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An Assessment of the Cognitive Ability and  
the Attitude to Rehabilitation of European  
and Maori Trainees at a Borstal Institution.

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Being a report of an assessment submitted as a  
partial requirement for the Degree Bachelor of  
Philosophy at the University of Waikato

February 1971

ACKNOWLEDGEMENTS

ERRATA

- p. 7, line 23 for "In The Report on Crime in New Zealand (1969)" read, "The Report on Crime in New Zealand (1969) notes that,"
- p.27, line 6 for "two on-piece solution" read "two one-piece solution"
- p.32, line 2 for "refer them" read "refer to them"
- p.57, line 11 for "McCleod, Mary, Article of Waikeria Borstal" read "McLeod, Mary Article on Waikeria Borstal"

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SOME ISSUES INVOLVING DELINQUENCY

AND INTELLIGENCE.

The incidence of delinquency in New Zealand has risen and is a cause for serious concern for the future of the nation. "As in all fields of social inquiry it is much easier to specify the problem than it is to account for its occurrence.... In the case of delinquency, it is much easier to record what has occurred as opposed to why - it is even more difficult to prevent delinquency from occurring at all. Why should this be so?" (Blizard, 1967, p.i.)

There are no easy answers: there are no short cuts to understanding: there will never be an easily worked out, or easily administered programme for prevention. The road is hard, costly both in terms of men, money and time.

A Sumerian Professor, some 3,700 years ago, is alleged to have complained about "wayward, disobedient and ungrateful children, roaming the streets .. loitering in public squares, hating school and education." (Ferguson, 1967, p. 19)

There are differences of opinion on the criteria of judging the nature and causes of juvenile delinquency, but one conclusion becomes evident, and that is how little we know of the many steps by which a child becomes a delinquent.

Carew (1970 a) says "you will be aware that for the most part the inmates of an institution are the products of broken homes, poor environments, who have been neglected and unloved. Some come from financially or socially good homes but are still neglected and unloved." (p. 7) He may have known few books, art, music or good surroundings, but overcrowding, noise, little conversation and the knowledge that personal opinions may well bring either no response or parental corporal punishment. Beyond him lies an alien world where money, cars, possessions and success are goals. He has no means to achieve these: he is delinquent prone. His values are different and he knows little self-respect. Where can he turn to find his own identity?

Most of the emphasis will be on the intelligence of delinquents as this was the object of research on the boys at a local Borstal. The following are some of the findings of previous research on the intelligence and attainment of delinquents which seem to have relevance for this study.

S. & E. Glueck (1950), in their monumental study of juvenile delinquency, after applying the Wechsler-Bellevue intelligence test, found, "on the whole the delinquents average less in verbal intelligence than do the non-delinquents, but the two groups resemble each other in performance intelligence." (p. 153).

In their contrast of a delinquent group with a non-delinquent group, the former was more apt in those intellectual tasks in

which the approach to meaning is by direct physical relationships with a minimal dependence on intermediate symbols or abstract thinking. This may be the reason for their inferior school achievement and their more general dislike of the usual class room tasks. There is some ground for the criticism of inadequate measurement in this research.

The lack of intelligence is no longer believed to be a notable feature of badly behaved juveniles. Eilenberg (1961). As more refined tests have developed, which are less dependent upon scholastic experience, differences in mean intelligence quotients between delinquent and non-delinquent groups have tended to diminish very substantially, if not to disappear altogether. On the other hand, scholastic retardation, not necessarily associated with lack of potential intelligence, remains a striking characteristic of juvenile delinquency.

After examining the studies which have tried to compare the intelligence of non-delinquents with delinquents, Woodward (1963) points out that: "Although no one of the controlled studies alone is conclusive, ... taken together they indicate that with a completely controlled inquiry the difference between delinquents and non-delinquents would be small." (p.9). She further suggests that the use of performance tests might produce an average IQ even nearer the general population of 100.

The Wechsler-Bellevue Intelligence Scale, has been used in much of the research on qualitative intellectual

functioning amongst juvenile delinquents (Caplan, 1965). Wechsler as a result of a study of adolescent psychopaths, discovered that in almost all cases, their performance IQ was superior to their verbal IQ.

Results, so far as the more subtle differences in sub-test achievements are concerned, are less conclusive (Blank, 1958; Foster 1959). However, a poor performance on verbal tests has been shown to be associated with membership of the lower socio-economic class (Bernstein, 1960; Jahoda, 1964). In view of this it is likely that those factors related to class differences could account, in part, for the lower verbal IQs commonly found in delinquent samples. One agrees with Stratta (1970) that there could be some qualitative differences in intelligence between delinquent and non-delinquent groups (p. 40).

#### SOME ASPECTS OF MAORI DELINQUENCY

Although the main interest is Maori and European differences in intelligence, using a cross-cultural measure, some reasons for the high rate of crime amongst Maoris should be examined.

Although Maoris make up less than 8% of the population they account for 25% of all appearances in Court. It evoked a separate section in the "Hunn Report" which states "The most disturbing cause of public concern today is juvenile delinquency, or adolescent offending as some prefer to call it: and the most serious aspect of it is the inordinately high

incidence of law breaking by Maoris." (Hunn, 1960, p. 32)

Is the disproportionately high rate of Maori crime a recent or a long standing phenomenon? Between 1953-55 and 1963-65 the non-Maori rate rose by only 5%, but the Maori rate rose by 59%. Maori offending, which had been approximately three times more prevalent was now five times the rate.

It has been said that the difference is partly the result of errors in the statistics about the Maori people. Racial classification of arrest cases, and of inmates of Department of Justice institutions, relies on self-report by word of mouth to Police or institution staff. The Government Statistician defines Maoris as all persons with half or more of Maori blood. Motge (1971) in defence of the last census figures says ... "The Census does not give us an objective count of the number of persons who are half-Maori or more. Instead, it gives us something of far greater importance..., the number of those who can identify themselves as Maoris; in other words, a reliable measure of the Maori social group." (p. 46) One trusts that the 1971 Census will present a question that is founded on social realities, not racist concepts which are a legacy from the last century.

Therefore valid classification is inherently a problem at the present time. Further research and critiques, such as has been conducted by the Joint Committee on Young Offenders (Research Design for Investigating a Socio-economic Hypothesis of Crime amongst Maoris, 1968) and Pool (1963)

respectively, are very much warranted.

