

## **PSYCHOLOGICAL PRACTICES AND IDEOLOGY: THE SOUTH AFRICAN CASE**

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### ABSTRACT

*Taking the Foucauldian notion of practices as its central theme, this paper examines the relationship between psychological practices on the one hand and institutions and ideologies on the other. It is argued that a global conception of this relationship should be replaced by one based on differentiated historical studies of the operation of psychological practices under widely varying socio-historical conditions. South Africa, a country outside the main North-Western European and North American centres of psychology, provides two important developments to test the argument: the administration of intelligence tests; and psychological testing in the gold mining industry. These were imposed and objectifying practices that could not be considered as "technologies of the self". It is concluded that practices must be understood in the context of their application – there are only practices-in-context. The concept of contested practices is suggested as a way to conceptualize practices whose nature varies with the ideological and institutional context in which they are deployed.*

### INTRODUCTION

Foucault's work on asylums, clinics and prisons was very effective in gaining widespread recognition of the defining importance of **practices** in social life. Although he was hardly unique in emphasizing the fundamental historical role of practices - one need only draw attention to the existence of extensive work on the effects of literacy here - he did succeed in giving a certain slant to much subsequent discussion of the topic. In particular, Foucault encourages a juxtaposition, one might almost say a confrontation, between social practices on the one hand and social institutions and ideologies on the other. This is how he sums up his intentions in reply to questions about his "historical method":

In this piece of research on the prisons, as in my other earlier work, the target of analysis wasn't 'institutions', 'theories' or 'ideology', but **practices** - with the aim of grasping the conditions which make these acceptable at a given moment; the hypothesis being that these types of practice are not just governed by institutions, prescribed by ideologies, guided by pragmatic circumstances - whatever role these elements may actually play - but possess up to a point their own specific regularities, logic, strategy, self-evidence and 'reason' (Foucault, 1991, p.75).

The question that now moves onto the agenda is that of the relative autonomy of practices vis-à-vis institutions and ideologies. How much is "up to a point"? Taking psychological practices like mental testing, did these function historically merely as means for the achievement of ideological and institutional ends, or did they have a logic and rationality of their own? But even if, like Foucault, we grant them their own logic and rationality this is by no means a guarantee of their ideological and institutional independence. On the contrary, the possibility now arises that the logic intrinsic to these practices might have strong affinities to the logic built into specific ideologies and institutions.

The exploration of such possibilities has been a prominent feature of work based on the application of Foucault's approach to the case of psychological practices. In the most significant example of this work, that of Nikolas Rose, there is a critique of earlier analyses that characterized an array of psychological practices as intrinsically fitted to be used as instruments of imposed social control and domination. While not denying the existence of such cases Rose (1996) emphasizes the more pervasive affinity between psychological practices and forms of socialization typical of liberal democratic societies. Psychological practices are not just another way of treating people as objects but help to constitute them as subjects, providing them with ways of self-characterization and obliging their rulers to govern them as individuals. As "individualizing technologies" psychological practices have a special affinity, not with the exercise of social oppression, but with an individualizing form of governmentality.

'Government' is used here to refer to "a way of conceptualizing all those more or less rationalized programs, strategies, and tactics for 'the conduct of conduct', for acting upon the actions of others in order to achieve certain ends" (Rose, 1996, p. 12). Colin Gordon (1991) indicates that Foucault understood government in both a wide and narrow sense. The general use is reflected in the quote from Rose above: "the government of one's self and of others". The more specific sense is in terms of the rationality of government: "a way or system of thinking about the nature of the practice of government (who can govern; what governing is; what or who is governing), capable of making some form of that activity thinkable and practicable both to its practitioners and to those upon whom it is practised" (Gordon, 1991, p. 3). Thus there is an ambiguity in the concept of governmentality: between the "technologies of the self", and the "disciplining of human difference" (Rose, 1996, p.105). We shall return to this distinction in the concluding section of the report.

Both the radical critique and the Foucauldian defence of psychological practices are able to marshal historical evidence in their favour. For example, the former can point to the links between mass intelligence testing and eugenic or racist ideologies, while the latter can emphasize the fact that psychological practices arose and flourished precisely where and when individualizing patterns of social regulation had become dominant. There may therefore be an element of truth in both accounts. In any case, the heterogeneity of psychological practices makes a global application of either interpretation an unpromising project. What is needed now are more differentiated historical studies that would enable one to tease out the complex relationships between psychological practices on the one hand and institutions and ideologies on the other.

Although studies exist that provide quite rich material for such an analysis they have not often been focused on the questions we have raised here. Moreover, they have generally been concerned with material from the economically advanced countries in which the deployment of psychological practices has been most pronounced. The problem here is the classical one of correlation. If all one's examples are taken from a category of cases in which two features coincide one can never be sure that there is really a direct link between them and that their association is not caused by some underlying, unexamined, factor. No matter how intelligible the link between psychological practices and certain forms of social regulation can be made to appear there is always the possibility that this link is merely the fortuitous outcome of their common dependence on circumstances that have escaped scrutiny.

The examination of examples not drawn from North-Western Europe and North America can be helpful here. For outside this limited domain neither the flourishing of psychological practices nor individualistic social regulation can be taken for granted and they do not often occur in association. Yet, relatively large-scale deployment of psychological practices is not unknown outside the countries that were their historical home. When this happens it may illuminate certain aspects of the relationship between these practices and social ideologies and institutions with particular sharpness. If these practices have a logic and reason of their own it should be detectable under social circumstances that are not those of their home ground, and if their intrinsic logic has a special affinity with certain forms of social oppression or regulation that should emerge more clearly with a variation in social circumstances than without.

The case we examine here is that of an unambiguously oppressive society, South Africa, in which mental testing was deployed on a relatively large scale and in specific institutional contexts during the first half of the twentieth century. Did these practices turn out to be congenial to the proponents of group oppression? Did they lend themselves consistently to oppressive ends or did their own logic point in another direction? Were there even any signs of such an internal logic or could these practices be made to serve any social and ideological functions whatever?

