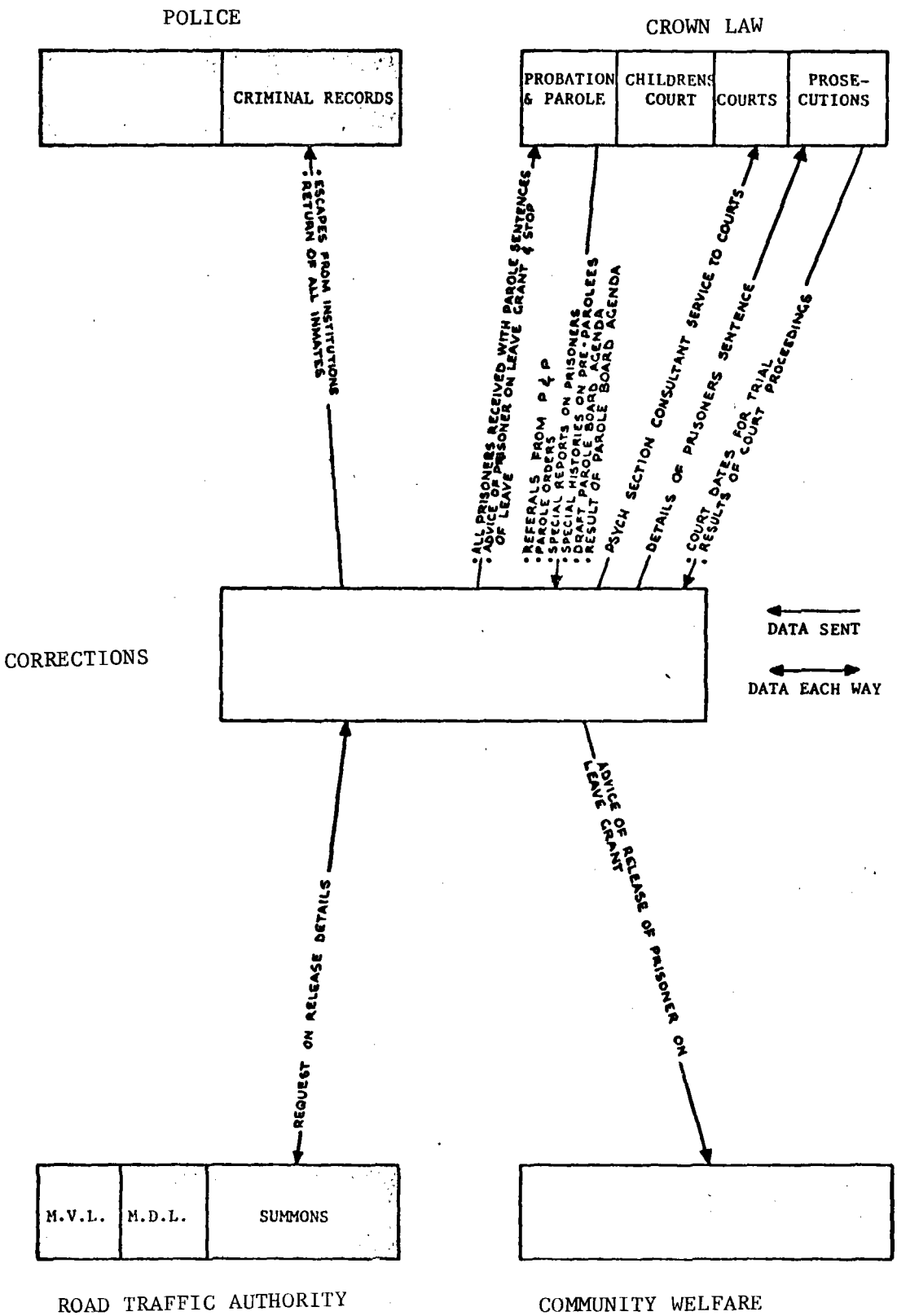


Figure 5: Data flow between Road Traffic Authority and other Departments

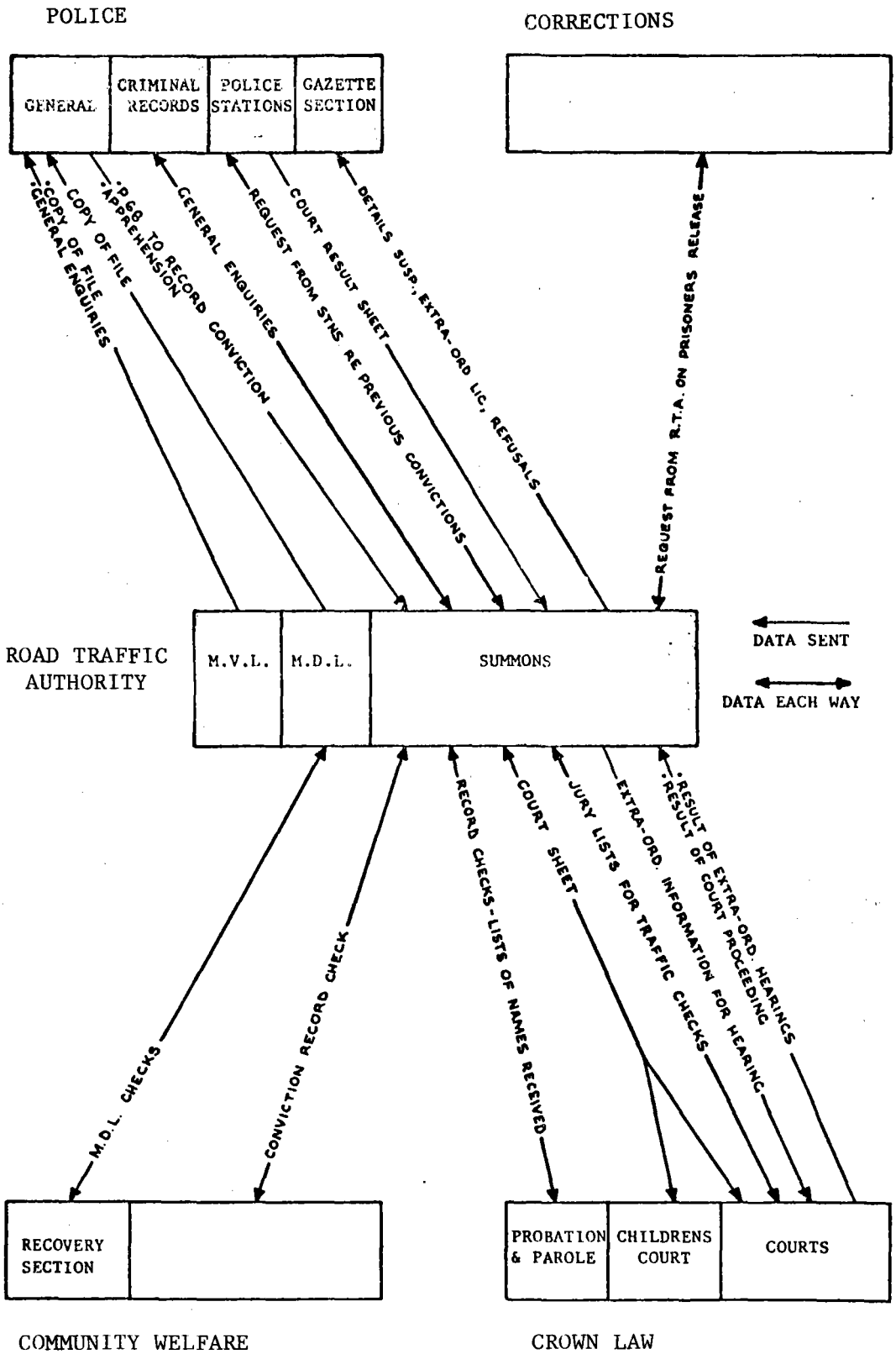


Figure 6: Data flow between Community Welfare and other Departments

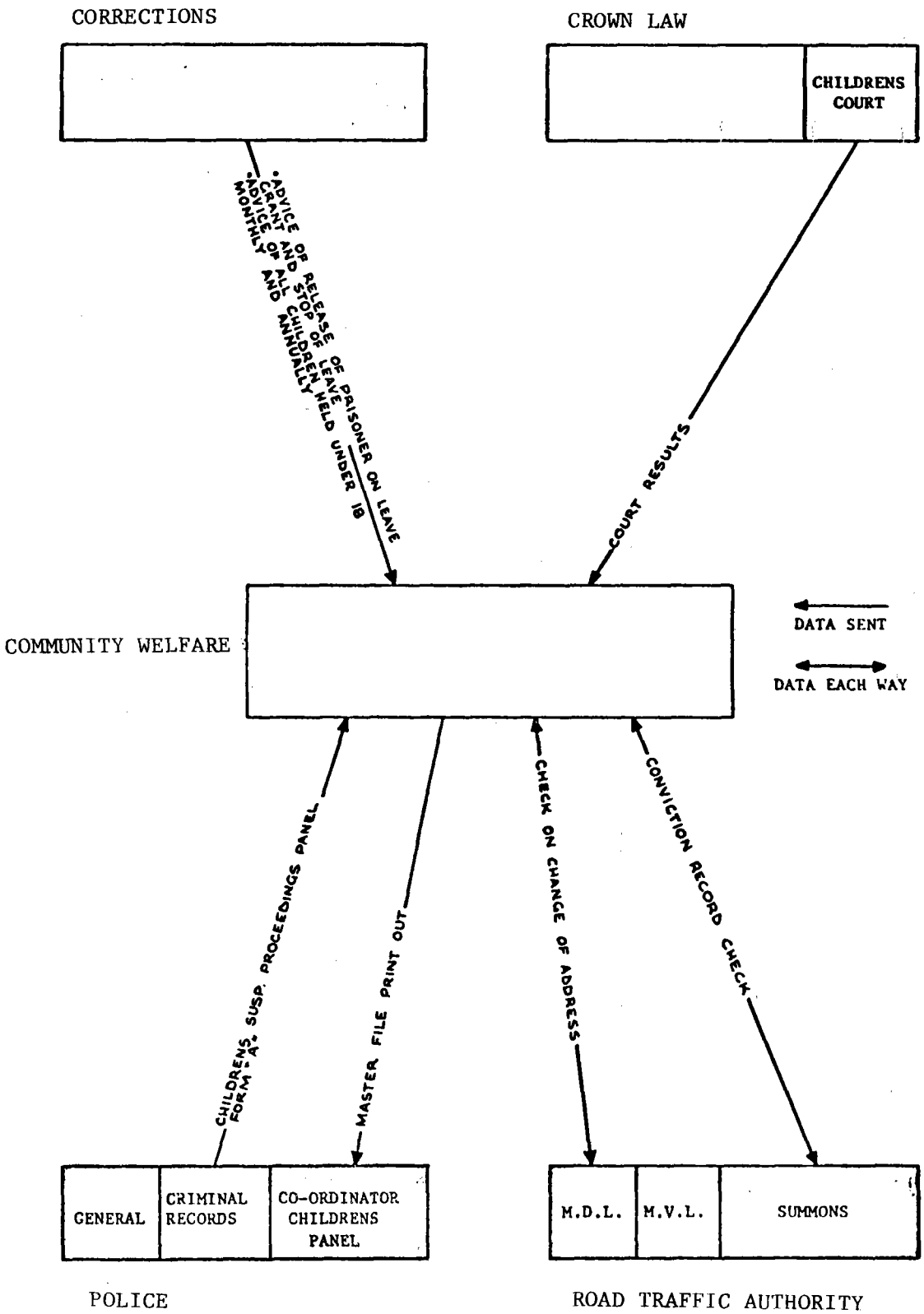


Figure 7: Data flow between Police and other Departments

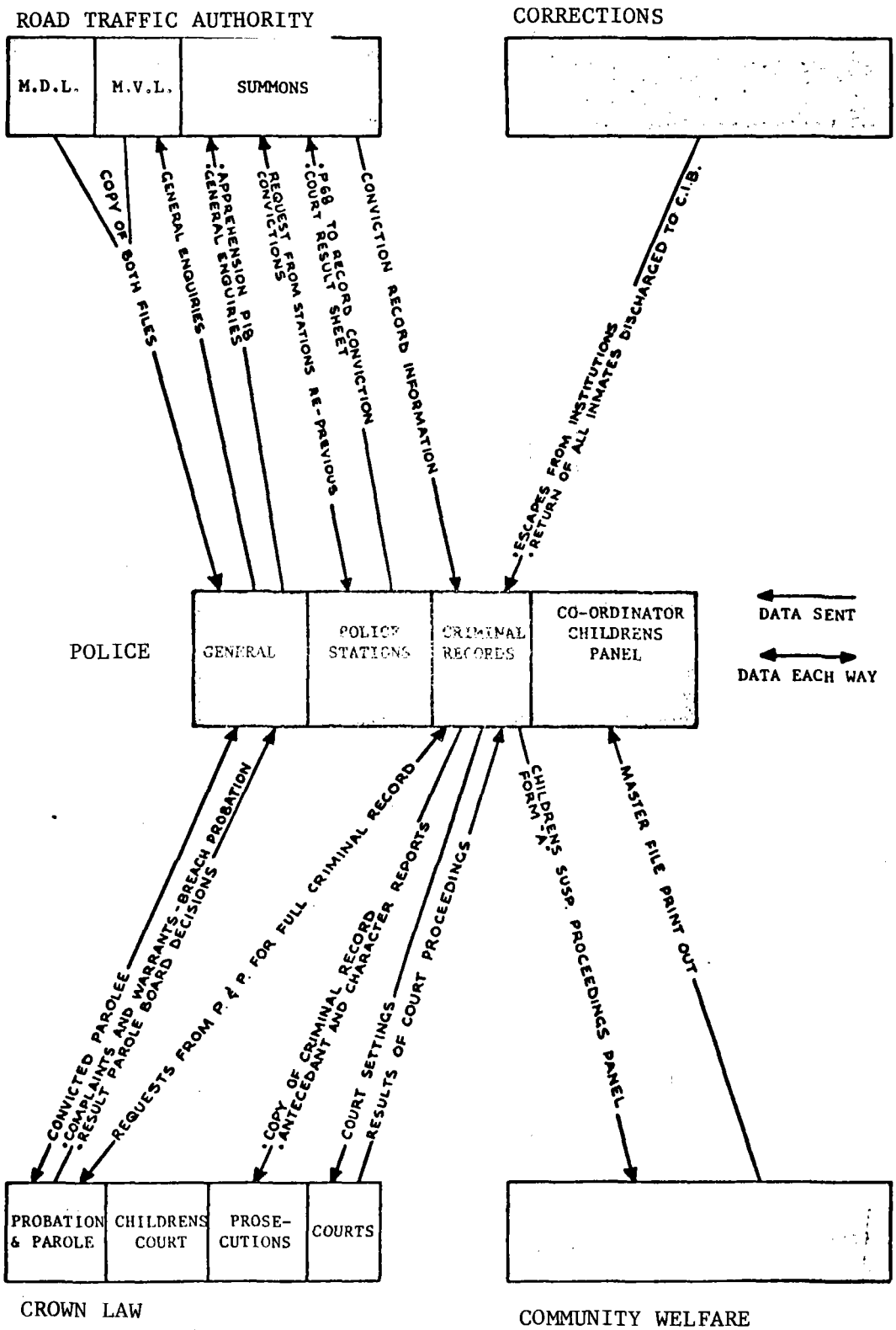
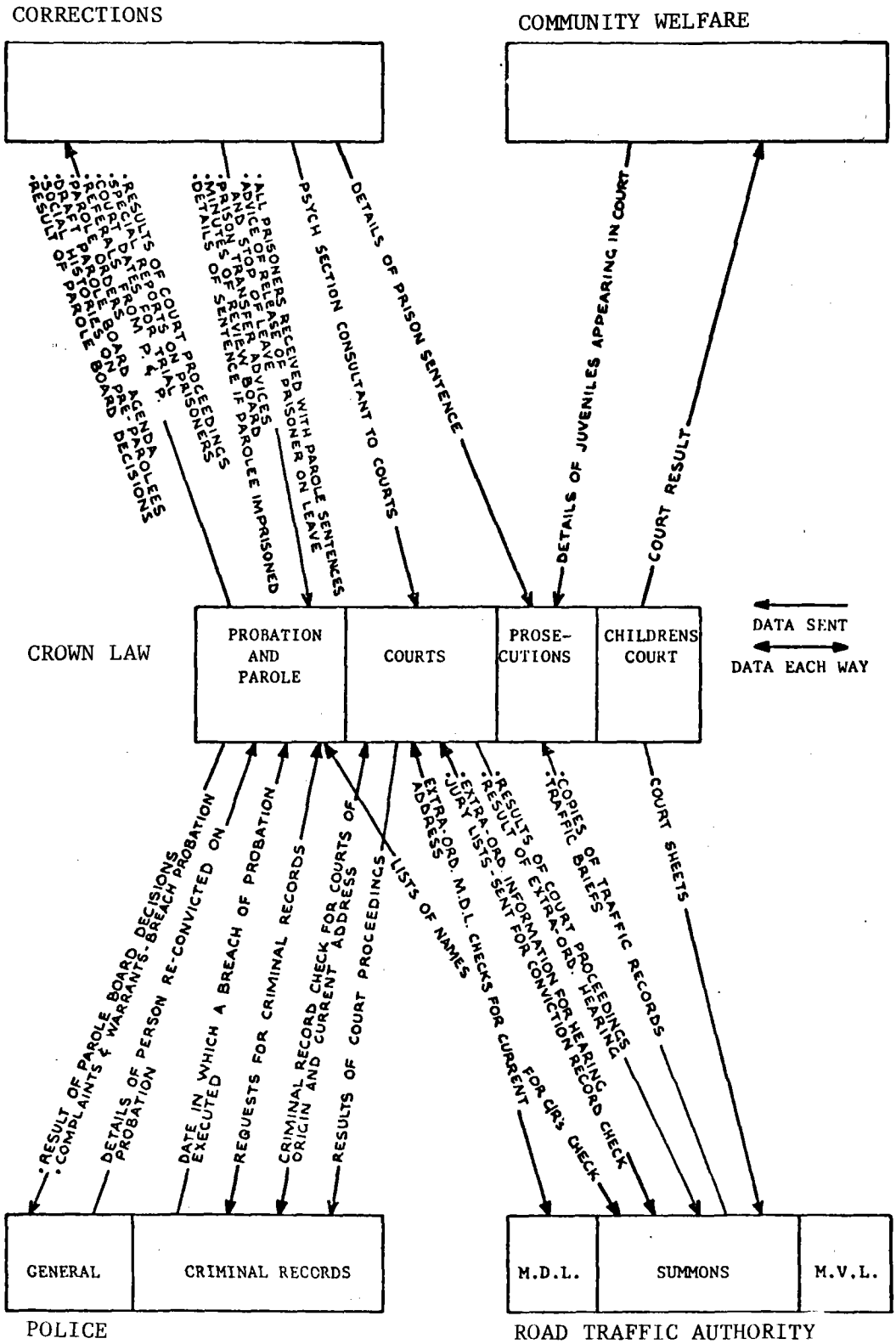


Figure 8: Data flow between Crown Law and other Departments



In Western Australia we have four interdepartmental systems - Health, Land Information, Government Accounting, and Justice. In determining the location of the central computer in each interdepartmental system we have adopted a four-step approach.

1. Identify global relationships between departments - where are the data-flows?

2. Develop a shared computing facility - (which may smack of centralism but we believe that, as a realistic interim solution while many departments are still at an early stage in developing their systems, it is preferable to do this rather than give everyone their own machine).

3. Develop systems using standard interfaces.

4. Allow for eventual devolution of computing facilities as requirements grow.

In the Justice system there are five justice agencies plus the Road Traffic Authority, in which the computer resides (see Figure 3). (The Police system, which commenced operations three years earlier, is a separate entity.) This arose largely because of the costs and structure of computer use, and the RTA's requirement for a large machine which coincided with an upsurge of computing requirements in the justice system.

The Justice system as we define it includes all data collection, recording and retrieval tasks involved in the activities indicated in Figure 3. The Community Welfare data is in a rather different category from the rest in that only a part of it is associated with crime - there is therefore a concern about privacy of information which we take steps to preserve. Nevertheless as far as philosophy is concerned Community Welfare fits in with the overall system.

The system as a whole requires about 800 people to drive it - $12 million per annum in salaries alone. There are actually three information sub-systems - data about offenders, regulatory issues such as licences, and administrative information such as accounts and personnel records. Figures 3 to 8 show the flows of information between the departments and highlights the centrality of the Crown Law Department in terms of data transfers.