With the Maori in particular, and with many Europeans some of the factors or causes that are directly or strongly related to delinquency may be indirectly related to intelligence. Slater and Jensen (1966) outlined one of these factors as being a result of chaotic and impoverished conditions experienced during the child's early and formative years. This was born<sup>e</sup> out from the personal history of almost all the boys in the research sample. Deutsch (1963) found that amongst slum children in New York, crowded living conditions not only teaches children to be inattentive ... Evidence suggests that these deprivations have a detrimental effect on the lower class child's readiness for schooling and reading. The relevance of this to New Zealand could apply to many of the Maori trainees, as well as most of the Europeans. It is expected that the average size of the Maori trainee's family would be higher in contrast to the European one. (This was confirmed in the sample study where the former was 9.50 to the latter's 4.00). These figures are supported by Slater et. al. (1966) where the average number in the Maori delinquent's family was eight.

Burt (1946) claims that large families tend to have a lower average intelligence than small families. Ritchie (1957) says that the explanation advanced for this fact is that the children of large families receive a smaller share

of parental encouragement"... He says, "It does not provide an environment which promotes the full development of cognitive ability." (p. 355).

Slater, et. al. (1966) found that the mean age at which the Maori delinquent left school was 15 years, compared with 16 years for non-delinquent Maoris; this difference was highly significant. (This was also supported in the writer's sample in that the average number of months of secondary schooling for the Maori trainee was 16.0 and for European, 18.5 months. During the first 6 months of 1970, thirty-six boys at Waikeria were found to be illiterate. (McLeod, 1970, p. 17) In addition, in the sample, one trainee had not attended secondary school at all, two for three months, and one had attempted the School Certificate examination and failed).

Early school leaving, especially in the case of Maoris, is no recent problem. It was not until the early 1960's that action on a national scale was forthcoming. Two notable developments were the establishment of the Maori Education Foundation in 1961 and the concerted efforts of the Department of Education and Maori and Island Affairs Department, to counteract discrepancies in the educational system and to convince Maori parents of the prime importance of education. In the Report on Crime in New Zealand (1969) "The work of the Foundation is already beginning to show beneficial results. When it began operations in 1962, the total number

of Maori children in Form V and VI was 2,215. By 1968 this figure had risen to 5,162, an increase of 133% in six years." (p. 7.)

Watson (1965), already aware of the situation commented on the lack of information concerning the general handicap of the Maori in the present school system. "At the present time there is no clear evidence to show whether it is poverty and large families, or rural location and depressed social status, or Maori inheritance and patterns of child rearing or some combination of all three of these conditions, that are responsible for the type of intellectual functioning displayed by Maori children which teachers apparently consider restrictive, unhelpful, or countervailing." (p. 21).

Lovegrove (1964) contends that many studies have indicated that Maori children are less able to cope with basic intellectual and school tasks than European children of the same age. This has been well documented - (McCreary 1958, Ausubel 1961, Minogue 1963 and McClew - no date).

Ritchie and Beaglehole (1958) claim that a principal characteristic of the Maori intellectual functioning is what might be called a severe inability to use imagination and Maori cognitive organization. They state "that 'imagination-deficiency' may have as many repercussions for Maori success in secondary and advanced education as would vitamin deficiency for the proper and healthy metabolic functioning of the body." (p.p. 136-137).

The scope for improvement is underlined by a recent generalized statement by the Minister of Education in a newspaper article (Bay of Plenty Times, 1971), "Maori education problems must be tackled on a broad front if Maori children are to make the most of their educational opportunities." (p.7).

Although it has not been the writer's aim to discuss so many of the complex causes posited for delinquency among Maoris, it must be conceded that the following factors, (that is, unstable home background, large families and early school leavers) consistently appeared in the course of research work at the Borstal. These remarks should not detract from the fact that they equally apply to Europeans, and as the Report on Crime in New Zealand (1969) says, "offending in the 15-20 year old age group is high for both Maori and non-Maoris." (p. 7).

#### DISCUSSION ON BORSTAL POLICY AND INSTITUTIONAL LIFE.

The underlying philosophy of Borstal Training is that, if it is to be effective, discipline should be firm but the degree of confinement must be moderate. To obtain results in the drive against youthful offending, it was necessary to rejuvenate the system. With this age group of 15-20 there was a need for more individual training and contact with the community.

Five major steps have been taken:

(1) The maximum term of Borstal training has been reduced from three to two years.

(2) Local parole boards have been established with power to release a trainee when it is felt he is ready.

(3) A building programme has been drawn up to provide more diverse institutions.

(4) A determined effort has been made to gain the active help of the community.

(5) A network of pre-release hostels has been established. Penal Policy in New Zealand (1968).

HILLARY HOUSE. Within the environs of Waikeria Borstal, or Youth Farm, as it is now called officially, a unique scheme in New Zealand is in operation. Hillary House (H.H.), with its companion villa, now occupied by the Detention Centre, form the nucleus whereby planned sub-division of the Borstal into smaller institutions can be instigated.

The writer approached the staff of H.H. for permission to carry out research with the trainees, using the Queensland Test of cognitive ability and its attempted correlation with a Responsible Attitude Scale (R.A. Scale) devised for this specific purpose.

The total number of trainees (one will not refer to young men there as prisoners or inmates, as this is in keeping with a present policy to avoid a 'prison-like' image)

was 45, 30 of whom were Maoris and 15 Europeans. Two trainees refused to be tested with the Q.T. so the total sample comprised 29 Maoris and 14 Europeans. The staff totalled 13 officers, 11 of whom were European and 2 Maoris. The trainees selected for H.H. are those who would not qualify for an open institution because of their offences or history. Being a pilot scheme it was to be expected that faulty selections and some problems would be encountered. As reported in Department of Justice Six-monthly Report of 31.12.70 - "Certainly we have had troubles, such as wrong classification, and we have had to modify in the light of experience gained..." (No page given).

An innovation at H.H. is the weekly house meeting lasting one hour, in the form of a large group discussion under the chairmanship of a trainee, with another acting as secretary. Present are the complete staff and all the trainees, the latter raising points for discussion on daily matters and considering constructive viewpoints on the organization of their own time. As Carew, in a Broadsheet (1970) states "In this the staff help by giving guidance. Penal regulations and the Superintendent's instructions have to be complied with and the orders of the officers have to be obeyed. But within these limits there is a great deal that the trainees can initiate and carry out for themselves with the Staff's encouragement."

The writer personally attended some of these meetings and was surprised at the frequency with which trainees

participated and also that they are the first to complain of the behaviour or attitudes of others, often before the staff are conscious of these incidents. Leadership qualities, if shown in position of Chairman and Secretary, contribute to the success of the House Meeting. A significant aspect of these meetings is that if trainees are to adapt themselves to society in the future, it is necessary to behave responsibly. In this way a trainee could learn to make decisions which he must obey. The impression gained was that the authority of the staff was not threatened and the overall relationship maintained. As the superintendent claims, their staff control remained the same but the way it was exercised, changed. It was expressed more in the form of a parent and less like a regimental sergeant major.