In the present study we limit ourselves to the early period in the application of psychological practices in a South African context; another study would be needed to examine developments in more recent periods. During this early period there were just two instances in which psychological practices were applied on a massive scale in South Africa, one involved the administration of intelligence tests to different groups, the other

was the work of the National Institute for Personnel Research on the "adaptability" of African mine workers. Our study undertakes an examination of these two cases.

#### THE ADMINISTRATION OF INTELLIGENCE TESTS

Of the two exemplars identified for this study, we know the most about the attempts to develop measures of intelligence, and the application of those tests to socially significant groups in South Africa. The work of Louw (1986), Dubow (1995) and Fleisch (1995) has been useful in this regard, and our summary here will draw on their work. We do not say much about the development of these tests, but concentrate on their comparative use in terms of the performances of different population groups.

In the early years psychologists and educationists relied heavily on the Binet-Simon test to provide individual measures of intelligence, although they were found not to be entirely suitable for local conditions. In 1926 M. L. Fick standardized the Official Mental Hygiene Individual Scale, based on the Stanford Revision of the Binet-Simon. Fick obtained a doctorate from Harvard University, and was appointed as psychologist to the National Bureau for Educational and Social Research on his return to South Africa. In 1939 Fick completed a revised, extended scale, which became known as the South African Individual Scale of General Intelligence, still based on Terman's revision of the Binet-Simon. This became the standard individual scale of intelligence in South Africa, and remained the only officially recognised individual scale up to the mid-1960s. The most substantial group test of intelligence was published in 1931: the South African Group Test of Intelligence, designed for children between the ages of 6 and 16, and it remained in use until the late 1950s, with a revision in 1942.

#### Intelligence and "Race"

The publications surrounding the first individual and group tests of intelligence indicate that the idea of measuring intelligence could hardly be disentangled from social and political ideology. In South Africa, the aspect of ideology that articulated with intelligence testing most clearly was the question of "race" and the relations between "the different races".

Comparative testing of the intellectual abilities of the different race groups revealed that, in general, African pupils obtained inferior scores to white children (for example, Dunston, 1923; and MacCrone, 1928). Indeed, many encouraged the measurement of possible differences in the capacities of black and white: if it could be shown that blacks and whites essentially were different, it would have been important scientific evidence to justify a number of policies aimed at regulating "the native question".

Test results like these were easily interpreted as indicating a need for segregation, and supporting arguments against miscegenation. In his presidential address to the South African Association for the Advancement of Science, H. B. Fantham, professor of zoology and comparative anatomy at the University of the Witwatersrand, spelled it out: "Undoubtedly the only safe arrangement biologically is social segregation" (1927, p. 13). If one considered the fact that "the native" showed slow social progress along evolutionary lines - developing little, exhibiting a lack of foresight, providence and initiative, and had a lower intelligence - "for the good of both, the blacks are best segregated from the whites" (1925, p. 409).

Segregation also referred to political segregation, and the results of psychological testing were thought to be significant in terms of the political rights of various groups. Determining the intelligence of "the Native" relative to that of "the European" was essential, for "There can be one, and only one adequate reason justifying differentiation, and that is if the native can be proved to have an inferior intelligence to the European. In that case, that is, if he is really at the mental level of a child, we obviously cannot trust him with the vote or with other privileges of full citizenship..." (Minde, 1937; p. 249). Minde stated that the results of comparisons utilising intelligence tests showed that Africans were inferior to whites. Minde was quick to point out, however, that the major issue was whether these differences were due to innate racial qualities or to environmental circumstances.

Education furthermore would be wasted on Africans if the differences which emerged on the tests were innate (i.e. permanent), so the argument went. Despite reservations concerning the applicability of these tests for black Africans, S. G. Rich (in 1917), indicated that more intelligence testing had to be done so that "it will be possible to devise what has hitherto been impossible: a system of education that will fit the natives" (p. 482).

No attempt seems to have been made to use the practice of intelligence testing to advance black children with exceptionally high scores or to create better facilities for such children. The sole function of this practice appears to have consisted in providing rationalizations for existing sharp inequalities in society in general and in education in particular.

One might ask, therefore, why, in a rather underdeveloped economy, it was thought worthwhile to divert resources to the testing of masses of schoolchildren. The answer clearly lies in the appeal to science that this practice made possible. Although in terms of local traditions an ideology based on race might require no special justification, South Africa was also linked to a wider society in which science was fast becoming the court before which social policies had to be justified. All the men who played a role in establishing the link between tested intelligence and race had received training abroad. They had all absorbed the view that science was to provide objective solutions to the social and political problems of the day: "It is hoped that the suggestions put forward cause no offence to anyone. They are presented from an observational and constructive aspect and are devoid of anything of a political spirit" (Fantham, 1932; p. 533). Leonard Barnes expressed the prevailing sentiment when he wrote that the "native question" would end in violence "unless Science, the 'cool, gentle, serious spirit of science', science which alone embodies the maturity of the human mind, takes charge of the situation" (1930, p. 212). Thus science could move beyond the divisiveness of politics and, in indicating what was objectively feasible, could point to what was sensible. This was a view largely shared by the intelligence testers, to make "race" knowable in the form of positive, scientific, knowledge through psychological testing. Here was a technique that produced quantitative information about the racial distribution of mental attributes, which could convey the impression that the government of a racially divided society was based on scientific principles.