Our studies have shown that the justice departments in general have "vertical" administrative systems of paperwork which could often be described as archaic - they tend to be very slow to react and not particularly effective. That is not the use entirely - some of those agencies are already using computers - but there is no way that we will put computers into some areas until they have had a look at their paper systems. The agencies are proceeding at different rates along roughly the same path but there is little incentive for anyone to share anything with anybody - information sharing takes place largely in an informal fashion.

We consider there are three types of data :

- private: that which no other agency is allowed to see
- restricted: that which you may agree to share with certain other agencies
- public: that which may be made available to anyone.

All three types exist within the justice system - so privacy is a serious concern. It was for this reason that Western Australia decided not to use the option of putting all justice records on the Police machine. The present strategy then is for two computer sites - Police and RTA, which have the capacity to communicate where necessary and appropriate. These two departments are at present the only ones with specialised computing staff - hence the need for our "consultancy" branch which will initially "seed" the other departments as required and then build their strength as their requirements expand. This strategy is preferred because often the staffing level to develop a system initially is greater than that required during its eventual operation.

The computing systems already up and running include :

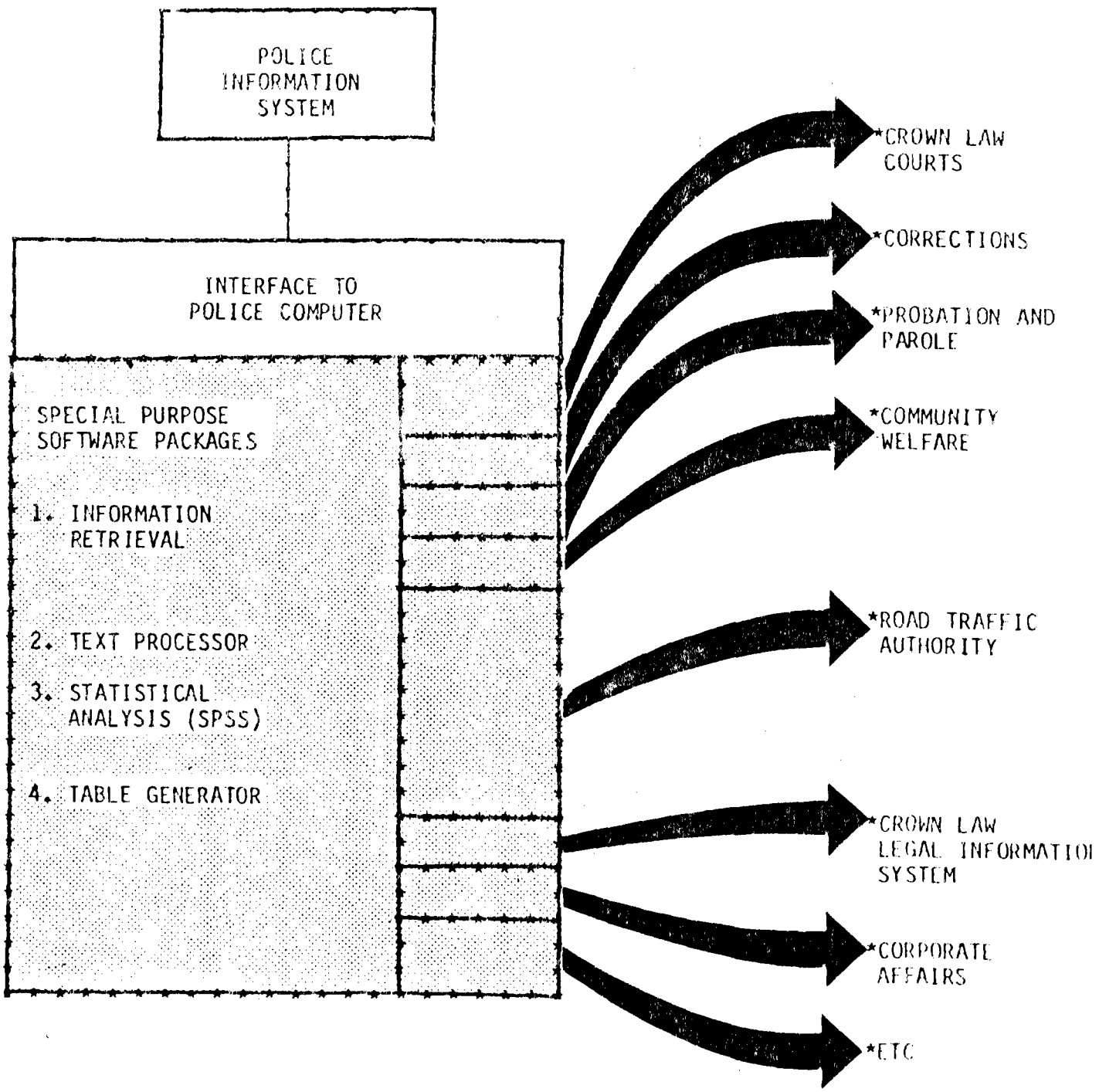
- a vehicle and driver licensing system at the RTA
- a prisoner records system (on another machine) for Corrective Services
- a client-record system for Community Welfare

while those being considered as "possible" include :

- a court-operations scheduling system for the new 27-court Crown Law Centre
- conversion of the corrective services system to the RTA
- a probation and parole client record system
- corporate affairs, legal information systems and other crown law applications.