Although this would be disclaimed, it is probable that a good behaviour factor undoubtedly operates in influencing the selection of trainees for H.H. One agrees with the following comment in an article of the Sunday Times (1970), "Hilary House is where the better boys from the Borstals go." (p.16). Although good behaviour may not be the pre-eminent variable concerned in all cases, it must affect the chance of being considered. In any evaluation of the sample of 43 at H.H., this aspect must be remembered despite the fact that an opportunity for this type of rehabilitation is theoretically extended to all. A trainee's selection for H.H. is supposedly not affected by crime, age or racial discrimination.

All trainees in the writer's sample had spent at least some time in the main institution before they were allowed to enter H.H.

The Annual Report of the Waikeria Borstal Parole Board (1966) <sup>states,</sup> "The primary purpose of H.H. is to assist in the training of those who genuinely wish to succeed. The essential requirements from trainees ... are, trustworthiness and endeavour. A high standard of performance is expected and must be maintained. Therefore it plays an important part in the training of the best prospects among the trainees." (p. 3).

H.H. has some disadvantages; notably the smallness of the sample and the inability to work with a representative sample drawn from the total Borstal population. The proportion of Maoris (67.4) to Europeans (32.6) at H.H. is almost identical to the approximate 2 to 1 Maori to European ratio at Waikeria.

H.H. has advantages over other penal institutions in New Zealand for the kind of research conducted. These are -

(1) a quite different atmosphere from the main institution. Carew (1970a) in referring to the main institution says "the whole atmosphere in the wings and dining rooms in particular, leaves a great deal to be desired. There is an anonymity about this part of the institution..." (p.3).

(2) Because of this the officer-trainee relationship is more friendly and intimate. At H.H. one believes that at least a good attempt is made to meet the following high ideal

stated by Carew (1970a) "It is axiomatic that if staff are to guide, train and influence offenders for their good and ultimate rehabilitation, they must first of all be able to get a good relationship with them." (p. 3).

(3) Officers have a better personal knowledge of the boys, as less crowded conditions permit this.

(4) Positive and responsible behaviour could be adequately gauged by the officers.

(5) The H.H. weekly meeting (as mentioned previously) is an innovation in ameliorating the typical 'prison' atmosphere of most Borstals.

(6) There is a system of rules, privileges and penalties and a code of ethics. The first three influence all trainees, obviously with differing effect.

Many trainees of Borstal and particularly of H.H. could adapt easily to living in an enclosed environment. To be 'institutionalized' is to learn to behave acceptably, yet such behaviour could well be ostensible and not because of a genuine desire to reform. Because the Borstal system imposes a regimented way of life, (the trainee has to march in file, obey military-like orders and accept the provision of all basic necessities), his life becomes depersonalized. This fact prompted Hohhouse and Brockway (1922) in the very early days of the Borstal system to observe that "Borstal boys were in rebellion against restrictions which choked the life in them and it was self-discipline which the boy needed most rather

than mechanical obedience. " (p. 416). One suspects that a few are re-offenders in a desire to be back in an institution, but research would be needed to reveal reasons for this.

SOME ASPECTS OF INTELLIGENCE AND  
CROSS-CULTURAL TESTS.

It is no longer in vogue to view intelligence as a definite entity, an autonomous mental faculty, that naturally develops and matures as a child grows up. As Vernon (1969) says, "It has to be conceived rather in terms of a cumulative building up of more complex and flexible 'schemata' through the impact of the growing organism and the environment on one another." (p. 19).

Intelligence, or cognitive capacity - the cognitive characteristics of a person, is what he is able to do and not to seek reasons why he does it - is channeled through behaviour and evidenced in performance. Kearney (1966b), says "all behaviour is a function of innate ability compounded with environment. It is impossible to measure one in isolation from the other." (page 9). Differences between more 'primitive' and more civilized mentalities are not the result of a genotypic handicap but their origin is likely to be found in child rearing methods and in the general nature of the society.

Intelligence, then, is complex and while useful notions can be forwarded about its growth there is still a dearth of

research on specific cognitive developments in particular groups.

Kearney (1966a), in commenting on this lack of information adds, "whether cognitive ability be determined by heredity or environment or a combination of these, there is no doubt that its measurement and structure will engage the attention of the psychologist for a long time to come." (p. 64).

To reduce the cultural limitations that characterize most non-language and performance tests, several attempts have been made to construct "culture free" tests, (Cattell and Cattell, 1940, 1949), Safran (1963) and Kahn (1960a, 1960b). Kahn developed a new "culture free" intelligence test but claimed "culture free" is only a relative notion.

Because of the fundamental role that cultural factors play in behaviour development, it is not possible at the present time to construct a "culture free" test. Every test that measures a sample of behaviour will reflect any factor which affects this behaviour. This kind of test could not entirely avoid cultural influences but had to use only those elements shared alike by many cultures. Psychologists prefer the concept "cross cultural" to describe these tests, instead of the more popular but misleading term "culture free". Anastasi outlines three parameters, one or more of which cross cultural tests should attempt to nullify. They are: (1) language: (2) speed: (3) test content.

Some current research has been carried out with cross-cultural tests, Vernon (1962, 1965a, 1965b, 1965c) has tested in the West Indies: Irvine (1962, 1963, 1964, 1965 and 1966) has concentrated with testing in Central Africa, while Silvey (1963a, 1963b) has used similar techniques in East Africa. Ferron (1965) in Sierra Leone, Greenfield (1966) in Mexico and Rhea Das (1963, 1965) in India, are others who have been engaged in this sphere of psychological testing.

The writer posited an approximate similarity in the educational and socio-economic background (that is especially when both the Maori and European boys came from an urban environment). Walters (1958), in this connection, says that "cross cultural studies of intelligence test performances cannot yield worthwhile conclusions unless socio-economic and educational differences within the different cultural groups are taken into account." (p. 111).

Although Lovegrove (1964) and others have commented upon the inability of Maori children to cope with standard scholastic tasks (refer to page 8 of the thesis) there has been one exception to this general finding; namely, a research carried out by Smith (1956). It was found that Maori children of Std. 4 to Form 11, when matched for age and socio-economic status, performed equally as well on tests of reading and intelligence.

Research such as Ritchie (1957) and St. George (1969) provided incentive to test differences in performance ability of Maoris and Europeans even though these studies were limited

in scope. Kearney (1966a) says, with relevance, that the highest relationship with the Q.T. "is to be found with measures that do not depend on verbal aspects of a test which by their nature depend on educational and therefore cultural influences." (pp. 265-266).