As might be expected, psychologists representing state institutions did not remain aloof from the work linking intelligence and race. A prominent voice was that of M. L. Fick, working for the Department of the Interior. As head of the psychology section at the National Bureau of Educational and Social Research he published *The Educability of the South African Native* in 1939. There he systematically re-stated the marked inferiority of African school children compared to white school children in terms of scores obtained on these tests. These differences were permanent: "This inferiority, occurring in certain tests in which learning or environmental conditions were equalised for the Native and European groups does not appear to be of a temporary nature" (Fick, 1939, p.56). This interpretation was strengthened by J. A. J. van Rensburg (1938), Wilcocks' successor as head of the department of psychology at Stellenbosch University. Van Rensburg argued that even on tests which involved manipulation of objects (thereby reducing the effect of language), and in settings which allowed for learning to take place over time, African school children could not match white children. Thus "the South African Native has not the learning ability to be able to compete on equal terms with the average European..." (1938, p. 43).

At this point the practice of mass intelligence testing could surely be considered as an instrument that was perfectly adapted to an ideological agenda of social exclusion, discrimination, and domination. There was no hint that the children who took these tests were anything other than objects for the exercise of social power. Nor was there any question of individualization: only group properties were significant in this discourse.

#### Intelligence and Uplift

Up to the eve of the Second World War South African discourse on the subject of race and intelligence had been relatively homogeneous. Subsequently, however, a certain element of dissent made its appearance. Before we consider the nature of this dissent we need to make two observations. First, it has to be noted that, in spite of strong local opposition, the country did enter the War on the side of the Allies. This exposed it to influences that

tended to undermine the old style racist ideology. Secondly, there is the fact that the foreign links which brought faith in social science to the country also exposed its experts to the shifting fashions that characterized those disciplines everywhere. By the end of the thirties authoritative opinion in the West had become much friendlier to environmentalist interpretations of racial differences than had been the case a few years earlier. Inevitably, this had repercussions in South Africa.

In 1943 Simon Biesheuvel published a refutation of the work on "native intelligence". Published by the liberal South African Institute of Race Relations, this work offered a thoroughgoing critique of the assumptions underlying cross cultural intelligence testing, which was seen as an international landmark (e.g. by Vernon, 1969). Biesheuvel systematically analyzed Fick's extensive data and showed that there was a plausible alternative hypothesis to Fick's genetic interpretation of group differences in measured intelligence, namely, that they were the result of environmental differences. Levels of schooling, parental education, home accommodation, nutrition, all formed part of these environmental influences. Generally speaking, the average environmental circumstances of African testees were far inferior to those of white testees. He also allowed for the possible existence of qualitative differences between European and African intelligence. Clearly, the policy implications of Biesheuvel's work were different from those of his predecessors. If he was right, the results of testing intelligence could not be used to defend existing educational inequalities but might be used to argue for the improvement of black education.

Does this turn of events indicate that intelligence testing was the kind of practice which, in Foucault's terms, had a logic of its own which rendered it to some extent independent of ideological and institutional influences? We think that such a claim, while not without foundation, would not be warranted in this case. We have already mentioned the existence of anti-racist currents of which Biesheuvel's work was a part. These ideological currents did not originate in the field of intelligence testing, they had a much broader social basis. In fact, intelligence testing was a relatively late recipient of their influence. More significantly, it has to be noted that the environmentalist critique did not affect the basic features of testing practice. It remained a technique of sorting people into groups of differential worth. What was questioned in this discussion was not the status of people as objects of administration but the nature of the administrative measures to be adopted. If anything, the environmentalist critique contributed to the reification of intelligence as an inherently discriminatory concept (see Danziger, 1997; Samelson, 1975).

Not only did the environmentalist critique unquestioningly accept test intelligence as a real and important human quality, by engaging racist intelligence testing in serious scientific debate it was also validating the latter's scientific pretensions. The real victor in this debate was the practice of intelligence testing. It was implicitly affirmed as the embodiment of scientific procedure in this area. Its results were open to interpretation but the practice itself seemed to be beyond criticism. In that sense we now do seem to encounter the phenomenon of a quasi-autonomous practice. Both sides in what was essentially an ideological debate relied on it.

However, there were clear limits to this autonomy. It was the product of a situation that was marked, as we have already noted, by substantial agreement on certain fundamentals though the two sides differed on a specific issue. Moreover, the fundamentals on which there was agreement were built into testing practice. Under these conditions a practice might well exhibit a degree of autonomy, but this is simply because its ideological presuppositions were not visible at the time.

Some years before Biesheuvel's critique South African group intelligence testing had in fact been involved in a somewhat similar situation. This happened because black-white differences were not the only group properties for which intelligence tests were thought to be relevant. There were differences within the white group: some of them suffered economic deprivation, and this was defined as the so-called "poor white" problem. (There was no "poor black" problem - for black people poverty was considered to be a natural condition). During the 1920's and 1930's the "poor white problem" gained prominence in political debates. In 1929 the Carnegie Corporation of New York made a substantial sum of money available to fund an investigation into this social problem. The work of this commission gave psychological testing a tremendous boost in the eyes of scientists and

policy makers. E. G. Malherbe, an educational psychologist trained at Columbia University and a prime mover in the establishment of the Commission, and R. W. Wilcocks, the Berlin trained professor of psychology at Stellenbosch University, tested the intelligence of thousands of children all over South Africa as part of the investigation.

Wilcocks established that although poor white children obtained lower scores on the tests than white school children in general, the majority fell within the limits of normality. In his interpretation of the results, Wilcocks shied away from a hereditarian viewpoint, and stressed environmental conditions rather than hereditary endowment. Indeed, where the Commission found the intelligence level of white subnormals to be lower than those of natives, they stated that the matter could be rectified: "It has been alleged by many witnesses that the subnormal is often inferior to the native... this inferiority is mainly one of irresponsibility and unreliability and the special education system which we recommend is designed to correct this" (1932, p. 199). Education would be a major factor in solving the poor white problem; a more vocationally orientated schooling system was required for these children.