The privacy issues will be resolved according to guidelines already established and we are interested in what recommendations the Australian Law Reform Commission will adopt. As far as security is concerned, total security is unobtainable and there is a need to optimise with regard to the value of the information being stored and the costs of keeping it secure.

Figure 9: Justice/Welfare Information System - March 1981



The question of how best to determine what kind of data should be collected was addressed first with Mr Sikk and Mr Smith supporting the idea of an "office of crime statistics" led by a criminologist (as in South Australia) on the grounds that needs for statistics fluctuate and departmental staff are often too close to the action to be aware of the wider requirements. The inquiry into Western Australia's prison population was quoted in favour of this argument, and it was noted that the Australian Bureau of Statistics had made a similar recommendation. Mr Foley-Jones disagreed strongly and referred to the history of the ABS itself, which he said was originally intended to take over all statistical collections but which was now limiting itself to providing advice and encouraging individual departments to collect their own - he said that any "office of crime statistics" would go the same way. South Australian representatives denied that this was likely to be a problem in the case of Dr Grabosky's Office of Crime Statistics.

Mr Neuendorf asked if the Western Australian system was designed to fit in with the national system of crime statistics being proposed by the ABS. Mr Smith said that was so, where possible, but there were many, especially in Crown Law Department, who believed that the level of detail required was too fine, and discussions were still in progress.

Mr Carter suggested that the Western Australian police were fortunate to have acquired a computer before the Information Systems Division's proposals were drafted. The Queensland police actually have to use an integrated system run by a central computing authority, and have encountered many problems. In reality, security breaks are not infrequent despite the claims of computer salesmen and Treasury consultants. Mr Smith replied that encryption devices were now economically available and being tested in Western Australia - they were trying not to be "centralist" and there were probably more computers in government departments in Western Australia than in most other States.

Mr Sutton advised that in New South Wales the Public Service Board had recently relaxed its attitude to the departmental acquisition of computers after finding the centralist approach too rigid and actually causing problems. He asked if the Western Australian Information Systems Division had been able to look at overseas packages and software, to which Mr Smith replied that it was hard to find off-the-shelf packages which were sufficiently cheap to modify. In their experience it was often cheaper and simpler to start from scratch.

In his presentation Mr Fred Richardson addressed the question "What do you want in a Criminal Justice System?" A South Australian working party had suggested an offender-based tracking system covering a limited number of departments - Police, Courts, Corrections, Community Welfare and Traffic. It is important to differentiate between the components of a State criminal justice system or a national system.

Although generally the police department will initiate cases such a system would be of minimal value to the police themselves. Many persons of interest to the police, suspects for example, are not a legitimate part of a criminal justice system until apprehended or charged. Data inputs to the system such as date-of-birth, age, criminal history and status (parolee etc.), and the nature of the charge could be shared since these items, along with other more specific pieces of information, were collected by several agencies and it would therefore reduce duplication of effort. However there was a great deal of other information which was required for internal purposes only, some

of which should certainly not be accessible, by fair means or foul, to agencies other than that responsible for collecting it. The police in particular would get minimal value out of an integrated offender-tracking system. Data allowing more effective rostering of police and witnesses would be valuable, along with information on the outcomes of cases - effectively criminal-history data. This can be seen as of value to police in their operational activities.

The information the police really need for operational purposes would have to include offences reported, in full detail - should that be part of an overall system or part of a restricted police system. Similarly forensic evidence, offenders' modus operandi, offence-type patterns, "peculiarities" files (nicknames, tattoos, etc.), which are not really of much use to any other part of the system, are essential to the police operations.

Should an integrated criminal justice system cater for individual requirements such as these? There could be levels of integration in the criminal justice system : At one level a completely integrated system with a common data-base (all offender data and offence data) with direct access for every agency in the system - this would not find favour with many organisations for obvious reasons. At a second level, there could be a common data-base with access to raw data only if authorised for a particular use and free access to "processed" information - that which is normally made public. Thirdly there could be a system structured in such a way as to be sufficient only to process offenders - which would again be of limited operational use.

The working party in South Australia saw only two areas of police input to an offender-based tracking system (OBTS) - offence details and criminal history. Similarly these were only two areas of output of interest to the police - criminal history updates and traffic convictions. The area of warrants would provide some useful outputs, but this would be incomplete. Many of the main operational areas within the police department would not be touched at all - such as wanted vehicles, wanted persons, persons of interest, vehicles of interest, modus operandi, fingerprint records, resource allocation, apprehension details of firearms registrations.

It was agreed that because this "intelligence"-type information was of importance to manpower scheduling it should form part of an OBTS and that Mr Richardson's definition was rather narrow. However much of this data was of a nebulous and/or sensitive nature and should not be on a shared computer, even if it was in fact "computer-isable", unless you could guarantee total security. The sheer volume and fluidity of the information might also make it too cumbersome to carry on the system. The wider system should only be interested in information from the point of apprehension of a suspect.

Several people argued that what was often important is that the police have access to some of the files of other agencies - particularly corrections and probation/parole which may often give essential "leads" (for example, lists of contacts) - but not necessarily the other way round. Sgt. Pashley in particular noted that at present a policeman has to keep his own record of court outcomes regardless of whether the courts can provide this type of information in an appropriate form. Communication with the Corrections Department, in relation to parole-breakers etc., was via a manual system in Western Australia and the numbers of cases did not warrant greater sophist-ication.

Mr Waterhouse summed up the general feeling that, although the ideal was a unified system where each agency's files are separate but linked, it was too hard to make it work because of the volume of data and the security problem, and furthermore he said it was unnecessary since effective communication could be achieved by such simple means as the transfer of machine-compatible magnetic tapes.

Mr Foley-Jones followed up on this point, asking why even a unified system had to be centralised in one place? Why not use several compatible smaller systems and avoid the suspicion in the public mind which associates centralism with lack of security? Even costs may be less because the departments would be able to move at their own pace instead of feeling obliged to design a system largely because there is space on the large central machine. Mr Smith replied that Parkinson's Law and economics of scale applied - small machines fill up more quickly than large ones and the W.A. philosophy was to provide a development system and let it grow. This one computer will not be the ultimate - it will be replaced as required by larger machines and eventually there will be satellite processing systems, for example the proposed court scheduling system.

Compatibility has been a criminologist's dream for many years, said Mr Clifford, but the objective of being able to follow a case through from the reporting of an offence to the completion of the sentence has not been achieved yet. The privacy issue had handicapped all efforts to achieve this type of system - it was crazy that, for example, privacy had for many years ben used as a reason for not recording whether an offender was Aboriginal. This sort of information must be available to make research a meaningful activity and it only made sense in a unified system where "follow-through" is possible.

Sergeant Pashley noted that there is a "booking" system in use in several of the major U.S. cities which is capable of tracking cases, and Mr Smith commented that such a system would have to reside on one central machine since compatibility problems in the computer industry were immense. Others, including Ms Doyle, Mr Richardson and Mr Foley-Jones, argued that their concept of a unified system was not tied at all to a particular hardware configuration - rather it goes back to standardising definitions of data - for example, what is "rape" in one State isn't necessarily "rape" in another. The ABS's work towards standard definitions was a move in the right direction - each agency or State can record its own information at the smallest unit possible and aggregate up to achieve standard data interfaces. So long as one central concept of "what should flow where" existed, then all the individual parts of the system can work together or separately to achieve this concept. Mr Clifford cited the New Zealand system as one where they had a highly developed concept but were confounded in its implementation by problems of privacy.

Discussion followed on data definition problems - for example the degree of the crime and the confusion of dates (when common systems include the date the offence was committed, the date reported, the date recorded and the date processed), and the solution was put forward by Mr Clifford that, since any form of compilation will have problems whether due to inaccurate, recording, counting rules or other methods, it was imperative that statistics be adequately footnoted. Mr Sikk pointed out that simplified procedures would also be beneficial in this regard and cited his own proposal to incorporate all the basic offender-details onto the Complaint and do away with other recording systems including the Court Register. Mr Johnston agreed, adding that there

were many improvements which could be made to existing paper systems without the use of computers.

An interesting debate then commenced on the question of whether it was more rational to commence by computerising basic administrative requirements (for example, the type of aggregate statistics now produced by Mr Scandrett-Smith's division for the South Australian corrections service) or the more repetitive areas of operational activities. Because most speakers felt that their information needs are fairly immediate for operational purposes - at least daily information is required to know, for example, prisoner movements or child welfare dispositions - there was considerable support for computerising the operational areas despite the argument that administrative needs should have greater priority. Computerisation of the operational areas (as for example in the NSW police) could, by appropriate design, be made to serve administrative purposes by producing aggregates adequate for "annual report" type functions, however this was not so in reverse. The South Australian system, as designed at present for administrative purposes, was incapable of readily providing operational information. The need for immediate responses also influenced the type of hardware and software required since batch use of a machine, which might well be perfectly adequate for administrative purposes, could not guarantee adequate response to operational needs. It was noted that, because of staff limitations, some court systems are actually costing the States money through their extremely slow reaction to the imposition of a simple fine - a process which is eminently suitable to automation at minimal cost.

This discussion was paralleled by a similar discussion on who is to determine the contents and objectives of a criminal justice data system - the management, who often "delegated" their responsibility despite having taken a decision to implement a system, or the operational staff, who may have detailed proposals for their own area but little idea of the overall problem. It often falls to the computer staff or consultants themselves (if any!) to initiate the development by soliciting the views of the operational staff, assembling a proposal designed to satisfy their needs and demonstrating to management the virtues of their proposal, including the management spin-offs. Neither management nor operational personnel seem to realise what is achievable and what is not achievable using computers - nor, often, do they have the time or incentive to think about it. In the final hour of Session 1 each member of the audience in turn was asked to give a brief resume of the work performed (or planned) to be performed by computers in his or her department. (A few persons who attended the seminar and were not present at this session missed out on a valuable exercise.)

Mr Foley-Jones (W.A., Corrections):

We have a prisoner-record system called DOCTORS (Department Of Corrections Transaction Oriented Record System - the acronym was applauded). Documentation is available. It is essentially a statistical system into which we tried to incorporate management functions. It should have been vice versa but no-one was able to advise us until it was too late. I have also computerised the activities of myself and my section and this has turned out to be one of the most useful things we've done.

Sergeant Pashley (W.A., Police)

We have two main data bases - a central names index which can be searched on names, warrants, descriptions, licences etc., and a vehicles of interest system containing car type, ownership, police interest, registration details etc. These systems together generate around 200,000 inquiries per month at the moment from police in the field. We have recently developed a computer-telex interface system to enable the regional stations to link in directly - by mid 1981 we hope to have 50 stations in the northwest and south of the State on telex links. There is also a personnel system to replace paper-based records. Criminal History details will be added (from day 1 basis) to the names index later this year. There are around 250,000 criminal histories on paper at the moment but the "day 1" method should limit the data entry to around 50-60,000. The remainder will be microfiched and "time-elapsed".

We will also be putting in an "Offence Reports" system whereby crimes reported, with details of nature of offence, location, time etc. will be telephoned through direct to the key-punch operator. This system can be interrogated by the detectives via the STAIRS/STATUS information retrieval system to look for modus operandi patterns and listing possible suspects. In two years we should also have a Computer Aided Despatch system, common in the United Kingdom but not so popular in the United States. A complaint is relayed automatically to relevant patrol cars and responses are recorded back into the system.

Ms Doyle (S.A., Data Processing Board)

The function of the Board is a mixture of functions performed by the coordinating and planning committees of the West Australian Government as described by Mr Smith. The Board is interested in preparing itself for expected activity in this area rather than having any system on offer.

Mr Birchall (W.A., Community Welfare)

Like many others I'm here on a fishing trip. We have no data on computer at the moment; I want to see what sort of data may be available and get some hints as to what sort of things a research psychologist, in particular, should set up.

Ms Bungey and Mr Scandrett-Smith (S.A., Correctional Services) and Mr Bondaruk (S.A., ADP Centre)

The Department is also responsible for probation and parole. We run two information systems - Probation and Parole data have been computerised for about 4-5 years and we use SPSS to analyse it. It had fallen into partial disuse for a while and we have been trying to retrieve it recently. The ABS (about five years ago) set up a computerised system of prisoner statistics - basically an intake/discharge system - but this data were four years out of date and an alternative manual system was being used. Statistical collection had been given priority over operational requirements and we are currently rethinking the whole thing. There is also a system of

tracking fines at the magistrates courts. Mr Bondaruk has been given responsibility for developing the probation/parole and prisoner statistics systems (which would be the first step towards an offender tracking system).

Superintendent Plumb (N.T., Police)

At present we use the large government IBM for a firearms registration system (since mid 1980), motor vehicle registrations, driver licences and accidents. We are looking at the W.A. and S.A. (CIAVROL) systems with a view to implementing certain sub-systems - particularly warrants (where we have a serious problem of unserved warrants totalling over $1 million) and modus operandi to replace inefficient paper systems. I am here also representing the other Northern Territory Justice departments, on a fishing trip for them, and would like to have a look at DOCTORS in particular.