The hypothesis is that there will be no significance in the difference between the cognitive ability raw score of the Maori and European boys. There would be a small but higher score for European trainees over Maori trainees.

THE QUEENSLAND TEST.

The Q.T. and its forerunner, the P.I.R. Test, were developed over a period of ten years in the Psychology Department of Queensland University by D.W. McElwain, G.E. Kearney and I.G. Ord. This is a non-cyclic omnibus, individually administered performance test, of general cognitive ability designed for use under conditions of reduced communication. As the designers claim "the Q.T. was developed as a tool for the selection of those subjects who were likely to be able rapidly to learn complex skills of the Western urbanized culture from amongst groups who had had little contact with that culture." (Draft B. Manual p.2.)

In administration content and subject response the test is non-verbal and the item materials are not objects with common usage or names for any group. The subject is required to solve a clear and uncomplicated task that is actually present and does not require the use of abstract concepts. The psychological tests often used amongst European groups are limited to those versed in European skills, so the Q.T. was devised to overcome such barriers. Advantages of the Test are well illustrated when considering the following comment by Anastasi (1961) on non-language cross-cultural tests. "It is apparent, however, that persons from certain cultures

would still be handicapped on most non-language tests, primarily because of specific information that the tests presuppose." (p. 255).

It is understandable that Maori and even European Borstal trainees, some of them with limited secondary schooling (and a few none at all), would have difficulty with a performance test involving: a violin with no peg, a light bulb without a base thread and an ocean liner minus a stack. All of the items in the sub-test become progressively demanding and the subject will build on success in the easier sectors in order to cope with each ensuing item. If the subject has not correctly solved an item it is important to correct him before proceeding with the subsequent items. With 3 of the sub-tests, the Beads Test, the Passalong Test and the Pattern Matching Test, one is allowed to finish an item that the subject cannot complete. As Kearney (1966) in his doctoral handbook adds "In such testing it was felt that by allowing the subject to correct errors or to complete items the required level of motivation would be maintained." (p. 87).

Sub-test 1: Knox-cube Imitation Test.

From early beginnings, Knox (1914), Pinter (1915), Drever & Collins (1928) and Arthur (1930, 1943), and through subsequent modification and research by Ord (1959), the Q.T. designers attempted to present a more comprehensive test from previous versions. The apparatus of the sub-test consists of four  $\frac{3}{4}$ "

Showing the sequences used in the Queensland Test  
revision of the Knox Cube Imitation Test

	Item	Sequence
Pr.Item	1	1 2 3 4
Item	1	1 4 3 2
	2	4 1 2 3
	3	2 1 3 2
	4	3 1 4 2
	5	2 4 1 3
	6	3 2 1 4
Pr.Item	2	1 2 3 4 2
Item	7	1 3 1 2 4
	8	4 3 2 3 1
	9	3 2 4 3 1
	10	2 1 3 4 2
	11	1 2 3 2 4 1
	12	2 1 4 2 1 3
	13	3 1 2 4 1 3
	14	1 4 2 3 2 4 1
	15	3 1 4 2 4 1 3

From Kearney p. 100

cubes spaced at equal intervals, and attached to a white base frame, 8" long. The subject is invited to tap in imitation what the experimenter demonstrates to him. Involving 2 practice items the subject has to tap out the order given below, finishing with the 15th sequence. (It should be mentioned that all material used in the equipment is constructed of plastic to avoid warping in tropical climates.)

Sub-Test 2: Beads Test.

Ord, in his research, encountered some difficulties with the Bead Threading Test, especially in regard to what Kearney states was a differential ability by some to perceive symmetry. He says this appeared to be related to cultural learning and not dependent on any general cognitive ability. The Q.T. designers devised a plastic frame with 2 parallel grooves, with one groove being used to display a copy of the sequence to be made and the other was utilized by the subject to construct the sequence. The 3 different types of beads used are, spherical, cylindrical and cubical. The display copy was revealed to the subject for a standard exposure time and then covered over so that he could not see it. Beads are able to be placed in the frame, in any order, and taken away without influencing the remainder of the sequence. A stopper is placed at each end of the frame and the latter one can be slid along the grooves so that the same length of groove is available for the task for both the tester and the subject. The subject

Showing the Beads Test arrangements used  
in the Queensland Test

Item	Arrangement	Exposure Time
Pr. Item 1	= 0 +	Unlimited
2	+ = 0	Unlimited
Item 1	+ 0 = +	10 secs.
2	= + 0 +	10 secs.
3	0 + = 0 =	10 secs.
4	+ 0 + = 0	10 secs.
5	+ = 0 = + 0	15 secs
6	= 0 + 0 = +	15 secs
7	0 = + = 0 + =	20 secs
8	+ 0 = + = 0 =	20 secs
9	= + = 0 = + = 0	25 secs.
10	0 + = + 0 + = 0 +	25 secs.

---

0 represents a sphere\*  
+ represents a cube  
= represents a cylinder

\* (0) = nearest equivalent to sphere

is able to know how many beads are to be placed in his groove. Both stoppers rest against the display sequence in order that the solution to be correct must take up all the available space.

Sub-test 3: Passalong Test.

This test is akin to the sliding block puzzles that have often been used as children's games. Alexander (1932,35) first designed it as a test where the subject is asked to slide tiles from a fixed starting position in a frame, of an arrangement which corresponds to a pattern illustrated on a card. Semeonoff and Trist (1958) and Ord (1959) both used this test, but with some modification.

Each test is clear and uncomplicated. A card, identical in size to the frame is placed before the subject, and illustrated on it is the composition of tiles that the subject is required to match. This composition is precisely the same size and colour as the tiles.

The subject is then made to reverse the tiles in the frame so that they are in the same position as displayed on the card. The Q.T. designers devised a hitherto unused rule for discontinuation. A subject had to pass one of the first pair of items (1 and 2) to be able to continue to the next pair (3 and 4) up to (5 and 6). If one of the last pair was performed correctly the subject would be given the final item (7) in either of its alternate forms, 7a and 7b. This is related to the way in which item (6) was begun.

Showing the sequence of equivalent items used in  
various revisions of the Passalong Test

Alexander	Semeonoff and Trist	Ord	Q.T.
Item 1	Item 1	Pr. Item 1	Pr Item 1
2	2	Item 2	Item 1
3	3	3	2
4	4	4	3
5	5	5	4
6	6	6	5
7	-	-	-
8	7	7	6
9	9	8	7
10	8	-	-

From Kearney p. 112.

Sub-test 4. Form Assembly Test.

For the Q.T. a single white plastic board 14" by 5" with 7 set pieces each of a different design (square, triangle etc.) is attached to it. A grey plastic square, 4" by 4", is on the right hand side of the form board. A black plastic stencil is placed on the grey square. The area of grey not covered by the black is synonymous with one of the seven designs on the form board. Each item becomes increasingly harder, where in later items the missing area needs two or three pieces to fill, and so cover the grey square completely.