One has to remark on the anomaly in a view of heredity that offered some hope to poor whites, but not to blacks. Poor whites possessed good "germ plasm" which could enable them (especially their children) to overcome their impoverished environmental conditions. Wilcocks, for example, studied 396 pairs of siblings, and concluded that the "germinal factors", as far as they affected the scores on intelligence tests, were good (Wilcocks, 1929). Africans, however, had poor heredity as well as environmental conditions against them. This preconception led to a tendency on the part of scientists to ascribe the (somewhat) lower scores of poor white children on intelligence tests to environmental conditions, and those of African children to innate factors.

Although race still featured as a background to the Carnegie Commission's work, the social role which was required from the psychological tests in this investigation was different from its use in cross-race comparisons. The Commission used the tests as a means of diagnosing certain acquired mental shortcomings, and in this they were much closer to the way Binet used the tests originally.

Fleisch (1995) furthermore has argued that the real significance of the Commission's work lay in the way it strengthened the exemplar of the social scientist as policy maker. The Commission produced "facts" about a social problem, in terms of numbers, failure rates at school, intelligence scores, vocational aspirations, etc. On the basis of these facts, recommendations were made regarding the state's involvement in social problems, and the formulation of social policy: about education, racial segregation, employment, and much more. Fleisch quotes examples to indicate that these recommendations indeed did have the intended policy impact. As a result, psychological testing too was promoted in a similar fashion. Intelligence tests were introduced in white schools as a diagnostic tool to assign "the feeble-minded" to special schools, and to channel pupils into different ability groups. By the end of the 1930s, intelligence testing was firmly established as an instrument of social planning in education for white pupils. Thus its function was to assist institutions in managing individuals -- almost identical to what happened in Britain (see Rose, 1985).

The relationship between ideology and a practice like intelligence testing is fairly complex. Testing does have a certain logic of its own - it functions as a kind of universal differentiator. As such it can define and pick out any number of human groups in the name of science. But this only happens in societies already dedicated to such differentiation and already in possession of principles of categorization. The scope and limits of differentiation by testing are set by these pre-existing conditions. Perhaps it is even misleading to speak of practices in the abstract, because the only practices we ever encounter are practices embedded in a particular social context. We will return to this issue in the final section of this paper.

## TESTING AND INDUSTRY

After World War II, scientific knowledge was increasingly used in industrialized countries to address the human problems of industrial production. The overall project was often defined in terms of the advancement of national efficiency through maximizing the productive use of human resources in industry.

South Africa, although not an industrialized country, was no exception. After the War, social scientists as well as their potential "clients", promoted the relationship between science and industry as important to the country's productive capacity. Production had to be "rationalized" and "reorganized" to increase efficiency. For example: the Board of Trade and Industry (Report no. 282, 1945) reported that there were two methods to raise the productive efficiency per unit of expenditure: the promotion of research, and utilization of labour. The emphasis on "science" and "being scientific" in the industrial sphere was not new: in the Report of the Board of Trade and Industry in 1929 (No. 94) already, the importance of scientific control and research in industry was emphasized. But in 1945 the Board added that there was an urgent need for a research organisation in this country to "promote the application of scientific method and knowledge to industry" (para. 207).

In 1945 the Council for Scientific and Industrial Research (CSIR) was established as a national scientific and industrial research organisation in South Africa. In line with the suggestion above that the utilization of labour is an important method to raise efficiency; a bureau was established in the CSIR in 1946 to develop research in industrial psychology and personnel selection. This was the National Bureau for Personnel Research (NBPR), later better known as the National Institute for Personnel Research (NIPR), with Simon Biesheuvel as director.

During the Second World War, Biesheuvel was the commanding officer of the Aptitude Testing Section of the South African Air Force, and most of the staff in the NBPR simply was transferred from this Section. The Second World War in many ways provided a major impetus for the involvement of psychologists with industrial labour, via the work of this Section. Their work is described elsewhere (Louw, 1987).

Conditions certainly were favourable for the inclusion in the CSIR of a unit which would concern itself with the "human side of production". To begin with, employers were increasingly admitting the importance of understanding their employees. A statement of a mine manager in the gold mining industry, quoted by Bozzoli (1977), gave evidence of this realization: "...the greatest retarding power...has been the human element which is subject to neither calculation nor measurement" (p. 14). Secondly, if anyone had doubts about the importance of the human factor in industry, the labour unrest of the 1940s, in particular the African mine workers' strike of 1946, soon put paid to it. Thirdly, it was generally realised that a more skilled work force was essential for industrial efficiency. This was reflected in the increasing emphasis on training (Fullagar, 1983). Finally, awareness was growing that social science could be useful in providing exactly the strategies required to deal with labour matters (see Webster, 1980).

Thus it appeared as if many of the difficulties faced by industry revolved around human problems. Biesheuvel (1952b, p. 11) put it like this: "Although our modern mechanized plants have an immense potential capacity, low production per man hour is a constant complaint. The quality of workmanship is falling, and both absenteeism and labour turnover are extremely high. Restrictive practices are common, and industrial unrest is rife, leading to constant interruption of production by strikes and go-slow procedures". Science had to be called upon: "Confronted with this situation, western society is making a belated attempt to apply to Man, the kingpin in production, the same scientific approach which has yielded such remarkable results on the material side of the production process" (p. 12).

In the late 1940s, conditions on the South African gold mines changed to such an extent that the employment of psychological expertise became a feasible proposition. The mines' labour recruitment policies, the potentially large reservoir of cheap labour, the predominance of manual labour techniques, etc., previously all acted against the need for this kind of expertise. But after the Second World War the situation in the gold mines changed sufficiently to make it easier for mine management to perceive their labour

problems in psychological terms, and for psychologists to present themselves as the scientific experts to solve such problems.