Mr Milne (N.S.W., Bureau of Crime Statistics and Research)

The Bureau is responsible for the collection of Petty Sessions Statistics in NSW. (Children's Courts and Higher Courts Statistics are collected by ABS at present.) Since 1971 we have been using a paperwork system out of normal court procedures. We are interested in the integration of court statistics with the operations of those courts, as opposed to superimposed systems.

Mr Waterhouse and Mr Macaulay (Commonwealth, Attorney-General's)

Our main project, called SCALE, is a full-text information retrieval system currently incorporating Commonwealth Acts, A.C.T. Ordinances, High Court judgements and a number of the small data-bases. Currently the system is available to the legal staff of the Attorneys-General plus the Crown Solicitors' officers in Sydney and Melbourne. It uses the Department of Health IBM system in Canberra and enables lawyers to search for Acts satisfying specified criteria. A demonstration can be organised. We have a user-participation project to encourage legal staff to use the machine and relieve the ADP section of a lot of work. In the future we plan to create a Family Court registry and, later, a lower court scheduling system.

Mr Bradley (S.A., Community Welfare)

We have an interest in the development of computer-based statistical systems for the department in the areas of child-abuse, adoption and fostering, social indicators, and financial assistance statistics. We also have a program which looks at the operations of the Children's Courts and Children's Aid Panels. We recognise the error of trying to use a statistical system for operational decision-making. Our system picks up children as they appear before a court or panel and records details of the offence, the outcomes and the processes such as adjournment, periods of custody and so on. Some sociological information is also stored and it builds longitudinal records - case histories. We wish to expand the system to include institutional arrangements such as movements, however funds have been stopped.

Chief Inspector Bartlett (S.A., Police)

Mr Richardson has already mentioned many of our activities. We use the State ADP centre for most of our work. Our early systems were administrative such as payroll and debtors, and then we developed our crime reporting system (which is offence-oriented and had certain problems). We are now using our own computer for a new firearms control system. Extra disk space is intended to be used to bring in more operational activities such as personnel/manpower requisitioning, vehicles/persons of interest, and warrants. We already have telex interfaces with Sydney and Melbourne. Financial constraints have slowed our progress but even so we have had overseas consultants in for the firearms system and we feel we are ahead of many other departments in South Australia with regard to systems development.

Mr Curtis and Mr Gregor (S.A., Supreme Court)

In statistical terms, the needs of the criminal court include figures for offences, offenders, sentences and ancillary orders, trials, verdicts and, recently, by request from judges, statistics on lengths of trials, the time that judges have been tied up in court-rooms, and the number of court-rooms actually in use - natural by-products of court operations. For example, we have to notify the results of cases, but in South Australia there is no official warrant form accompanying the person from the higher courts to jail (unlike the lower courts which are required to issue warrants). There are a lot of weak points in the existing system whereby a prison officer simply keeps a book which is supposed to be signed and checked by a court official. We have prepared a document called the Report of Prisoners Tried which is signed by the judge at the conclusion of his roster in the criminal jurisdiction (maybe two or three months later), and in some events a person can be discharged from prison before he is actually notified officially why he is there. We have therefore devised a "Court Appearance Advice" slip which is typed out and sent to the jail (copies to the police and the Office of Crime Statistics) the same day - however there is no legal significance in that piece of paper or any obligation to prepare it. Even this document would provoke opposition if it were to be added to the duties of the lower courts. Any suggestions would be welcome! Another area is that of Criminal Appeals where the statistical requirements can only be met by a tremendous amount of work. No detailed system exists at all in our courts - we have to go through every criminal calendar simply to get the number of cases by offence type. We're here to learn about computers - we're interested in the number of offences, the class of offence, the percentages of judges' time, management information for planning, building and staffing, and trends in offences.

Mr O'Gorman (Vic., Public Service Board) and Mr Armstrong and Mr Quirk (Vic., Community Welfare Services)

The Department of Community Welfare Services have commissioned a feasibility study for a client index system - difficult to define. The department has no computer at all at the moment, and starting from scratch may be an advantage - we might be able to learn from others' mistakes. The questions in our minds are where to start and how to transfer from a normal to an EDP system.

There is no manual of operations, no written definition of terms - in short it is a very archaic system. The government has decided to build a new remand centre in Melbourne and to incorporate in it a new records office, taking that opportunity to computerise the system. We have not reached the stage of defining what should go into that system. We have used the government Burroughs machine in the past for various censuses and surveys and recently we purchased a PDP1100 minicomputer which has been used to test out some ideas.

Mr Johnston (Vic., Law Department)

We have only a Jury Selection system which has been used for over 10 years and which produces all the necessary paperwork including cheques. There is a proposal to follow New South Wales and South Australia in developing a statistical system for the magistrates courts. The committee recommended an integrated system but recognised that this could not be done straight away. A technical committee of all agencies involved will determine definitions etc. and might result in some benefits to operational areas.

Mr Sikk (Tas., Magistrate)

The Attorney-General asked, a year or two ago, for a system of statistical collection to be designed. At that time I suggested an integrated system and an Office of Statistics along the lines of the South Australian Office. Financial restrictions have led to the postponement of most of these proposals, however some were implemented, such as the centralisation of the courts of petty sessions by replacing the country courts with a professional magistracy and their clerks. The Court Register was also abolished and replaced by the Complaint, which now contains all the relevant information. The complaints are eventually microfilmed. In the future we envisage computer terminals at the courts. We have recently introduced a computerised cash collecton system. We also intend to run a pilot scheme to collect information from the complaints and selecting items for specific inquiry. There is a State Statistical Committee and a recently installed public service computer, and proposals for its use must go through the State Statistical Committee but current staff ceilings preclude any real progress.

Mr J. Faulkner (Vic., Police)

We run an information retrieval system for the operational policeman along with other systems such as personnel. The system includes a Vehicles of Interest file, developed in 1975, accessible by registration, chassis or engine number - not very sophisticated originally but developed into one of the best in Australia. In 1977 we brought consultants in from New Zealand (Public Management Services, PRC, Logica etc.) to do a feasibility study for a complete new Persons of Interest system - it is about to be submitted for approval to go ahead. This will consist of 13 sub-systems giving us all persons wanted by the police for whatever reason - missing person, escapee, warrants, and an "active" persons system. We also have a message switching system currently connected to 40 terminals by dedicated lines through Russell Street and via telephone lines to Ballarat and Geelong. We have just designed a system to install Visual Display Units in 18 country divisional stations and in 1982-83 we will put 76 metropolitan

stations on the system. The last three months have resulted in contracts for two Univac B77-800 to be installed as front-end processors, so we're very lucky in that we will have four computers.

Our vehicle file produces nine statistical sets of information for the operational policemen including a "Melways" reference system which is valuable for manpower allocation. It is basically an operational system but we try to use it statistically.

We have 10 systems on a "priorities list" for the future including a message switching system, a crime-reporting system, property systems, a fraud-squad system, computer aided despatch in 1985-6, and criminal histories (low priority because of size and the fact that the person's file is adequate for many purposes). We are currently investigating computer output to microfiche as a backup and expanding the complex for the third time.

The acronym for the whole system is PATROL - Police Access To Records On Line.

Mr Carter (Qld, Police)

Apart from the normal administrative systems (payroll, accounts etc.) we have gone about computerisation differently to most other places in that we have emphasised the provision of services to country areas (Queensland is more centralised than other States). We have set up terminals via dedicated lines with a message-switching system - a glorified telex in a way, but it establishes confidence in the system and that is quite important since policemen are a rather conservative lot. The overall objective is of course to design and implement a complete on-line integrated police information system.

Our message-switching system is the best in the world - it can broadcast to one or many terminals simultaneously and all messages are logged with the time and origin/destination codes. Each message is kept on file for two weeks and then micrfiched.

One problem is that we have to use the State Government computer as our central computer. We have a Vehicle of Interest system ready to go and will be developing a system on suspended disqualified drivers. We had thought of going on line to the Department of Main Roads but costs are prohibitive. The message switching system incorporates 37 country terminals throughout the State handling around 40,000 messages per month.

Mr Sutton (N.S.W., Corrective Services)

Up until 2 November 1980, the NSW Department of Corrective Services had no computer systems running 'in house', though it did supply information on prisoners received and discharged as input for a system run by the Australian Bureau of Statistics (ABS). The ABS system was similar to that in South Australia and also 3-4 years out of date. Since joining Corrective Services I have been involved in feasibility studies concerning the computerisation of prisoner records, and have been instrumental in the Department inviting a Public Service Board consultant to review our overall needs. Mainly, however, I have been involved in redesigning the ABS system to run in-house on a PDP 11/02 minicomputer (cost $30,000) lent to us by the Law Foundation of

New South Wales. This will give us up-to-date, if limited, information on gaol, location, offence, classification, previous convictions, etc. of prisoners. We have had an initial census of prisoners, which is now being checked, and we have a four-months backlog to catch up on.

We seem to be in danger of re-inventing the wheel and we would like to see a system of finding out what software etc. exists and we are interested in the idea of an integrated system since there is often a great deal of valuable information locked away in courts or police files which we cannot access at present.

Mr Pasmore (Qld, Welfare Services)

We have no computer system at present apart from some small ones dealing with accounting functions. A forthcoming task will be a system analysis/feasibility study for computing facilities for the department and I am here to acquire information to assist in this task. At present each sub-department has a statistical system developed in liaison with the ABS. I note that most people favour an operational-based system with statistical spin-off rather than vice versa.

Mr Neuendorf and Mr Hall (Qld, Justice Department)

For a number of years the ABS have been compiling statistics on our behalf coverng the Supreme Court and District Courts and also the Magistrates' Courts. There is a delay problem (two years behind) and one cannot really plan using two-year-old data. Management information cannot be extracted from the existing system despite the raw data actually being in the system.

Our future aims include building on these collections, incorporating a "tracking" capability, developing a "social profile" of the person, examining whether or not there was legal representation and looking for time delays in the court procedures.

We also intend to implement from July 1st a system to look at what happens to appeal cases. We have no data on this at present but a feasibility system has been initiated.

We have no computing systems operational yet.

Senior Sergeant Arthur (Commonwealth, Police)

We are using two IBM 360's (re-equipping in 1982) and have terminals in most police stations and offices in Canberra, going on-line to all capital cities by June of this year. We hired consultants to help design the system and consciously decided that they would be for the use of the men in the field, and incapable of producing any statistics or management information of any kind.

Our first system was a general "names index" to clean up all the manual indexes which had been developed. Next came Vehicles of Interest (mainly stolen), Persons of Interest (warrants, missing persons etc.) and Criminal Histories. Traffic Convictions should commence in a couple of months. We have a simple message-switching system and are developing an Intelligence System and a Personnel System to be ready for next year. When we re-equip we may look again at our systems. It is worth noting that we work in very small numbers compared with most police systems.

SESSION II

INPUTS, OUTPUTS AND DATA TRANSFERS

Mr Butler began the session with a summary of the Australian Bureau of Statistics role as he, the supervisor of the Crime and Justice Statistics area, saw it. Altogether there are about 30 people in the central office and the States working in this area, with the basic thrust being to achieve comparability of data across the various parts of the criminal justice system. This direction has been in part at the instigation of the Standing Committee of Attorneys and the Council of Welfare Ministers. Our longer term aim is the establishment of a statistical data-base on computer.

We find that many agencies regard computerisation with a "cargo-cult" mentality - as if it would automatically solve all their problems. It would be more productive if they viewed system design with a fairly wide perspective, including the needs of other agencies in the justice area, and concentrated on providing themselves with the basic building blocks of data and building in the maximum of flexibility. "Data transfers" can mean a totally integrated criminal justice system incorporating all the agencies or it can mean people sharing data in the sense of making it available, not necessarily at the unit record level, to other agencies.

Discussion followed on the ABS "tactics" in respect to promoting comparability of statistics. They had tried to get the Attorneys to ratify proposed court statistics standards but they had not yet been considered. It was suggested that it could be more productive to get people together at a lower level, particularly in the courts area where disparities in definitions are most obvious. Perhaps both approaches were necessary although to some people it might appear a divide and conquer approach. The ABS (or the Australian Institute of Criminology) should be acting as a coordinating body getting people round a table rather than being seen to be imposing their own solutions from "above".

Mr Sikk raised the problem of staff cuts and the gradual withdrawal of the ABS from providing collection services to the States. The States could not provide the sort of clerical effort needed to cope with the ABS proposals and would, in Tasmania at least, have to exclude large-volume offences such as Traffic. The classifications are wildly inappropriate - for example in the bail area. The ABS is asking the Attorneys-General to collect useless information with no staff - no wonder they haven't considered the problem! The Commonwealth should also put its own house in order - there is no collection of data at all on Commonwealth offences so how can they impose on the States?

Mr Williams agreed that the burdens of data collection had been misallocated, but said that for years the police had had to collect data which was really the business of the courts - because the police area had been standardised. It was about time the courts put their own house in order. The Law Reform Commission had to come to the police for sentencing information! The ABS and the police had got on very well in their own moves towards uniform reporting which had taken some years to develop. The ABS proposals are intended to be idealistic - you don't have to conform with everything on day one - they are standards to be worked towards.