There are four types of test items. The first or 'one-piece solution' items require only one of the seven set pieces to complete the design. There are three such items (Items 1-3). The next type requires two pieces to complete the design. These are the 'two one-piece solution' items. The areas to be covered in solution are not adjacent and the items can be solved as if they required one-piece solutions. These are Items 4-6. The next type of item also requires two of the set pieces in its solution but they must be adjacent. These 'two-piece solution' items (Items 7-10) are different from the 'two one-piece solution' items in that area to be covered is not identical with any single set piece but with a combination of two of them. The 'three-piece solution' items (Items 11-13) have only one area to be covered and the three set pieces must be adjacent to each other to cover this.

There are two one-piece solution practice items, one two-piece

Showing the items used in the Form Assembly Test of  
the Queensland Test.

	Item	Piece(s) needed for the solution
Practice Items	PR 1	C
	PR 2	B
One-piece solution	1	G
	2	F
	3	E
Two on-piece solutions	4	C+D
	5	B+G
	6	A+E
Practice Item	PR 3	BC
Two-piece solutions	7	FG
	8	DE
	9	AD
	10	AE
Practice Item	PR 4	BCF
Three-piece solutions	11	ADG
	12	ACD
	13	BEF

From Kearney, p. 117

solution practice item and one three-piece solution practice item. There are two loose copies of set pieces C and B which are used to demonstrate the solution of Practice Items 1, 2 and 3. They are also required to demonstrate two of the pieces in the three-piece solution demonstration item.

The first practice item covers the area without any rotation of the set piece being necessary. The second practice item requires that the set piece must be rotated through  $90^{\circ}$  in order to cover the area. This process becomes more complex with the later items.

The subject indicates the solution by pointing to the set piece on the Form board. The tester indicates with his fingers how many pieces are required.

A subject had to pass one in each block of item type to be able to continue with the next test, i.e. he had to pass one of Items 1-3 to proceed to Items 4-6, and one of Items 7-10 to proceed to the final set of items. This test is untimed

Sub-test 5: Pattern Matching Test.

From the original of Kohs (1923) with his block design test, and the considerable change of it by Ord, the above test was devised. The set pattern was constructed within a frame that has definite boundaries giving to the task a specific setting. From the research of Goldstein and Sheerer (1941) the task was found to be unnecessarily complicated when the subject was asked to construct the item within an unenclosed situation.

Showing the number of each item to the equivalent  
\*  
time limit for the Pattern Arrangement Test

<u>Item</u>	<u>Time Limit</u>
1	2 mins
2	"
3	"
4	"
5	"
6	"
7	"
8	"
9	"
10	"
<hr/>	
11	3 mins
12	"
13	"
14	"
<hr/>	
15	4 mins

\*(for Arrangement read Matching)

The Q.T. has a more uniform border and the illustrated cards which the subject has to reproduce with the tiles are the exact size of the frame.

The scoring of the Q.T. is not difficult in that the score is the sum of all items correct. No item or sub-test weights are to be applied. There are three sets of norms. The first (and this was used for the sample at Waikeria) is for children of European descent; the second is for children of Aboriginal descent who have been in contact with Europeans for a considerable period of time and can be thought of as being at a medium level of European acculturation. The third is for those of aboriginal descent who have experienced little European contact and live in an environment that is predominantly tribal in character. In this group one would assume that neither schooling nor its effects have been experienced by the parents.

The reliability of the five sub-tests is not as high as for the whole test. The reliability of the latter ranges from 0.76 - 0.92. The co-efficient of 0.76 is from the Armed Services sample while the range of co-efficients for all the samples, with the exception of the Armed Services group, is from 0.88 - 0.92

The overall test-retest reliability is high. (This was conducted on the Palm Island sample one year after the initial testing (1964 and 1965)).

Showing the number of items to the approximate  
time of each sub-test of the Queensland Test

	Practice Item	Test Items	Approximate Times
Knox Cube Imitation	2	15	5 - 8 mins
Beads	2	10	8 - 12
Passalong	1	7	8 - 15
Form Assembly	4	13	4 - 6
Pattern Matching	1	15	20 - 25
Total	10	60	45 - 66

From Kearney, p. 355.

### Method of Testing.

Each trainee was deliberately addressed by his first name (the policy at H.H. is to refer them by surname). The testing room was excellent, with no distractions, and a table 2½ feet square was provided. A small low table concealed from the trainee was used so that all the equipment could be placed within reach and in order. After the subject was seated, the tester introduced himself and explained he was from the University of Waikato to conduct some research and sought their co-operation in the project. (Two trainees had previously refused to take part). They were told the approximate length of time of the test and a stopwatch was shown and said to be vital for the procedure. It was explained that there would be little verbal communication between both subject and tester and that occasional non-verbal gestures would be given to indicate the subject matter. A few neutral questions were asked to maintain the level of relaxation, which was considered to be good.

### Attitude of Trainee.

Hood (1965), Stratta (1970) and Carew (1970) comment on the strong anti-authority attitude of most Borstal boys on entering an institution and a suspicion of "officialdom". It was important to establish some rapport with each of the trainees before testing commenced. A basis for personal contact was provided by being present at numerous H.H. meetings. This was strengthened by meeting with them in the dining room for the evening meal. Most soon showed a willingness to engage

in conversation and some communication was established. The superintendent and officers on duty chose the first group as this helped to dispel any doubts of later subjects, (one boy mentioned that he did not want his brains picked.)

### Results.

No significant difference was found between the Maori and the European in the sample (see table); thereby supporting the original hypothesis. The small difference between the total mean scores, was again supportive but a little less than expected (3.0 - 4.0).

The average total mean score of the sample was 42.67 which is below 'average' intelligence ( i.e. if the 50th centile figure which is equivalent to a 44.5 raw score is considered).

In regard to the sub-tests, all results favoured the European, except in the Knox Cube Test where the difference in mean scores was 0.47 (this was not significant). Kearney (1966a) contends that the total Q.T. score is much more significant than any of the individual sub-test scores.

### Discussion of results.

It must be pointed out that in any discussion of the Q.T. results, there is no normative data, or known research (apart from St. George (1969)) that can be used on a comparative basis between Maoris and Europeans.