The increasing mechanization of the gold production process played a significant role in creating such opportunities for psychology. An important consequence of increased mechanization was that operators of machines needed more skills than manual labourers. As the complexity and scope of the machine-operating tasks spread, more semi-skilled (and less unskilled) labour was required. To obtain such skills, more African workers therefore had to be trained. Before the Second World War there was almost no on-the-job training for the vast majority of African workers who were not destined to become supervisors (called "boss-boys" at the time); the new recruit was sent straight underground without any induction or training. After World War II the mining houses and the individual mining companies spent millions of Rands on developing training facilities for all levels of personnel (Black, 1961), and by 1960 nearly all mining companies had their own surface training centres (Jensen, 1969).

The increase in mechanization and subsequent demand on training created the possibility for the differentiation of African labour: labourers no longer could be viewed as an undifferentiated mass, all performing essentially manual labour. It was thought that the effectiveness of training programmes would be raised if workers could be grouped or graded into groups capable of benefiting from instruction of one kind or another. Such a classification would then indicate the kind of training courses different workers could handle successfully. The heterogeneity of the African labour force, plus the absence of reliable measures of education and work experience, made classification and selection very difficult, and the NIPR was approached to provide a "scientific" way of solving the problem.

The human problems in the gold mines were regarded loosely as either physiological or psychological: physiological problems were mainly associated with the problems concerning physical working conditions underground, and the psychological ones consisting mainly of personnel type problems. The Applied Physiology Laboratory was formed to deal with the physiological problems, and the eventual focus was on the individual's physical working capacity and his mechanical efficiency (see Butchart, 1996). The NIPR had to investigate the psychological aspects of labour, and it focussed on the individual's level of intelligence, natural ability for the task, and his motivation to do well in the task.

The general aims of the NIPR's project were fourfold:

- to enable the most efficient use of African workers underground;
- to select the individuals most adaptable to the industrial situation;
- to classify labour in broad occupational categories; and
- to lay the basis for a sound mining policy based on the scientific use of African labour (Hudson, 1953).

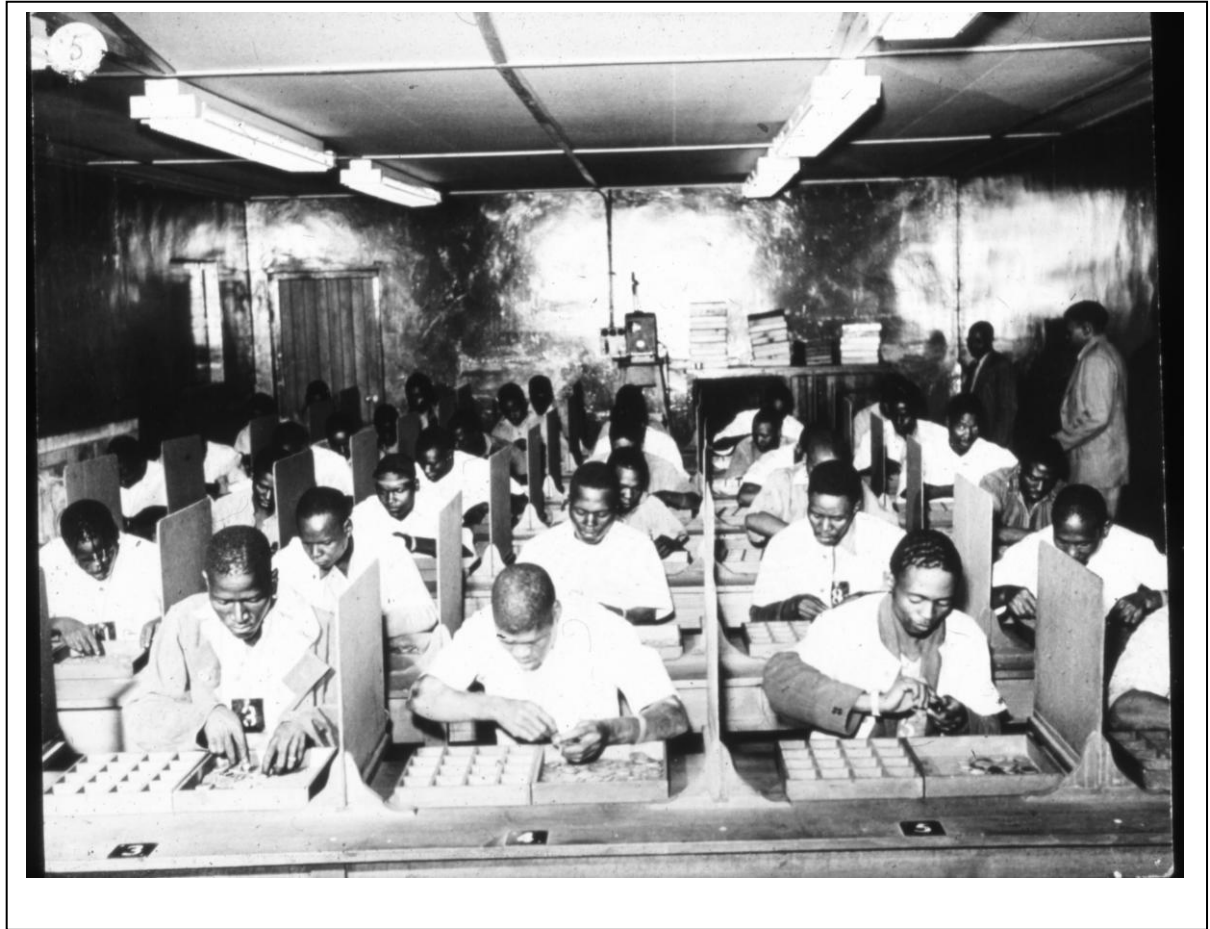
Two test batteries were constructed, in line with the objectives set: the General Adaptability Battery (GAB), designed to screen and classify new recruits; and leadership group tests, to select supervisory labour. The tests were supposed to measure a worker's:

- capacity to adjust to new circumstances,
- ability to profit from experience,
- ability to handle spatial relations and associative learning tasks, and
- constructional and mechanical aptitude.