Mr Sutton raised the question of the type of statistics being proposed for collection. The State agencies needed statistics to help in their operational and management activities but the ABS proposals did not really address these areas. Mr Butler commented that the ABS is moving into that area, offering advice on what to collect, and how to collect and analyse it. The ABS had a problem in that it was not allowed, by its charter, to release unit records - not even to the source of those records, so it could not offer assistance with the analysis, beyond the provision of advice. Ideally the department concerned should collect and process the data and hand only the aggregates to the ABS - but the ABS would be available for advice at all stages in the process.

The forthcoming Prisoner Census and the Welstat proposals were seen as appropriate models of ABS/Departmental cooperation with positive results. The central role of the Australian Institute of Criminology in the Prisoner Census proposal was also regarded as useful since it provides a way round the ABS's inability to release unit records. Welstat had succeeded in defining welfare statistics in areas such as adoption, children in corrective institutions and child abuse which the ABS is shortly to publish.

There are many complex problems in the criminal justice system and, since the States operate in different ways, it would be absurd to expect identical sets of statistics to be appropriate to all States. A "Data Dictionary", flagging areas of difference between States, would be a useful tool (Mr Johnston has two U.S. examples of data dictionaries for anyone who wishes to see one), and offers a solution which does not impose a sterile standardisation. There is value in diversity - the alternative leads to "Big Brother" and Orwellian concepts of "1984". The criminal justice system is multi-dimensional and it is no use trying to treat it as a unitary phenomenon. There are two separate questions - standardisation between States and within States, and it is a question of getting down to work and deciding which terms of information should be standardised across States and which can be left for the States themselves to decide, given their particular management and operational needs. We are in danger of being overwhelmed by the sheer size of our systems if we insist on the "total-system" concept, so are there real cost-savings at all? Modernisation, not centralisation, is what the courts must concentrate on. We are in danger of forgetting that the criminal justice system is about people and that the legal profession itself is decentralised and person-oriented, and we have to cater for this fact, not change it.

The seminar was adjourned to allow group discussions. Police, Courts, Corrections/Welfare and PSB/Treasury groups were easily defined and, after discussion within these groups, a full session was held to discuss the group findings.

Summarising the PSB/Treasury discussions, Mr Smith referred to the problem of systems being primarily management or statistically-oriented. The two functions could be catered for simultaneously using the concept of a standard unit record held on a shared system to which data are entered by each authority in the justice process as it deals with a particular case. The minimum data-set (skeleton) would consist of the basic items (name, date of birth, sex etc.) and would be available to all contributing agencies thus avoiding duplication. Other items which should be accessible to the individual agencies only could be flagged and protected by passwords etc. This skeleton information set could be defined in a standard way in each State to

ensure comparability. The appropriate authority to house the data, in view of the centrality of the courts, would be the Attorney's department. It was also essential to start from the operational/ management end - not from statistics.

Mr Sikk reported that the courts group had reached a very similar conclusion but Sergeant Pashley reported that the police could not be included directly in a system like that because of the possibility of privacy invasions. Mr Johnston noted that some American systems on these lines had grown too large (Minnesota?) and that the idea had been discarded by many researchers. Mr Butler added that both Victoria and Tasmania have put such a system in the too-hard basket. The Wanganui system (New Zealand) was not fully satisfactory due to limitation on what can be entered onto the system.

Summarising the Corrections/Welfare discussions, Mr Foley-Jones said that it had been a most valuable opportunity to compare notes and that their major conclusion had been that justice procedures could do with a major redesign. Even the simple expedient of using carbon copies of operational documents would streamline many areas of data-collection. Proper redesign should at least add no extra work to the existing staff and probably reduce the workload. We had a real duty to clear up our clerical systems before we try to computerise.

Chief Superintendent Williams disagreed in part, saying that clerical systems were often so outmoded and complex it was not worth trying to clear them up. It was often more rational to use computerisation as a means of starting afresh and build a new data-base on a day-1 basis - the mess of cross-referencing which goes with manual systems could not and should not be transferred to a computer system. It was better to put all new cases on the machine and gradually cull out old cases from the manual system until the manual system itself disappeared. The important thing was to redesign the forms used for data-collection since they were often outmoded.

SESSION III

POLICY LEVEL AND RESEARCH COMPUTING

Mr Foley-Jones started the session by questioning the conventional wisdom that policy level and research information could necessarily be obtained from an operationally oriented system. He asked why this must necessarily be so. Mr Smith countered by asking how would a research-based system be justified - research needs are, by definition, not a thing which can be foreseen and therefore such a system would neither be stable nor cost-justifiable. Operationally-oriented systems can point to reduced staffing requirements or greater efficiency and these more pragmatic benefits can be more persuasive to those in management who have to decide. Research also tends to be a little esoteric at times and clerical staff often relegate such work to spare moments or even refuse to take the time to fill it in.

Sergeant Pashley suggested that many useful systems were intrinsically statistically oriented and quoted the Road Traffic Accident system in West Australia as an example, but agreed that in the main operational systems which were capable of producing statistics were the most practical.

Mr Foley-Jones summarised the types of systems discussed in three basic areas
- Inquiry systems in which large volumes of relatively basic items of information are required quickly,
- Routine systems which are geared to standard outputs such as weekly or annual reports,
- Special systems which are true research systems and require more than the basic data and actually incorporate different types of data at different times.

Statistical packages like SPSS have difficulty in coping with all three types - especially the last because of their fixed-format limitation. Search packages like STATUS could possibly be useful if the data are in appropriate forms. Mr Waterhouse commented that the data must be defined, in terms of the person-record or the case-record, before any type of analysis can be contemplated. Chain-record systems are very unwieldy and it is better to go to the new data-base technologies such as IDMS.

It was pointed out that the word "Research" meant different things to different organisations. Mr Carter said that police research was largely a simple aggregation of operational statistics, rather than the sort of mathematical gymnastics requiring SPSS or IDMS. Other people defined this as management information rather than research. High-level research probably cannot be built-in to operational systems, by definition - if you can build it into the system then it is not true research but simply a problem of getting the oprerational output into a meaningful form for policymakers to understand. The data-base, therefore, should not be designed to contain one hundred percent of all possible data requirements but should aim at the eighty percent or so which is in everyday use by policymakers or operational staff. It is part of the research officer's job to define what that 80 percent is, and the remainder of his time should be devoted to real research - i.e. the other 20 percent of requirements. The costs of a "100 percent"

data-base would be insupportable - all inquiries become expensive and a large proportion of the data is rarely used. The idea of the "skeleton" data set was raised again in this context.

The discussion moved on to the problems faced by researchers in obtaining appropriate data on, for example, drink-driving, where the police only keep statistics if there is an arrest, the insurance companies only keep figures if there is an accident, and the courts only keep statistics if the case is taken to court, and because these figures do not tally it is imposible to do meaningful research on significant questions.

It was suggested that the reason why the courts had, in some States, computerised their statistics (via specially commissioned bureaux) rather than the operational side of their activities was the sheer number of cases involved - over 600,000 in New South Wales Petty Sessions alone per annum. There was no technological basis for this argument though since, as Mr Smith pointed out, 600,000 records would occupy only one disk drive. Computers were designed for large-volume exercises. The problem was rather that the court system was by its very nature a paper-based system, said Mr de Jager, and systems analysts should have been looking at ways of producing the documents more efficiently. He described the proposed systems using Visual Record Computers (VRC) which will produce cheques, demand notices and other standard documents for the New South Wales Magistrates Courts sytem, including the traffic offences area with a turnover in excess of 200,000 cases per annum, where the police will produce a tape from their own records which is converted onto cassette and read by the VRC. This crude but effective system of data transfer can be repeated in the reverse direction if further police activity is required (e.g. non-payment of fines etc).

There is a "credibility-gap" between operational staff, computer staff and seminar management. Computer staff often don't really understand the operational problems and managers certainly don't understand what computers are capable of. Mr Foley-Jones and Ms Doyle introduced the concept of "computer-correct" - where the internal logic appears correct but the answer is absurd. Administrators will often believe that "computer-correct" and "true" are equatable and it is often advisable to disillusion them gently. The practice of the analyst setting up a demonstration of what a proposed system will(?) produce, so long as it is a realistic demonstration, is often useful and can elicit useful suggestions. The analyst must give the lead but allow the administrators to set priorities. The analyst may not always be able to meet management requirements but it is his job to show them what is possible. Mr de Jager said that in New South Wales they insisted that quite senior managers were involved in the analysis and specification phases right from the start. It was usually necessary to find out why the existing system was inadequate. Often it was either due to excessive volume overloading the procedures or to the lack of a coherent set of objectives. In the first case the clear indication is that computers would be required, whereas in the second case a full systems analysis is required which may or may not conclude that computerisation is indicated. Often there is an actual conflict of interests between what the administrators need and what operational staff need - if a system makes life easier for two senior managers but harder for six of their staff is this a good trade-off? The managers might say yes but a full analysis might say they're wrong. The top men are not always in a position to make the best decisions, but they are generally the ones ultimately responsible for the development of a system - the moral is "get the top men onside".

Several people recommended a 4 phase sequence :

1. Systems analyst asks operational divisions what areas they think need computerising.

2. Systems analyst conducts preliminary analysis of these areas to determine feasibility and puts the findings to a joint meeting of operational and administrative staff to determine priorities.

3. Systems analyst surveys management and research areas to determine what they would like from a given operational system, and in what form.

4. Systems analyst commences detailed system design in consultation with all interested parties via the medium of a steering committee.

Finally, two philosophies of cost-justification were put forward. Ms Doyle suggested that a frequently used argument was that computers led to better statistics, which led in turn to better management decisions and therefore cost-savings, and, however intangible they were, these cost-savings were almost always enough to justify the use of computers. An alternative philosophy (was it cynical?) was that the ability, given to managers by computers, to generate statistics to support a decision already made was of incalculable value.

SESSION IV

INTEGRATED SYSTEMS - DESIRABLE OR DEPLORABLE?

Mr de Jager commenced by defining two forms of integrated systems :

1. Horizontal Integration, whereby the various systems within a given administrative area or department are linked together, and

2. Vertical Integration, in which there is a central system of person-records or case-records to which all the departments can have access (at some predetermined level) as the individual proceeds through the criminal justice system.

It is the second of these forms which causes the disquiet over matters of security and privacy while at the same time appearing to offer hopes of greater efficiency and productivity. Some considerable support had been shown for this type of integration while the desirability of the horizontal type seemed to be assumed without question. Mr de Jager was going to put the controversial view that neither form of integration was necessary to the extent that people assumed - he is in favour of segmenting the system within the department.

ABS long-term objectives were cited as being aimed at the accomplishment of a vertical system capable of "tracking" an offender through the system. The vertical system was defended by several people, Ms Worrall noting that the basic personal information on an individual going though the system is recorded four or five times and transcribed seven times. The interviews which are needed to ensure the minimum of validity are time consuming and when you consider that there are effectively six departments and four ministers, each with a separate administration, it is not hard to see the benefits of an integrated system. One role of the South Australian Office of Crime Statistics is to collect additional information not available to the courts - it is quite difficult when there are so many administrative barriers to clear. Questions like "how many juvenile offenders turn up later in adult courts or corrective institutions" just cannot be answered without an integrated system.

The distinction was made between an integrated system in the ABS sense, where data is defined in an integrated way so that tracking is feasible given that the information exists, and an integrated computer-system where that data is actually on a central computer and access is possible from a number of terminals. You can have an integrated system without a computer. Most people were convinced of the desirability of integrated data but there were doubts about the propriety of the integrated-computer idea.

Mr Smith summed up general attitudes by defining a "45 degree integrated system" - not fully vertical but far from horizontal. Of prime importance is a common record system. Of importance also is that the police system shall be separate, with links to the courts/ corrections/welfare systems only where required for manpower planning and other basic non-sensitive requirements. The courts, corrections and welfare agencies would benefit from a closely linked system, although present-generation hardware meant that it no longer had to be

held on one central mainframe. Functions which did not need access to the main system should be separate.

Mr de Jager suggested that even then there would be suspicions of privacy and security breaches because no system of passwords offered any real protection against the determined or malicious. Ms Doyle added that, once inside an integrated system, a resourceful programmer has access to the entire set of information - not just one filing-cabinet full. Mr Sutton said that this could apply to manual systems too, but with a logging system the computer at least has an advantage over the sort of informal access which can occur in a manual system. Mr de Jager suggested that this problem was even easier to control if there is no linkage. He had observed several instances where passwords put on Dymo type stuck on the terminal - not a very security-minded practice at all! Mr Caelli said the IBM study of 1972 produced a six volume report which is still the computer-security "Bible", but there is also the 1975 U.S. Government Encryption Standards - an internationally-recognised technique for scrambling information. Don't put raw numbers and letters on the system, especially in this era of the floppy disk which will fit into a shirt pocket or handbag. The problem is that encryption packages cannot be bought off the shelf, and none are totally unbreakable - only making it very expensive to retrieve the data.