The slightly better performance of the European trainee

Queensland Test Results. (Total raw score)

Total sample                    n = 43  
  Maori = 29  
  European = 14  
Mean total score    European = 43.21  
"                    "                    Maori = 42.14  
  Difference = 1.07

't' = 0.71 (N.S     $\alpha$  = p less than 0.01     $df$  = 41)

Queensland Subtest Performance

		Total sample (43)	Maori (29)	European (14)
Knox:	Mean	8.30	8.40	7.93
	S.D.	2.60	2.35	3.56
Beads:	Mean	5.23	5.10	5.50
	S.D.	2.16	1.49	1.18
Passalong:	Mean	5.46	5.34	5.71
	S.D.	1.03	0.54	0.74
Form Assembly:	Mean	9.55	9.44	9.78
	S.D.	1.03	1.35	1.67
Pattern matching	Mean	13.96	13.86	14.85
	S.D.	1.49	1.42	3.75

in general on the five Q.T. sub-tests supports the data of St. George (1969). His only result favouring the Maori was the Beads Test (4.00 to 3.68). The writer did not find this tendency in his sub-test (Maori 5.10 and European 5.50), but it is of interest that the Maori average mean score for the Knox Cube Test was (8.40) to the corresponding European score of 7.93. The Beads Test is similar in that memory is a key variable in both sub-tests. No significance is attached to these differences and one suspects that many of the European trainees approached the Knox Cube Test (i.e. the first one) with a certain amount of naiveté. One of known ability, deliberately attempted this test with carelessness. The Maori, in contrast, was usually eager to perform anything the tester demanded.

The writer's results, when compared with Ritchie's (1957) data, tend to support his findings. He found with High School students that the difference between Maori and European results was greater for the average verbal score (12.30) than the performance scores (3.45).

The writer's main criticism of the Q.T. centres around the Pattern Matching sub-test. The time limits for the first ten items in particular were too long (2 minutes). An improved method could possibly use shorter time limits that increase as the items become harder. To support this, one considers that the average score on this sub-test for Europeans (14.85) and for Maoris (13.86) was too high.

One further criticism is that some reward should be given

for an answer that is almost correct, especially for the Beads Test where the answer is either right or wrong.

RESEARCH ON THE ASSOCIATION BETWEEN COGNITIVE  
ABILITY AND REHABILITATION AT HILLARY HOUSE.

The writer found some aspects in common with the present study in the research work of Kearney (1966b) amongst the Orokaiva people of the Northern District of Papua. His study was carried out with seven groups of adult males using the Queensland Test of cognitive ability as well as two further tests that purport to measure this concept. They were; (a) the Kim Game and (b) the Gestalt Continuation Test, Form A. It was considered that the omission of the latter two tests at Hillary House would not detract significantly from a measure of cognitive ability to contrast with the measure obtained in Kearney's study.

There were 20 men in each group making a sample total of 140 in the Papuan study. Some of the total samples were divided into 3 groups according to productivity or ownership of cash crop trees. What is relevant to the present research is that a significant difference between groups was encountered, and that was those males who tended to have the higher test scores were most productive. The group which performed well were successful cash-crop producers and had had the influence of a local mission school for sixty years. In contrast, one of the groups with low test scores had experienced little schooling. This influence is not clearly defined. The sample with the high-

est average cognitive ability score were well known as excellent workers, while the group with the low average score had a consistent record of failure in communal cash cropping, and other undertakings. Kearney adds that "it is suggested the ability to perform well in the plantation economy may be related not so much to particular opportunities but more to the cognitive ability of the people." (ibid, p. 21).

That all high producers necessarily possess a high level of cognitive ability and that all low producers are of low cognitive ability is a nonsensical assumption, for productivity could well be allied to factors beyond control. Kearney(1966b) maintains there is also a level of cognitive ability specific to a person that tends to influence the outcome of his personal endeavour.

The composite and interconnected factors that make up cognitive ability is complex and they reflect the differential competency of one person to another. People vary in other ways too, and one simple form chosen here is productivity in the economy.

Description of Testing. Even though a connection between the successful Papuans and incentives to rehabilitate may be tenuous, the fact that the success was significantly related to cognitive ability was sufficient stimulus to postulate a relationship between an above average score on the Q.T. and a high score on a Responsible Attitude scale. Those who scored very much below average on the Q.T. would have a correspondingly poorer score on the R.A. scale. As there was no

significant difference between Maori and European total mean scores for the Q.T., it was decided not to compare them on a statistical basis.

The top twelve Q.T. total raw scores were selected, with an average score of 48.00, their range being 47-51. Twelve boys with the lowest Q.T. scores had an average score of 36.25 with their range being 29-40.

The Responsible Attitude scale was devised, comprising a total of eight statements. Each trainee was rated by three officers at H.H. on a Yes/No basis.

These were as follows:

(1) The trainee has approached you or other of the prison officers in order to discuss a particular problem.

(2) Is able to work at a set task only when supervised.  
(to be scored in the negative).

(3) He stands out as an individual in a group situation.

(4) He has initiated action or recreation amongst other trainees.

(5) He is well dressed, his clothes being neat on most occasions.

(6) Indications are that trainee is making a real effort to rehabilitate at Hillary House.

(7) He will make up his mind to carry out some project e.g. making a model car, painting etc.

(8) Trainee's room is kept tidy.

Rationale for R.A. Scale.

(1) Trainee/Prison Officer/Problem.

What one is trying to ascertain is whether the trainee will occasionally contact an officer with a particular problem. The relationship will depend largely upon the personality of officer himself. With the smaller number of boys there is an atmosphere conducive to this contact. The high standard that is ideally portrayed in the Article, A Penal Policy for New Zealand (1954) although referring to Prison Officers can include the field of Borstal Officers as well, has this to say, "officers must be found who are capable of studying and understanding men, who have it in their knowledge to diagnose individual problems, to evaluate reactions, and in a quiet way to assist in the treatment. This is the minimum standard required in a (prison) officer ..." (p. 31).

(2) Set task/Supervision.

Some boys have been placed on jobs where they perform very well with little supervision. One Maori boy in particular was almost a foreman as he could organize the laying down of concrete paths. Another trainee was given the seemingly responsible job of driving one of the Borstal vans between H.H. and the main institution. He could have found freedom by turning left instead of right at the cross-road. Some work is unsupervised in the kitchen although an experienced woman helps for part of the day. An officer explained, one trainee who appeared to be

a good worker by himself was unable to cope with a simple, well explained piece of work. H.H. encourages generally any consistent sign of initiative and ability to work without the attendance of an officer. This does not prevail at the main institution.

(3) Individual/group situation.

This is observed in sport, music and singing, especially if the trainee has a guitar, a popular pastime. At a discussion, two trainees were not afraid to be outspoken concerning petty thieving. A trainee who is prepared to go outside the sphere of this "camaraderie" that exists at the institution, with the conviction that he is right when others are in the wrong, is in the above category. It was explained to the officers in advance that it was this kind of positive attitude one attempted to measure. In a newspaper article on Waikeria, a reporter of the Waikato Times (26.6.1970) said "There's a camaraderie at Waikeria which can be heart-felt - or dangerous. Weaker youngsters follow the examples set by the older, more sophisticated young man." (p. 21.)