Tasks included in the GAB were of a practical nature, involving the manipulation of simple objects in most cases. A silent film was used to provide instructions - to overcome the language problem. The film used mime only, and demonstrated to the testee the nature of the problem, the right and the wrong way of doing the task, and the completed assignment. Fairly lengthy practice periods were given before each separate test to provide for learning to cope with the test situation. The recruits were also given a nuts and bolts test beforehand to practice on, and to stress the importance of speed in the tests to follow. In this test, they simply had to pick out appropriate nuts and bolts out of many, screw them a few turns and drop them into a container. This buffer test was not scored, and was followed by the appropriate silent film, and the first of the subtests in the battery. Two examples of sub-tests included in the GAB were: tripod assembly (they had to



assemble 18 metal parts to form a tripod); and cube construction (27 one-inch cubes were given to the testees, and they had to be assembled to form a cube). In the photograph below, a group of mine workers are busy doing the GAB.



These tests show an interesting difference from tests developed in countries like Britain and the U.S.A.: they were measures of adaptability, while the others were mostly measures of achievement. This innovation in test practice was introduced in response to a unique local situation. In the developed industrial societies one was dealing with a pool of labour that had been accustomed to industrial discipline over several generations and virtually all members of this pool had been exposed to the conditions and the schooling characteristic of an industrial civilization. In the quasi-colonial conditions of South Africa this was not the case. Potential workers were drawn from a pool of humanity that lived under conditions very different from those that prevailed in an industrial context. Hence a premium had to be placed on "adaptability" rather than "achievement".

Those recruits who reached a certain minimum score on the General Adaptability Battery went through the leadership selection procedure. They had to go through a leaderless group test, which was basically an open-air obstacle course. For example: A team of six men had to transport a heavy drum across a gap between two walls (see the photograph below for an illustration). Each member of the group was assessed as "boss-boy material" on the basis of their capacity for leadership, cooperative effort, initiative, practical ability and staying power. These leaderless group tests were based on those used during World War II by the War Office Selection Boards (Arbous, 1953).



The investigation of the NIPR mining team thus led to a selection and classification system whereby African recruits could be graded according to ability into three categories: unskilled, who were suitable only for manual tasks; semi-skilled, those who would respond to training for mechanical duties such as laying tracks, repairing cocopans underground and building matpacks; and supervisory work, who would supervise the workers in these two categories.

Studies were conducted to establish whether the tests actually did predict efficiency on the job. Biesheuvel (1952a) and Hudson (1953) reported impressive correlations between test scores and subsequent job success. In "boss-boy" selection, for example, the "wastage rate" for random selection was 27%, for the traditional selection procedures 16%, and for test selection 4%. The saving in training was appreciable for both the rank and file recruits and for the lengthy supervisors' training course. This was a very important consideration for the post-War mining industry, in view of the labour turnover and short working tours - consequences of relying on a migrant labour force. Thus psychologists helped solve the dilemma of mining regarding migrant labour.

These results already indicate that the tests were perceived as successful. There is more than enough evidence that the success was also perceived by the mining groups. In 1947 the Government Mining Engineer reported that one mine (Grootvlei) was experimented with tests, and a year later, that the results of the tests proved encouraging. The tests were so successful that by 1955 all the mines in the pioneering group used them, and by 1969 some 25 test centres, serving approximately 60 mines, had been established in the industry. The GAB remained in use until 1971, when it was replaced by the Classification Test Battery, which performed the same function as the GAB.

Psychological knowledge was applied and used more systematically in the gold industry than in any other in South Africa. Jensen (1969, p. 1) stated that "The extent of research in applied psychology and sociology conducted for the gold mines exceeds by far that of any other local industry. It is even probable that no industrial concern anywhere, for the purpose of developing its own personnel policies and procedures, has mounted a research programme in the social sciences of greater scope than that of the S. A. gold mining industry".

Thus the psychological tests for the classification of migrant mine workers, and for the selection of African supervisors, took the concept of adaptability and made it into a capacity which an individual possessed. The tests, as we indicated, were aimed at detecting how individual mineworkers possessed different abilities to adapt: e.g. the capacity to adjust to new circumstances, and the ability to profit from experience. Adaptability had become a single continuous dimension along which any given individual's position could be established. The quantitative score assigned to an individual transformed that person into a calculable entity. The score was used as a basis for decisions about where a person should be employed and whether he should be a supervisor. Adaptability and its carriers, the African mine workers, had become calculable, and hence manageable. Thinking in terms of adaptability was made possible and necessary by the mines and their (African) labour requirements, but the resulting practice of adaptability testing transformed the behaviour of the miners into an object for psychological science.

The developments described here are local illustrations of the general trend in industrialized countries to manage on the basis of objective knowledge: "...part of a wider family of political programmes that sought to use scientific knowledge to advance national efficiency through making the most productive use of material and human resources" (Rose, 1990, p. 59). Psychological expertise applied to human industrial problems gave management a rational basis for decision making and improved the efficiency of production. Psychologists were able to translate the requirements of industrial production under South African conditions into psychological attributes that could be used to measure and classify individuals. In this way they constructed an aspect of human subjectivity that could be brought under industrial management and governance.

Matters such as training, communication, evaluation and education are not "psychological issues". These issues emerge as problems within a particular kind of society, and as such, pre-date psychology. Nothing makes them intrinsically psychological issues: they were transformed into tasks for psychologists by the self-conscious efforts of a new group of knowledge experts. If we look at the work of the NIPR, it is clear that prior to its establishment some kind of selection and classification of African labour took place. For example, some classifications were done on a tribal basis: the Basotho were seen as superior shaft sinkers, and would be allocated that work (Louw, 1986). By introducing the possibility that "adaptability to Western working conditions" could have been an important predictor of efficiency of African workers on the mines, psychologists made a new way of thinking about these workers possible. These workers were no longer one undifferentiated mass of people, who would be selected and trained on a trial-and-error basis: they were now individuals who could be assigned a position on a continuum of adaptability, which was a strong indicator of how successful they would be in a variety of jobs on the mines. Psychology was the intellectual technology which made this possible by making certain features of individuals visible and intelligible via its testing procedures.