Mr Caelli introduced the concept of "gateways" by which he means the interfaces between functions or between departments where standardisation is essential. If an element of data does not have to go through a gateway it does not need to be standardised or even a part of the integrated system. The process of systems analysis is now being reduced to a process of defining gateways. It accepts the fact that people are people and will keep their own personal filing system the way they like it - only at the gateway level must standards apply. Gateways are barriers in the system, such as the need to supply certain information in a certain form, or the discipline of producing a book.

The discussion turned to information analysis techniques and the data-dictionary concept and Mr Caelli pointed out that even the smallest mini-computers now have information retrieval systems. In "BYTE" magazine you would find advertisements for PEARL, SIR and SELECTOR, which cost $7,000, $5,000 and $500 respectively and are very easy to use. Ms Worrall recommended SIR (Scientific Information Retrieval) which she uses to produce input files for SPSS. These types of package make the programmer and computer program redundant and potentially puts the information back in the hands of the manager.

Ms Doyle brought the discussion back to the objectives of the computerisation of the criminal justice system. She listed fair treatment, efficiency in management, cost saving, accuracy in statistics and asked how important were each of these objectives, and how should the process be tackled if it really could be justified.

Mr de Jager explained that an approach recommended to Magistrates Courts by the New South Wales Public Service Board was to start with relatively small machines in specific jurisdictions on specific tasks for three main reasons :

1. local people are involved and no conflict arises over threats to jobs etc.

2. local people become responsible for it, and if there are problems of fairness, efficiency, costs or accuracy of statistics, these problems are clearly seen as problems to be solved between those people and their management.

3. there are no conflicts over access, response-time etc.

Mr de Jager explained that this provides us with first-instance building-blocks without throwing the existing system into turmoil. The priorities are the heavy-traffic jobs and we encourage the use of similar machines, so that they can back each other up in the event of a machine-failure, similar languages and similar communications systems. The next step is to link these individual systems together wherever there is value in doing so, but that can wait until there is a need for a rewrite or a larger machine. In the meantime, staff have been successfully using computers, have become familiar with computing techniques and do not fear the changes. The rest is just practical system analysis - virtually a routine job. The criminal justice system is so complex and there are so many moral and ethical questions involved that no amount of total systems analysis will adequately describe the essential processes. It is not worth doing:- an incremental approach attacking the bottlenecks will gradually reduce the piles of papers and backlogs without the danger of imposing a big brother system on society.

SESSION V

FOLLOW-UP TO THE SEMINAR

The following suggestions were made :

1. The list of participants, with contact telephones, be circulated (see Appendix A).

2. The bibliography of computer applications software be circulated (see Appendix C).

3. All new bibliography entries to be sent to Mr J. Walker at the Australian Institute of Criminology and to be included in the Institute's quarterly REPORTER.

4. The REPORTER to be used as a medium of communication - any person wishing to write an article on their computing requirements or achievements should send typed copy to Mr Walker. To ensure that you remain on the mailing list please note that a form is sent to you roughly once a year, and this should be filled out and returned.

5. Mr Walker to try to obtain documentation on Courtran II following the video seen at the High Court, courtesy of The Honourable Sir Ronald Wilson, Justice of the High Court. (A letter has been sent. Information will be circulated via the REPORTER - J.W.).

6. Following the success of the "user-group" sessions it was suggested that similar meetings be organised on a regular basis, organised by the relevant State departments. In particular, the courts administrators should derive great benefit from such workshops.

7. The AIC and the ABS should continue to promote uniformity of terminology in areas such as the reporting of offences and sentencing.

8. The AIC to hold another seminar on the same lines as this one, in two years from now (1983).

APPENDIX A

AUSTRALIAN INSTITUTE OF CRIMINOLOGY

THE USE OF COMPUTERS IN THE CRIMINAL JUSTICE SYSTEM

6-9 APRIL 1981

PARTICIPANTS

Mr R. Armstrong	Administrative Officer Division of Correctional Services Department of Community Welfare Services Melbourne. Victoria 03-6536571
Senior Sergeant F. Arthur	Australian Federal Police Canberra. A.C.T. 062-870301
Chief Inspector G.J. Bartlett	Officer-in-Charge M3 Division (Central Records) South Australian Police Department Adelaide. S.A. 08-2170333 x 279
Mr C.R. Bevan	Assistant Director (Training) Australian Institute of Criminology Canberra. A.C.T. 062-822111
Mr P. Birchall	Planning and Research Unit Department for Community Welfare Perth. W.A. 09-3210244
Mr J. Bondaruk	Systems Officer (A.D.P. Centre, Adelaide) Department of Correctional Services Adelaide. S.A. 08-227-2649
Mr P.W. Bradley	Senior Research Officer Department for Community Welfare Adelaide. S.A. 08-2170461
Mrs J. Bungey	Research Officer Department of Correctional Services Adelaide. S.A. 08-2125852
Mr M. Butler	Supervisor Justice and Other Social Statistics Australian Bureau of Statistics Canberra. A.C.T. 062-526328
Mr W. Caelli	Chairman National Hardware Technology Committee Australian Computer Society Canberra. A.C.T. 062-974100

Mr I. Carter	Officer-in-Charge Planning and Research Branch Police Headquarters Brisbane. Qld 07-2266150
Mr W. Clifford	Director Australian Institute of Criminology Colbee Court Phillip. A.C.T. 062-822111
Mr R. G. Curtis	Clerk of Arraigns Supreme Court Adelaide. S.A. 08-2168739
Mr P. de Jager	Principal Consultant Public Service Board of N.S.W. Sydney. N.S.W. 02-2303211
Dr E.M. Doyle	Data Processing Board Adelaide. S.A. 08-2270877 (now working at the Public Accounts Committee, 08-2118855)
Dr S. Egger	Deputy Director Bureau of Crime Statistics & Research Sydney. N.S.W. 02-2387282
Chief Insp. J.D. Faulkner	Officer-in-Charge Computer Systems Division (Police Complex) Russell Street Melbourne. Victoria 03-6671143
Mr C. Foley-Jones	Supervisor Planning and Research Department of Corrections Perth. W.A. 09-3223422
Mr R.E. Gregor	Chief Clerk Supreme Court of South Australia Adelaide. S.A. 08-2168740
Mr J.T. Hall	Programmer (Graduate) Management Services Branch Department of Justice Brisbane. Qld 07-2278949
Mr W.U. Johnston	Research Officer Victorian State Law Offices Melbourne. Victoria 03-6023633
Mr R. Macaulay	(A.D.P. Section) Attorney-General's Department Canberra. A.C.T. 062-612847
Mr T. Milne	Bureau of Crime Statistics & Research Sydney. N.S.W. 02-2387277
Mr D. Neuendorff	Officer-in-Charge Research Branch Department of Justice Brisbane. Qld 07-2244116

Mr C. O'Gorman	Administrative Officer (Methods Section) Department of Community Welfare Services Melbourne. Victoria 03-6536590
Sergeant A.R. Pashley	Officer-in-Charge Electronic Data Processing Centre Police Headquarters Perth. W.A. 09-3250121 x 2699
Mr J. Pasmore	Psychologist Social Policy Planning Research Unit Department of Welfare Services Brisbane. Qld 07-2246197
Superintendent N.D. Plumb	Police Headquarters Northern Territory Police Darwin. N.T. 089-815555
Mr D. Quirk	Office of Research and Social Policy Department of Community Welfare Services Melbourne. Victoria 03-6536458
Mr F.A. Richardson	Officer-in-Charge Special Projects Section South Australian Police Department Adelaide. S.A. 08-2170333 x 493
Mr M. Scandrett-Smith	Assistant Director Treatment Services Department of Correctional Services Adelaide. S.A. 08-2125852
Mr E. Sikk	Acting Senior Magistrate Magistrates' Chambers Hobart. Tas. 002-303597
Mr K. Smith	Senior Consultant Information Systems Branch Government Computing Perth. W.A. 09-3253133
Mr A. Sutton	Senior Research Officer Research Division Department of Corrective Services Sydney. N.S.W. 02-2178244
Mr J. Walker	Senior Research Officer Australian Institute of Criminology Canberra. A.T. 062-822111
Mr A. Waterhouse	Section Leader, Court and Departmental Application Attorney-General's Department Canberra. A.C.T. 062-613070

Chief Superintendent
W.N. Williams

Information Systems Division
Australian Federal Police
Canberra. A.C.T. 062-870317

Ms J.H. Worrall

Statistician
Office of Crime Statistics
Attorney-General's Office
Law Department
Adelaide. S.A. 08-2169210

APPENDIX B

AUSTRALIAN INSTITUTE OF CRIMINOLOGY

THE USE OF COMPUTERS IN THE CRIMINAL JUSTICE SYSTEM

6-9 APRIL 1981

Monday, 6 April

Session 1

10.45	Opening Address by Mr W. Clifford, Director, Australian Institute of Criminology
11.00 - 12.30) 2.00 - 5.15)	"The Computer as an Operational Aid" Panel : Mr W. Clifford Mr K. Smith Mr F. Richardson

Tuesday, 7 April

Session II

9.30 - 11.15	"Inputs, Outputs and Data Transfers" Panel : Mr M. Butler Mr E. Sikk
11.15 - 12.30	Visit to Australian Federal Police Computer Installation at the invitation of Chief Superintendent Williams
2.00 - 3.30	User-groups workshops
3.30 - 5.15	Report-back session

Wednesday, 8 April

Session III

9.30 - 12.30	"Policy Level and Research Computing" Panel : Mr C. Foley-Jones Mr W. Johnston Mr T. Milne
2.00 - 3.30	User-group workshops
3.30 - 5.15	Report-back session

Thursday, 9 April

Session IV

9.30 - 11.15	"Integrated Systems - Desirable or Deplorable?" Panel : Mr P. de Jager Ms J. Worrall Mr W. Caelli
11.15 - 12.30	Visit to High Court to view video of New York court system COURTRAND at the invitation of The Honourable Sir Ronald Wilson, Justice of the High Court
2.00 - 3.00	Concluding remarks on Integrated Systems

Session V

3.00 - 4.00	"Follow-up to the Seminar" Panel : Mr J. Walker Mr K. Smith Mr A. Sutton

APPENDIX C

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

The Institute is interested in the uses being made of computers in the criminal justice system. As part of an information gathering exercise you are invited to contribute to the compilation of a bibliography of computer software packages capable of use in the Australian criminal justice systems. Please complete the following questionnaire in relation to all packages whose existence is known to you, even if this knowledge is "secondhand" and incomplete. The resulting information will be made available as an AIC publication.

Please return the form to: John Walker, Australian Institute of Criminology, P.O. Box 28, Woden. A.C.T. 2606.

1. Name of software package: .....

2. Brief description of package capabilities: .....
   .....
   .....

3. Where can documentation be obtained? .....
   .....

4. Programming language(s)? .....

5. Machine(s) in use? a. mainframe or mini: .....
   b. manufacturers/models: .....

6. Batch mode or on-line? .....

7. Designed for operation by:
   a. Technically qualified personnel? .....
   b. Existing staff with extensive training? .....
   c. Existing staff with only minor additional training? .....

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive .....

9. Practical limitations (e.g. maximum number of offender records, minimum hardware requirements): .....
   .....
   .....

10. Costs a. of implementation: .....
    b. of use: .....
    (Note: In the highly probable case that no figures (e.g. annual costs or cost per unit case-load) are available, a qualitative scale such as "horrendous", "moderate", "trivial" would be helpful.)

11. Do you have personal experience/knowledge of this system in operation?
    .....
    If so, with which organisation? .....
    For what purposes? .....

12. Other comments: .....
    .....
    .....

Information provided by: Name .....
Organisation .....
Address .....
Telephone .....

APPENDIX D

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

Note: The following details are as provided by seminar participants and certain items such as contact phone numbers may no longer be correct. The Australian Institute of Criminology realises that this may not be in any way a complete survey of justice system software available and would appreciate any further information as developments occur.

Name of Software Package

No. 1 DMS/CICS, DMS/COBOL/CICS, COBOL/CICS/SPSS

No. 2 CINCH (Computerised Information from National Criminological Holdings)

No. 3 PARIS (Police Automated Registration Information System)

No. 4 Provincial Criminal Case Processing

No. 5 OBSCIS (Offender-Based State Corrections Information System)

No. 6 (MINI) PROMIS

No. 7 PATROL (Person of Interest Sub-System)

No. 8 Prisoner Data System

No. 9 ICL Magistrates Court System

No. 10 Department of Corrections Transaction Oriented Records System

No. 11 Jury Selection System

No. 12 S.A. Juvenile Offenders Statistical System

No. 13 SPSS (Statistical Package for the Social Sciences)

No. 14 SIR (Scientific Information Retrieval System)

No. 15 Court Statistics

No. 16 Central Software

No. 17 MPLS (Mathematical Program Library System

No. 18 Crown Law Court Management System

No. 19 Medical Computing in Autopsy

No. 20 Justice Subsystems at Wanganui, New Zealand

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 1

1. Name of software package: DMS/CICS, DMS/COBOL/CICS, COBOL/CICS/SPSS

2. Brief description of package capabilities: DMS - Display Management System which provides rapid development application which sometimes requires COBOL program support in its application. CICS - Communication package for terminal to central system.