(4) Action/Recreation/Trainees.

A very relevant aspect is seen in the weekly H.H. meeting where there is the opportunity for the trainees to show leadership qualities. This is as a chairman or in speaking out from the floor on contentious issues. Some perform well at sport and the opportunity is available to be elected as a captain of a sports team, e.g. Rugby. It is possible for an

individual trainee to overcome an invisible but existent barrier, the result of an "enclosed" way of life.

(5) Appearance/neatness.

The trainee is given clothes, blue jeans and blue-grey trousers, blue shirt, sweater and sandshoes. There is a variation in personal appearance, cleanliness and state of clothing. Some lacked shoe laces or did not take time to tie them, some had shirt tails showing. Others obviously took a pride in the limited range of clothing allowed. (From the high number of positive responses recorded - Maoris, 85%, Europeans 71%) it appears most boys do take some care in their appearance. This could be an expression of overt conformity. H.H. staff emphasizes an underlying philosophy of tidiness by having the grounds and buildings spotlessly clean and using some trainees as full-time cleaners

(6) Trainees/Effort to Rehabilitate.

The incentive for this does exist at H.H., in contrast to the remainder of the Borstal, as the rules are less severe and encouragement more evident. The response is not always as strong as the staff would like, especially regarding sport. One of the leading officers remarked that often a trainee will show excellent progress in his first few months, regress, but followed by a slow improvement. Finally, it is suggested that if a boy does not exhibit some desire to respond to the system of H.H. (i.e. apart from any deep-seated personal problems) he

will find it difficult to adjust to society on release.

(7) Carry out Project.

There is enough time and scope for the trainees to carry out some project and complete it. There is no television and virtually no outside activities. One boy constructs fishing flies, others have made pieces of furniture, (the office used for testing was furnished with a few pieces), some have painted, while many enjoy working with model cars. Hood (1965) claims that the attraction to 'hobbies' and acceptable standards of leisure in a Borstal boy's mind conflicts with the prevailing norm of sophisticated entertainment of contemporary society. He adds "Nor is there any pattern of the proper use of free time which can be pointed to as an example: the non-delinquents have also failed conspicuously in many areas to tackle the problem of how to spend their leisure." (p. 154). This has been supported by Fyvel (1962) in his penetrating study of the working class 'teddy-boys' habits.

(8) Room/Tidiness

There is a withdrawal of privileges of some consequence (i.e. in regard to such things as the canteen and films) as this is worked on a points system. A trainee who does not conform is subject to correction from an officer with a subsequent deduction of points. But, of more importance, he can receive unofficial retribution in varied forms from his fellow trainees. The rooms are divided into blocks so that if one boy loses points for untidiness, the rest of the group are affected.

One personally heard some complaining about carelessness and subsequent deduction of marks. It is a boy with some maturity who will conform (even if irksome) as this system involves others besides himself.

Possible Related Factors.

A possible variable operating across the R.A. scale was the existence of strong peer-dependent and anti-adult behaviour by the Maori. From the findings of Mulligan (1957), Ritchie, Jane (1957), Beaglehole and Ritchie (1958) Williams (1960), Ausubel (1961) and Ritchie and Ritchie (1970), there is evidence for this behavioural characteristic amongst Maori adolescents. This is despite the fact that a great many of the Maori trainees have come from an urban environment (the previous research mentioned, was oriented to wards the rural Maori). Recent research amongst Polynesian groups by Howard and Gallimore and Levy (no date for both) lends support to the data already found on the Maori. It is necessary to consider also the European trainee within the scope of peer-dependent behaviour. Bronfenbrenner (1970) has pointed out that "there has been a progressive decrease, especially in recent decades, in the amount of contact between American parents and their children." (p. 98). What is apparent in the United States is likely to be relevant to the European adolescent in New Zealand.

The two factors attempting to assess the above findings are: (1) The trainee is inclined to discuss personal problems with the prison officers.

(2) The trainee has approached you or other of the prison officers in order to discuss a particular problem. (This factor is Item 1 for the R.A. scale).

The two factors were answered on a yes/no basis by the three officers. Scoring was the same for the R.A. scale,\* and the combined Maori/combined European total mean scores were to be compared. The writer assumed a close relationship between peer-dependent and anti-adult behaviour.

\*Method of obtaining score on R.A. scale.

Everyone of the 24 trainees in this sector of the sample were capable of obtaining from the officer's rating a maximum of 3 positive scores (noting that with item 2 the desired response is in the negative). Each officer's positive response was equivalent to one point so that a possible total score for a trainee was  $8 \times 3 = 24$ . One further aspect was looked at, but superficially. The 15 trainees who scored the highest on the R.A. scale were then matched with the individual sub-tests of the Q.T. A similar procedure was adopted for those 15 trainees with the lowest R.A. scale total score. This was to make a quick check for the first and more important correlation. (note: 15 was taken as the figure due to the large number of trainees with 17 on the R.A. scale).

Rater Reliability. To assess the accuracy of this scale as a measure of a responsible attitude, the three raters were cross-related: Rater A with Rater B, Rater B with Rater C and Rater A with Rater C. The percentage of agreement was,

for A-B 55.73%, for B-C 69.78% and for A-C 57.81%. From these results the writer thought they were sufficiently reliable to draw further conclusions. It is of interest to note that the percentage of 69.78 for raters B and C involved the two European officers. It is probable that a Maori perceives his environment differently from a European in H.H. Watson (1965). A Maori's concept of tidiness would appear to be different from that of a non-Maori. From the data on item 5 (neatness of dress) and item 8 (tidiness of room), the Maori officer sometimes scored a negative response, whereas the two European raters gave positive scores. The contents of each boy's room are meagre and range of clothing is limited. In these two items a definite yes or no answer was expected. Some discrepancy was seen in Item 6 on the trainee's desire to rehabilitate. The Maori raters' attitude towards reform seemed to be more strict and a possible explanation is that his personal knowledge of each of the trainees is not as extensive as the two European officers. The Superintendent, however, chose three officers whom he thought would best know the boys.

#### Discussion of results.

When the R.A. scale scores were correlated with the equivalent top 12 Q.T. total scores and the corresponding 12 basal Q.T. total scores the result was significant.

(See table on results page 46).