#### Goals of Research Practices

The unique importance and meaning of the testing construct adaptability under South African conditions is further illustrated in a kind of mission statement which Biesheuvel published in 1958. In an article on "Objectives and Methods of African Psychological Research", remarkable for the directness with which it addresses the question of "objectives", he sets out three objectives for psychology in the African context:

- a. "to gain an understanding of the behaviour of African peoples" (p. 161);
- b. "to test the general validity of psychological hypotheses concerning human behaviour" (ibid.); and
- c. "to determine the extent to which it (i.e. African behaviour - JL) is modifiable" (p. 162).

The first item on this list merely reflects what many Western social scientists would have expected from a psychology practised in the Africa of 1958. The second item is more surprising. In a sense, Biesheuvel's objective (a) is the counterpart to objective (b). In the latter, observations in Africa are used to test the universality of psychological generalizations originating in the West; in the former, the validity of (mostly) American and (sometimes) European psychological concepts is taken for granted, so that these concepts may be used to provide an understanding of observations in Africa. Item (a) is in line with traditional cross-cultural psychology, item (b) implies a more critical stance towards the categories of Western psychology. It is an interesting early example of resistance to the "globalization" of social science. Inevitably, this part of the programme did not prosper. It was difficult to sell, both to industrial sponsors, and to mainstream psychologists to whom it carried the implied threat of challenging the naturalness of psychological categories. So, apart from one or two spectacularly successful examples (e.g. Hudson's experiments in 1960 on the interpretation of two-dimensional figures among illiterate subjects), this objective was affected by the general malaise of cross-cultural psychology, and has not featured strongly in subsequent developments.

It is striking that the question of the modifiability of African behaviour should be placed on a par with questions whose fundamental significance was much more obvious. There were several reasons for this. First, it must be remembered that in 1958 racist assertions about severe limits to the modifiability of African behaviour were rampant in South Africa. Biesheuvel's inclusion of this item on his list of research objectives was tantamount to a proposal that this question should be decided empirically by the application of psychological expertise and not prejudged by ideology. This research objective was part of a process of modernization in which policy decisions were gradually coming to be rationalized, not in terms of traditional beliefs and practices, but in terms of the findings and practices of the social sciences. (Dr. Verwoerd, known as the architect of apartheid, was after all a professor of applied psychology before he became a politician).

In the context of the present paper it is item (c) that is of most interest. The question of "modifiability" refers back to Biesheuvel's own work on adaptability. It is to be noted that this question is clearly distinguished from that of understanding African behaviour, the first item on the list. In this case research is aimed at Africans as human subjects whose behaviour is capable of being understood. But understanding is not the goal in the research on modifiability or adaptability. Here Africans are treated as objects for possible administrative action. The existence of two kinds of psychological practice is recognized here, one aimed at understanding, the other at management. Of course, understanding, once gained, could also be put in the service of management, but that would be the kind of management emphasized by Rose (1996), namely, the governance of persons as human subjects.

Biesheuvel had relatively little to say about this kind of psychological management. Mostly, he discusses the third of his research objectives, the modifiability of African behaviour, to which the greater part of the article is actually devoted. He calls this objective "more practical" than the others, and of course, this is what most of his own work on adaptability was all about. The immediate aim was to increase work efficiency and output. Hence, this kind of psychological research attracted major industrial funding and, within its own terms, must be judged to have been reasonably successful. As an entrepreneur of the social sciences Simon Biesheuvel had few equals, certainly none in Africa. He built an imposing research organization in a rather poor country by means of an effective solution to the immediate requirements of its one major industry and then used this success as a basis for extending the claims of the social sciences into areas that had hitherto been the exclusive preserve of ideology. There is some irony in the fact that he had begun his career by exposing the influence of ideology on the work of social scientists in the field of intelligence testing.

## CONCLUSIONS

First, we must note an absence. In the historical examples discussed here there is never any mention of psychology in the service of self-understanding. Where understanding is considered to have anything to do with psychological practice at all it is at best an understanding of the "other", the African, that is intended, as in the case of Biesheuvel. For the most part, psychological practice is a matter of treating individuals as objects of political or management decisions not made by themselves. Of course, this finding would not hold to the same extent if our study had included examples from the field of psychotherapy which did exist in South Africa, though it was limited to a small section of the population and the resources devoted to it were dwarfed by the resources invested in the practices considered here. The reach of psychological practices that could be considered "technologies of the self" (Foucault, 1988) was certainly no greater than the reach of democracy in the South Africa of the mid-twentieth century. Both were exceedingly feeble.

In a sense, this could be considered a negative confirmation of the link between psychological practices and modern liberal forms of governmentality posited by Rose (1996). But, apart from problems of logic, this would be an interpretation that would have to ignore much of the historical intent, meaning and impact of psychological practices. It is certain that psychological practices played an important role in the disciplining of human differences. But they have done so in a number of ways. Between the white socialite paying for the ear of her psychotherapist and the black miner marched into the testing room by his employer there is a chasm that still needs to be explored. It matters how the disciplining of human differences is accomplished. Some psychological practices have addressed human individuals as subjects, though often as "other" subjects. But examples such as those we have discussed show that other such practices have fitted very nicely into a regime of exploitation and domination.

Does this mean that these practices are simply neutral instruments that can serve any master? And, to return to the question raised at the beginning of this paper, do they have no logic or reason of their own? Are they the servants of ideology, or should we see them as quasi-autonomous like Foucault? We believe that this either-or way of posing the question is unhelpful. Foucault was right in emphasizing the role of practice, but his juxtaposition of practices on the one hand and ideologies and institutions on the other can be misleading. Practices do not exist in an ideological and institutional vacuum. In writing about them we can abstract them from the context of their application, but in actuality there are only practices-in-context.