3. Where can documentation be obtained? N.T. Police can acquire documentation from Treasury ADP. However, copyright is involved.

4. Programming language(s)? COBOL

5. Machine(s) in use? a. mainframe or mini: mainframe
   b. manufacturers/models: IBM 3032-8MB

6. Batch mode or on-line? on-line

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training? X

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive X

9. Practical limitations: We utilise a large government computer. This removes problems of space etc.

10. Costs a. of implementation: moderate
    b. of use: moderate

11. Do you have personal experience/knowledge of this system in operation? some
    If so, with which organisation? N.T. Police
    For what purposes? operational knowledge

12. Other comments: Present N.T. system incorporates Firearms, Motor Vehicle Registration, Motor Vehicle Accidents statistics, Random Breath Test statistics. Currently work is being undertaken on computerisation of Information files.

Information provided by: Name: N.D. Plumb
Organisation: N.T. Police
Address: P.O. Box 63, Darwin
Telephone: 815555

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 2

1. Name of software package: CINCH (Computerised Information from National Criminological Holdings)

2. Brief description of package capabilities: Keyword-based Journal and Monograph Reference retrieval system based on Australian Criminology literature since late 1960s. Retrieval on subject, author and other keywords.

3. Where can documentation be obtained? Australian Institute of Criminology, 10-18 Colbee Court, Phillip. A.C.T.

4. Programming language(s)? INFOL

5. Machine(s) in use? a. mainframe or mini: mainframe
   b. manufacturers/models: CDC Cyber 76

6. Batch mode or on-line? batch mode

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training? X

8. Modifications required for Australian justice systems?
   a. none X..... b. minor ..... c. extensive .....

9. Practical limitations: 4000 journal and 1200 monograph citations on system at present.

10. Costs a. of implementation: Approx. $8000
    b. of use: Average search $10.00

11. Do you have personal experience/knowledge of this system in operation? yes

    If so, with which organisation? A.I.C.

    For what purposes? Research applications searches

12. Other comments:

Information provided by: Name: John Walker
Organisation: A.I.C.
Address: P.O. Box 28, Woden, A.C.T.
Telephone: 822111

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 3

1. Name of software package: PARIS (Police Automated Registration Information System)

2. Brief description of package capabilities: Car Registration/Drivers Licence based on-line enquiry system

3. Where can documentation be obtained? Director, Data Processing, Ministry of the Attorney General, 2588 Cadboro Bay Road, Victoria, British Columbia. V8R 5J2 Canada.

4. Programming language(s)?

5. Machine(s) in use? a. mainframe or mini:
   b. manufacturers/models:

6. Batch mode or on-line? 24 hour on-line

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training?

8. Modifications required for Australian justice systems?
   a. none ..... b. minor X..... c. extensive .....

9. Practical limitations:

10. Costs a. of implementation:
    b. of use:

11. Do you have personal experience/knowledge of this system in operation? No

    If so, with which organisation?

    For what purposes?

12. Other comments: Documentation is dated January 1977. System appears to be inferior to those in existence in Australian States. However, Terence Beed (Director, Sample Survey Centre, Sydney Uni.) in a report to the Law Foundation of N.S.W. in 1978 mentioned experimental use of car-based terminals.

Information provided by: Name: John Walker
Organisation: A.I.C.
Address: P.O. Box 28, Woden. A.C.T.
Telephone: 822111

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 4

1. Name of software package: PROVINCIAL CRIMINAL CASE PROCESSING

2. Brief description of package capabilities: Court scheduling & attendance notifications; case status reporting; administration of fines & expenses; exhibit inventories; interpreter co-ordination

3. Where can documentation be obtained? Vancouver Provincial Court, 222 Main Street, Vancouver. Canada

4. Programming language(s)?

5. Machine(s) in use? a. mainframe or mini: mainframe/mini
   b. manufacturers/models: IBM 370/158 in a Dataprint 2200

6. Batch mode or on-line? mainly batch, on-line enquiries of case-status

7. Designed for operation by:
   a. Technically qualified personnel? X
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training?

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive X

9. Practical limitations:

10. Costs a. of implementation:
    b. of use:

11. Do you have personal experience/knowledge of this system in operation? No

    If so, with which organisation?

    For what purposes?

12. Other comments: Documentation (Sept. 1977) received from Terry Polleycutt, ADP Division, Attorney-General's Department, Canberra, (062) 612833). (Originally obtained by Terence W. Beed, Director, Sample Survey Centre, Uni. of Sydney, during a study trip to USA & Canada. A report including documentation was submitted to the Law Foundation of NSW in 1978.)

Information provided by: Name: John Walker
Organisation: A.I.C.
Address: P.O. Box 28 Woden. A.C.T.
Telephone: 822111

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 5

1. Name of software package: OBSCIS (Offender-Based State Corrections Information System)

2. Brief description of package capabilities: Model for Corrective Services - oriented towards adult corrections - no attempt to cover juveniles or probationary services. Specifically covered are: Establishment of Offender Record; Admissions Reports; Offender Provile, Medical/Diagnostics, Program Reporting, Specific Incidents Reports, Disciplinary Reports, Parole Status and Caseload Analysis, Movement files, Eligibility Dates.

3. Where can documentation be obtained? SEARCH Group Inc., 1620 35th Avenue, Suite 200, SACRAMENTO, California 95822 U.S.A.

4. Programming language(s)? Various - this is a "Model" not a prepackaged system

5. Machine(s) in use? a. mainframe or mini:
   b. manufacturers/models:

6. Batch mode or on-line?

7. Designed for operation by:
   a. Technically qualified personnel? X
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training?

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive X

9. Practical limitations:

10. Costs a. of implementation:
    b. of use:

11. Do you have personal experience/knowledge of this system in operation? No

    If so, with which organisation?

    For what purposes?

12. Other comments: Adam Sutton, N.S.W. Department of Corrective Services has examined a version of OBSCIS. (02) 2178160 for more detailed information on this project.

Information provided by: Name: John Walker
Organisation: A.I.C.
Address: P.O. Box 28, Woden. A.C.T.
Telephone: 822111

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 6

1. Name of software package: (MINI)PROMIS

2. Brief description of package capabilities: Tracking cases through court systems; court scheduling, production of operational and management reports, generation of statistics. Management Information System used for criminal justice agencies in the USA.

3. Where can documentation be obtained? Institute for Law & Social Research, 1125 15th Street NW, Suite 600, WASHINGTON, DC 20005 USA

4. Programming language(s)? ANSI COBOL

5. Machine(s) in use? a. mainframe or mini: both versions available
   b. manufacturers/models:

6. Batch mode or on-line? on-line

7. Designed for operation by:
   a. Technically qualified personnel? Yes
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training?

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive Yes

9. Practical limitations: Yearly case-load under 5000 requires 128K CPU, 70 M byte Disk, 1 Tape-drive, 1 Printer, 2 VDUs. Yearly case-load .. over 30000 requires 512-2048K CPU, > 610 M byte Disk, 2 Tapes, 1 Printer, > 20 VDUs.

10. Costs a. of implementation: software & documentation probably free
    b. of use:

11. Do you have personal experience/knowledge of this system in operation? No

    If so, with which organisation?

    For what purposes?

12. Other comments: See "Information Privacy", Vol. 2, No. 5, September 1980, pp. 194-206 (IPC Business Press) - excellent article. A copy . is in J.V. Barry Memorial Library

Information provided by: Name: John Walker
Organisation: A.I.C.
Address: P.O. Box 28, Woden A.C.T.
Telephone: 822111

Name: A. Waterhouse
Organisation: Attorney General's
Address: Administrative Building, Parkes. ACT.
Telephone: 613070

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 7

1. Name of software package: PATROL (Persons and Vehicles of Interest Sub-System)

2. Brief description of package capabilities: This package was written by the Victoria Police as an adjunct to the criminal history details recorded in hardcopy at our Information Bureau. This package is able to inform the enquirer if that prson is "wanted" or "of interest" as well as the type of offender that person is. It is not able to give a criminal conviction history as such.

3. Where can documentation be obtained? Victoria Police

4. Programming language(s)? ASSEMBLER (Univac DASMR), COBOL, FORTRAN

5. Machine(s) in use? a. mainframe or mini: mini
   b. manufacturers/models: V77-600

6. Batch mode or on-line? both

7. Designed for operation by:
   a. Technically qualified personnel? X
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training?

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive X

9. Practical limitations: Dependent upon on-line storage availability.

10. Costs a. of implementation:
    b. of use:

11. Do you have personal experience/knowledge of this system in operation? Yes

    If so, with which organisation? Computer Systems Division, Victoria Police

    For what purposes? Implementation and maintenance.

12. Other comments:

Information provided by: Name: Chief Inspector J.D. Faulkner
Organisation: Computer Systems Division
Address: 376 Russell Street, Melbourne. 3000
Telephone: 6671143

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 8

1. Name of software package: PRISONER DATA SYSTEM

2. Brief description of package capabilities: Processes prisoner receptions, discharges, transfers, "hold" notices and records of classifications. In operation since 02/11/80.

3. Where can documentation be obtained? Research Division, N.S.W. Department of Corrective Services

4. Programming language(s)? REPORT PROGRAMMING LANGUAGE (or FILETAB)

5. Machine(s) in use? a. mainframe or mini: mini
   b. manufacturers/models: Digital PDP 11/02 (DEC-20 System)

6. Batch mode or on-line? batch

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training? X
   c. Existing staff with only minor additional training?

8. Modifications required for Australian justice systems?
   a. none ....X.... b. minor ..... c. extensive

9. Practical limitations: Maximum number of records "on line" 4,000. Historical data transmitted by PMG line for storage in Burroughs 7700.

10. Costs a. of implementation: Hardware $25,000; Software $2,700 p.a.
    b. of use: about $60,000 per annum.

11. Do you have personal experience/knowledge of this system in operation? Yes
    If so, with which organisation? N.S.W. Department of Corrective Services.
    For what purposes? as above

12. Other comments: I took a fairly simple update package written in RPL and modified it into a prisoner data system. Detailed specifications are available if required.

Information provided by: Name: Adam Sutton
Organisation: Department of Corrective Services
Address: 24 Campbell Street, Sydney.
Telephone: 2178244

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 9

1. Name of software package: ICL Magistrates Court System

2. Brief description of package capabilities: Helps in the administration of the magistrates courts. This system is in operation in some magistrates' courts in Britain.

3. Where can documentation be obtained? Richard James, ICL, 214 Northbourne Avenue, Braddon. ACT. PH: 487944

4. Programming language(s)?

5. Machine(s) in use? a. mainframe or mini: mini?
   b. manufacturers/models: ICL

6. Batch mode or on-line? on-line

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training? X

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive .....

9. Practical limitations:

10. Costs a. of implementation:
    b. of use:

11. Do you have personal experience/knowledge of this system in operation?
    No
    If so, with which organisation?
    For what purposes?

12. Other comments:

Information provided by: Name: A. Waterhouse
Organisation: Attorney-General's
Address: Administrative Building, Parkes. ACT.
Telephone: 613070

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 10

1. Name of software package: Department of Corrections Transaction Oriented Records System

2. Brief description of package capabilities: Data base containing demographic, offence, sentence and prison management variables. Contains records back to 1975. Designed for statistical and management purposes. Contains approximately 7700 master records and about 100,000 variable records.

3. Where can documentation be obtained? Planning and Researc, Department of Corrections, 1004 Hay Street, Perth. WA. 6000.

4. Programming language(s)? COBOL plus SPSS

5. Machine(s) in use? a. mainframe or mini: mainframe
   b. manufacturers/models: Cyber A

6. Batch mode or on-line? Data entry on-line, processing batch

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training? X (self-taught)
   c. Existing staff with only minor additional training?

8. Modifications required for Australian justice systems?
   a. none, b. minor, c. extensive: Not applicable as custom-made

9. Practical limitations: Nil

10. Costs a. of implementation: $15,000
    b. of use: About $40,000 per annum

11. Do you have personal experience/knowledge of this system in operation? Yes
    If so, with which organisation? Department of Corrections
    For what purposes? As above

12. Other comments: It is envisaged that this system will be converted to ICL computers in the course of 1981/82 - in the process it will be extensively modified to suit hardware/softward requirements and provide,inter alia, a greater number of access keys.

Information provided by: Name: C.R. Foley-Jones
Organisation: Department of Corrections
Address: 1004 Hay Street, Perth. WA. 6000
Telephone: 322 3422

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 11

1. Name of software package: JURY SELECTION SYSTEM

2. Brief description of package capabilities: Jury rolls, cheques, panels, questionnaires and summonses have been produced on computer since 1970. Separate runs for metropolitan and country.