On comparing the 15 trainees who scored highest on the R.A. scale and the 15 who scored lowest with the

Relation of Q.T. Score to Responsible Attitude

Scale Score

<u>12 Trainees with highest Q.T. raw scores</u>		<u>Score on R.A. scale</u>
1	51	17
2	50	15
3	49	18
4	48	19
5	48	17
6	48	20
7	47	17
8	47	12
9	47	15
10	47	16
11	47	14
12	47	16
<hr/>		<hr/>
average score	= 48.00	16.33

<u>12 low Q.T. scorers</u>		<u>Score on R.A. scale</u>
1	29	11
2	31	7
3	35	9
4	35	15
5	36	14
6	37	17
7	37	18
8	38	13
9	39	12
10	39	13
11	39	15
12	40	16
<hr/>		<hr/>
average score	36.25	13.33

S.D. = 3.54, 't' = 1.98 (S.  $\alpha$  = p less than 0.10  $\bar{d}$  = 22

Phi Coefficient = 0.5 (S.  $\alpha$  = p less than 0.001, ch.sq = 12  
 $\bar{d}$  = 1

Q.T. data, the trend was similar to the above finding though not tested for significance. (Those 15 trainees who scored highest on the R.A. scale had an average score of 17.83, out of 24 and a range of 21/17: and those 15 who scored lowest had an average score of 10.26 and a range of 13/5).

The total sub-test raw scores for the high scorers on the R.A. scale was 660 with a mean score for each sub-test total of 132.0. The corresponding figures for the lower group were 607 with an average score of 121.4. The average Q.T. total raw score for the high R.A. group was 44.17 and for the low group, 39.51.

When the two factors attempting to measure trainee-officer contact and peer dependence were combined together, the difference between the combined Maori and combined European total mean scores was 0.99.

#### Result

Comparison of Maori and European Mean Differences on Officer contact.

S.D. = 1.61  
't' = 0.62

(N.S.  $\alpha$  = p less than 0.10 df = 41)

#### Criticism of Scale. (Responsible Attitude scale)

In regard to the scale there is a fairly clear cut result, but too much importance must not be attached to it. For a variable such as peer-dependence could affect the results. The measurement made here is likely to be distorted by factors associated

Relation of Responsible Attitude Scale Score \*  
to Q.T. Sub-test Score.

relation of R.A.S. to Knox Cube Test

those high on scale,	av. sc.	=	7.66
" low " "	" "	=	7.40
	diff.	=	0.26

relation of R.A.S. to Beads Test

those high on scale,	av. sc.	=	6.33
" low " "	" "	=	4.33
	diff.	=	3.00

relation of R.A.S. to Passalong Test

those high on scale,	av. sc.	=	5.86
" low " "	" "	=	5.33
	diff.	=	0.53

relation of R.A.S. to Form Ass. Test

those high on scale,	av. sc.	=	9.86
" low " "	" "	=	9.53
	diff.	=	0.33

relation of R.A.S. to Patt. Mat. Test

those high on scale	av. sc.	=	14.40
" low " "	" "	=	13.86
	diff.	=	0.54

\* Those 15 high on R.A.S. av. sc. = 17.83 range is 21-17  
" " low " " = 10.26 " 13- 5

with the limited experimental design used. The rating is a highly subjective one and the factors are in need of further sophistication, coupled with more extensive observation of the dynamics of Maori/European trainee behaviour at this institution.

### CONCLUSION

The results of this research supported the writer's original hypothesis. However, there are several variables that should be considered.

The Queensland Test does not have any normative data for Europeans and Maoris over 13 years 4 months, therefore only raw scores and not centile figures are utilized.

It would have been easier to draw more appropriate conclusions if research could have been carried out with trainees of matched socio-economic background, education and age.

It was difficult to find sufficient time to observe behavioral characteristics of both European and Maori trainees at Hillary House and the Main Borstal. Because of difficulties both with transport and the working in with the compulsory daily work programme, all testing had to be done at the end of the day. Possibly the trainees were tired from a strenuous day's work and may not have produced their best effort.

There was a lack of specific and accurate information on each trainee in the sample, namely the data on the boys' school record. Stratta (1970) supports this by claiming

"it was often found that a boy's file had no reference at all to his ability or previous educational experience."(p. 51). Often the file only gave the Class and not the actual month as to when the trainee left school.

The Officers' ratings should be viewed with circumspection because of the high degree of subjectivity attached to many response scores. As previously mentioned, there was a difference found in the perception of trainee behaviour, between the two European officers and the Maori officer.

There was an inability to select a representative sample from the total sample available by a statistical method. This was impossible as Hillary House chooses trainees by its own method and the writer is not clear as to the exact factors involved in their selection policy. (see page 12 of thesis).

In tests of this kind there would be an advantage in having the trainees assessed three to four months later. A quick rating check five months later revealed that some of the boys of the sample had already left or been transferred. Therefore no conclusion was drawn.

Although the Q.T. measures cognitive ability, Walters (1958) maintained "If a test is to be used as a predictor of immediate educational progress, obviously even for the Maori child the traditional type of verbal test seems to be the more efficient... educational progress is obviously highly dependent upon command of the language of instruction which in all New Zealand schools is English." (p. 113).

Maoris score well at any practical test but usually fail verbal tests, making it almost impossible to assess their overall intelligence. Conlon (1971).

The actual enjoyment of a job, and attitude of responsibility to an employer will be the result of effort at school, whether handicapped by other factors or not, and will be in itself an incentive to persevere. If cognitive ability is the result of a combination of environment and heredity, then the task of our schools is to use every resource available to foster this attitude. The incentive system at H.H. would presume to have an influence on some of the trainees and be related to cognitive ability.

The Q.T. showed that Maoris and Europeans scored very similar results, and the reason for this could lie in the comparatively uniform nature of the school environment. Lovegrove (1964).

#### RECOMMENDATIONS FOR FUTURE RESEARCH.

To aid future research of this kind a more detailed record of a boy's educational background should be compiled, plus any comments from the staff. This record should contain the actual time spent at a secondary school.

As it is the writer's contention that the personality of an officer has considerable influence on the trainee's attitude, the rather undesirable aspect (from the tester's point of view) of rating each officer, by the trainees, could be vital to more

detailed research on the relationship between cognitive ability and rehabilitation. In the Review of Borstal Policy in New Zealand (1968) it is stated that the "The forces of change reaching an inmate are largely conditioned by the standards, attitudes, and personalities of our prison officers." (p. 10).

It is important to assess the incidence of peer-dependence and to relate it to a Maori sense of alienation in an institution with predominantly European officers.

Kearney (1966b) indicated that education may have had some influence on better results of cognitive ability, in contrast to those Papuans who with little schooling had poorer results. This is another area where further research is warranted; that is, to compare the Q.T. results of those trainees who have had more formal education than others.

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