3. Where can documentation be obtained? Bruce Hill, Government Computing Service or EDP Liaison Officer, Law Department (when appointed).

4. Programming language(s)? COBOL

5. Machine(s) in use? a. mainframe or mini: mainframe
   b. manufacturers/models: Burroughs B6800 and . ICL 1903

6. Batch mode or on-line? batch

7. Designed for operation by:
   a. Technically qualified personnel? Yes
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training?

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive .....

9. Practical limitations:

10. Costs a. of implementation: not known
    b. of use: $28,500

11. Do you have personal experience/knowledge of this system in operation?
    No
    If so, with which organisation?
    For what purposes?

12. Other comments: System requires updating.

Information provided by: Name: William Johnston
Organisation: Law Department (Vic)
Address: 271 William Street, Melbourne. 3000.
Telephone: 602 3633

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 12

1. Name of software package: S.A. JUVENILE OFFENDERS STATISTICAL SYSTEM

2. Brief description of package capabilities: Update and maintain a masterfile for juvenile offenders in South Australia. One record corresponds to one appearance in either a Juvenile Court or Aid Panel. Some annual reports are produced at the end of the financial year. History files are maintained on a financial year basis. Files are .. accessed also by SPSS.

3. Where can documentation be obtained? South Australian Department for Community Welfare

4. Programming language(s)? COBOL

5. Machine(s) in use? a. mainframe or mini: CYBER
   b. manufacturers/models: Contral Data Corp.

6. Batch mode or on-line? Batch

7. Designed for operation by:
   a. Technically qualified personnel? X
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training?

8. Modifications required for Australian justice systems?
   a. none X..... b. minor ..... c. extensive .....

9. Practical limitations: To use this series of programs COBOL must be known. Howevr the files can be and are accessed by SPSS.

10. Costs a. of implementation:
    b. of use:

11. Do you have personal experience/knowledge of this system in operation? Yes
    If so, with which organisation? S.A. Dept. for Community Welfare
    For what purposes? Maintenance of Juvenile offending histories and production of juvenile offender tables for D.C.W annual report.

12. Other comments:

Information provided by: Name: Patrick Bradley
Organisation: Department for Community Welfare
Address: Adelaide S.A.
Telephone: 2170461

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 13

1. Name of software package: STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES (SPSS)

2. Brief description of package capabilities: Frequency counts, general statistical capability, cross tabulations etc. from dats which is entered onto a file by another program. There is no capability for file updates in SPSS.

3. Where can documentation be obtained? SPSS Manual, 2nd Edition, McGraw-Hill Book Company

4. Programming language(s)? SPSS

5. Machine(s) in use? a. mainframe or mini: mainframe
   b. manufacturers/models: Control Data, IBM, Burroughs, Univac, Cyber 76 etc.
   Note: Versions of SPSS are available for most mainframes and some minis.

6. Batch mode or on-line? Both (batch mode cheaper)

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training? X

8. Modifications required for Australian justice systems?
   a. none X..... b. minor ..... c. extensive .....

9. Practical limitations: The larger the masterfile the more expensive to operate in SPSS, also any data selections, definitions of new variables from old also tend to increase the running costs dramatically. Max number of variables 500. There is a maxi version which can accommodate 1,000 variables.

10. Costs a. of implementation: $2,500 + $1,500 annual licence (roughly)
    b. of use: Moderate

11. Do you have personal experience/knowledge of this system in operation? Yes
    If so, with which organisation? South Australian Department for Community Welfare
    For what purposes? Data extraction for reports and research

12. Other comments: As this is used widely at Australian universities it has the advantage that many graduates would already be familiar with it.

Information provided by:

Name: Patrick Bradley
Organisation: Dept for Community Welfare
Address: Adelaide S.A.
Telephone: 2170461

Name: Trevor Milne
Organisation: NSW Bureau of Crime Stats & Res.
Address: GPO Box 6, SYDNEY. NSW. 2001
Telephone: 238-7734

Name: John Walker, AIC.

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 14

1. Name of software package: SCIENTIFIC INFORMATION RETRIEVAL SYSTEM .. (SIR)

2. Brief description of package capabilities: Create and maintain a hierarchical data base; full update facilities and available including data modification procedures. This package has some report capabilities (that are unknown to me) and is compatible with the SPSS

3. Where can documentation be obtained? not known

4. Programming language(s)? SIR has its own language

5. Machine(s) in use? a. mainframe or mini: CYBER
   b. manufacturers/models: Control Data Corp.
   Note: Versions of SIR are available for other mainframes, but which ones are unknown.

6. Batch mode or on-line? Batch, on-line may be available - I don't kno for sure.

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training? X

8. Modifications required for Australian justice systems?
   a. none X..... b. minor ..... c. extensive .....

9. Practical limitations: If the data base is properly established (correct relationships defined) then no limitations are anticipated.

10. Costs a. of implementation: Unknown
    b. of use: Unknown

11. Do you have personal experience/knowledge of this system in operation? No
    If so, with which organisation?
    For what purposes?

12. Other comments:

Information provided by: Name: Patrick Bradley
Organisation: Dept. for Community Welfare
Address: Adelaide S.A.
Telephone: 2170461

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 15

1. Name of software package: COURT STATISTICS

2. Brief description of package capabilities: 1. For courts of summary jurisdiction, provides statistics relating to defendent process and judgement; 2. Similar system for supreme and district courts.

3. Where can documentation be obtained? Office of Crime Statistics, 7th Floor, Public Trustee Building, 25 Franklin Street, Adelaide. S.A.

4. Programming language(s)? SPSS and local programs

5. Machine(s) in use? a. mainframe or mini: Mainframe
   b. manufacturers/models: CDC/CYBERS

6. Batch mode or on-line?

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training? X

8. Modifications required for Australian justice systems?
   a. none X..... b. minor ..... c. extensive .....

9. Practical limitations:

10. Costs a. of implementation:
    b. of use:

11. Do you have personal experience/knowledge of this system in operation?

    If so, with which organisation?
    For what purposes?

12. Other comments:

Information provided by: Name: P. Grabosky
Organisation: Office of Crime Statistics
Address: 7th Floor, Public Trustee Building,
25 Franklin Street, Adelaide. S.A.
Telephone: 2169211

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 16

1. Name of software package: CENTRAL SOFTWARE

2. Brief description of package capabilities: Package is a general applications development tool - providing data base, terminal I/O, user access security, phonetic name processing and fingerprint indexing facilities. The AFP have developed systems for General Names Indexing, Vehicles of Interest, Persons of Interest, Criminal History and File Control using the package.

3. Where can documentation be obtained? P.R.C. (Aust), P.O. Box 327, Crows Nest. N.S.W. 2065.

4. Programming language(s)? COBOL

5. Machine(s) in use? a. mainframe or mini: Mainframe
   b. manufacturers/models: IBM and DEC

6. Batch mode or on-line? Both

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training? X

8. Modifications required for Australian justice systems?
   a. none ..... b. minor X..... c. extensive

9. Practical limitations: Minimum Core 250K, minimum disk 100Mb numbered records limited by disk space or 99,999,999 which is max per logical file.

10. Costs a. of implementation: Purchase approx. $44,000
    b. of use: Depends on application but considered moderate

11. Do you have personal experience/knowledge of this system in operation? Yes
    If so, with which organisation? AFP
    For what purposes?

12. Other comments: Willing to demonstrate use to Criminal Justice users. Value lies in greatly increased programmer productivity.

Information provided by: Name: Chief Superintendent W.N. Williams
Organisation: Australian Federal Police
Address: P.O. Box 401, Canberra City, A.C.T.
Telephone: 870317

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 17

1. Name of software package: Mathematical Program Library System (MPLS)

2. Brief description of package capabilities: Data analysis package. Programs for: 1. Data entry; 2. Data transformation; 3. Data editing; 4. File manipulation; 5. Data listing; 6. Descriptive statistics and tabulations; 7. Correlations; 8. Regression analysis; 9. multivariate analysis; 10. Variance analysis.

3. Where can documentation be obtained? FORTRAN Group N.S.W., Public Service Board, A.D.P. Section

4. Programming language(s)? Source in FORTRAN

5. Machine(s) in use? a. mainframe or mini: Mainframe
   b. manufacturers/models: Burroughs 7700

6. Batch mode or on-line? Batch

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training? X

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive

9. Practical limitations: Max file size = 150,000 variables where N x M < 150,000. N = no. of records, M = variables per record (Max = 250)

10. Costs a. of implementation:
    b. of use:

11. Do you have personal experience/knowledge of this system in operation? Yes
    If so, with which organisation? N.S.W. Bureau of Crime Statistics
    For what purposes? Analysis of court statistics

12. Other comments: Programs run by completing limited number of parameter cards - no computer experience necessary, although FORTRAN subroutines are available for those with experience.

Information provided by: Name: Trevor Milne
Organisation: N.S.W. Bureau of Crime Statistics and Research
Address: G.P.O. Box 6, SYDNEY. N.S.W. 2001.
Telephone: 238-7734

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 18

1. Name of software package: Crown Law Court Management System

2. Brief description of package capabilities: The package will be designed as an on line up date system. It involves the entering of initial case information which may then be progressively modified as additional information becomes available. As the hearing date approaches the final model of the court list for that day is prepared and distributed to notice boards, court officials and reception areas. Additional requirements also exist for scheduling judicial time, and providing management data and statistical reporting.

3. Where can documentation be obtained? Under Secretary for Law.

4. Programming language(s)? COBOL

5. Machine(s) in use? a. mainframe or mini: Mainframe
   b. manufacturers/models: ICL Model 2956

6. Batch mode or on-line? On-line - up date and inquiry

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training? Yes

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive .....

9. Practical limitations As the system is to be one of the first to be installed on the ICL mainframe, the limitations on record sizes, accessing, and number of peripherals is not limited.

10. Costs a. of implementation: $180,000 approx.
    b. of use: $20,000 approx.

11. Do you have personal experience/knowledge of this system in operation?
    No.
    If so, with which organisation?
    For what purposes?

12. Other comments: This system has been designed (with assistance from the Computing Services Division of the Treasury Department) exclusively for the needs of the Crown Law Court listing system and therefore the extent to which this system would need to be modified to suit the Australian Justice Systems is not known.

Information provided by:

Name: Under Secretary for Law
Organisation: Crown Law Department
Address: Wales Centre
109 St. George's Terrace, Perth
Telephone: 3221899

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 19

1. Name of software package: Medical Computing in Autopsy

2. Brief description of package capabilities: Provides a general demographic data base for information on reported causes of death. Aids medical examiner in determining causes of death.

3. Where can documentation be obtained? Division of Forensic and Environmental Pathology, Midwestern University School of Medicine, Wichita Falls, Texas, U.S.

4. Programming language(s)? MUMPS

5. Machine(s) in use? a. mainframe or mini: X
   b. manufacturers/models: TANDEM NONSTOP

6. Batch mode or on-line? On-line

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training? X
   c. Existing staff with only minor additional training?

8. Modifications required for Australian justice systems?
   a. none ..... b. minor .....X.... c. extensive .....

9. Practical limitations:

10. Costs a. of implementation:
    b. of use:

11. Do you have personal experience/knowledge of this system in operation?

    If so, with which organisation?
    For what purposes?

12. Other comments:

Information provided by: Name: K.G. Vaughan
Organisation: MIS Management Information Systems Pty. Ltd.
Address: 3 Bowen Crescent, Melbourne, 3004
Telephone: 2674133

BIBLIOGRAPHY OF JUSTICE SYSTEM COMPUTER SOFTWARE

No. 20

1. Name of software package: Justice Subsystems at Wanganui, New Zealand.

2. Brief description of package capabilities: Case Monitoring, Custody/Supervision, Statistical Processing, Criminal Histories.

3. Where can documentation be obtained? Department of Justice, Private Bag, Postal Centre, Wellington, New Zealand.

4. Programming language(s)? Cobol and Univac Assembler

5. Machine(s) in use? a. mainframe or mini: Mainframe
   b. manufacturers/models: Univac 1100 series

6. Batch mode or on-line? On-line and batch.

7. Designed for operation by:
   a. Technically qualified personnel?
   b. Existing staff with extensive training?
   c. Existing staff with only minor additional training? X

8. Modifications required for Australian justice systems?
   a. none ..... b. minor ..... c. extensive .X.....

9. Practical limitations: None regarding number of records : minimum hardware Univac 1100 mainframe plus communications equipment.

10. Costs a. of implementation: Not determined/to be marketed by Progeni Ltd., Lower Hutt, N.Z.
    b. of use: Moderate.

11. Do you have personal experience/knowledge of this system in operation? Yes.

    If so, with which organisation? Department of Justice.
    For what purposes? Administration of the Department's facilities on the system.

12. Other comments:

Information provided by:

Name: Secretary for Justice
Organisation: Department of Justice
Address: Private Bag, Postal Centre
Wellington. New Zealand
Telephone: 725980

APPENDIX E

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