Several examples of practice-in-context have been discussed here. One example, the practice of mass intelligence testing in a context of ideological and institutionalized racism, is not peculiarly South African and was in fact inspired by similar work done in the USA. What is most significant here is the way in which this practice flourished so conspicuously in the South African environment, even being supported by state institutions, at a time when other psychological practices enjoyed neither widespread attention nor widespread support. An affinity between practice and context seems to have existed here. This was a technology that was peculiarly suited for the pursuit of a particular ideological agenda, a practice with a logic of its own that was not a neutral logic but one that meshed with a certain social programme. The limits of this logic became visible when attempts were made to enlist the practice in programmes of social uplift that differed from the programme of oppressive domination in the service of which the practice had originally been imported.

It must be emphasized that this analysis does not apply to all forms of intelligence testing, only to the mass testing which was so effectively deployed in the South African context. Testing in the Binet tradition has tended to function in a different ideological and institutional context (Danziger, 1997; Fancher, 1985; Wolf, 1973). What is collectively called intelligence testing constitutes at least two kinds of practice and not one. This illustrates our general observation that practices only exist in a particular social and ideological context and owe their unique features to that context.

In the South African context the construct of adaptability and the practice of testing for it represented an original response to a specific set of conditions not found in the societies in which modern psychological practices originated. Again we encounter a practice-in-context

whose specific characteristics are inseparable from the context in which the practice flourishes.

Our concept of practice-in-context should not be read as implying the complete distinctness of all these practices. Individual intelligence testing in a clinical context and mass intelligence testing in a politically loaded context do have something in common, even if they differ profoundly in other ways. The adaptability testing to which black mineworkers were subject shares something with other forms of psychological testing, even if it has its own unique features. The challenge here is to find ways of recognizing the elements of technological and conceptual convergence as well as the social contextual features that produce divergence. This cannot be done as long as the former are conceived as somehow intrinsic to practices and the latter as external influences impinging on but not forming part of practice.

We have attempted to meet this challenge by developing the notion of practice-in-context. But this is an awkward term. It may therefore be helpful to replace it with the concept of **contested practices**. We introduce this concept by pointing to a loose analogy, not to be pursued too far, with the notion of *essentially contested concepts* (Gallie, 1956). The latter are concepts, like "democracy", that are characteristically employed with differing meanings in different contexts and by a variety of users. By contested practices we understand practices whose nature varies with the ideological and institutional context in which they are deployed. This does not mean that they have no inherent features that can be abstracted from all instances of their actual, historical, occurrence. It means that, in practice, those features can only manifest themselves in particular historical circumstances and this gives them a variety of forms.

It is necessary to distinguish between psychological practices as abstract textbook constructions and psychological practices *in situ*. The former are appropriately taught in courses on methodology, but to study the latter we must turn to historical evidence. The foregoing analysis of psychological testing under a particular set of social conditions is intended as a small contribution to this project.

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#### REFERENCES

- Arbous, A.G. (1953). *Selection for industrial leadership*. London: Oxford University Press.
- Barnes, L. (1930). *Caliban in Africa. An impression of colour-madness*. London: Gollancz.
- Biesheuvel, S. (1943). *African intelligence*. Johannesburg: South African Institute of Race Relations.
- Biesheuvel, S. (1952a). The nation's intelligence and its measurement. *South African Journal of Science*, 49, 120-138.
- Biesheuvel, S. (1952b). The contribution of personnel research to industrial efficiency. *CSIR Research Review*, 2, 11-15.
- Biesheuvel, S. (1958). Objectives and methods of African psychological research. *Journal of Social Psychology*, 47, 161-168.
- Black, R. A. L. (1961). *A review of training facilities for the mining industry in South Africa. In: Transactions of the Seventh Commonwealth Mining and Metallurgical Congress*. Johannesburg: South African Institute of Mining and Metallurgy, 245-263.
- Blunt, T. L. (1951). Aptitude testing of Natives for gold mining. *Optima*, 1(3), 15-18.
- Board of Trade and Industry. (1929). *The engineering industry in South Africa*. Report no. 94. Pretoria: Government Printer.
- Board of Trade and Industry. (1945). *Investigation into manufacturing industries in the Union of South Africa*. Report no. 282. Cape Town: Cape Times Ltd.
- Bozzoli, B. (1977). Managerialism and the mode of production in South Africa. *South African Labour Bulletin*, 3, 6-49.

- Butchart, A. (1996). The industrial panopticon: Mining and the medical construction of migrant African labour in South Africa, 1900-1950. *Social Science and Medicine*, 42, 185-197.
- Danziger, K. (1997). *Naming the mind: How psychology found its language*. London: Sage.
- Dubow, S. (1995). *Illicit union. Scientific racism in modern South Africa*. Johannesburg: University of Witwatersrand Press.
- Dunston, J. T. (1923). Retarded and defective children: native mentality, mental testing. *South African Journal of Science*, 20, 148-156.
- Fancher, R. (1985). *The intelligence men: Makers of the IQ controversy*. New York: Norton.
- Fantham, H. B. (1925). Some factors in Eugenics, together with notes on some South African cases. *South African Journal of Psychology*, 22, 400-424.
- Fantham, H. B. (1927). Some thoughts on biology and race. *South African Journal of Science*, 24, 1-20.
- Fantham, H. B. (1932). Biology and civilisation. *South African Journal of Science*, 29, 533-543.
- Fick, M. L. (1939). *The educability of the South African Native*. Pretoria: South African Council for Educational and Social Research.
- Fleisch, B. D. (1995). Social scientists as policy makers: E.G. Malherbe and the National Bureau for Educational and Social Research, 1929 - 1943. *Journal of Southern African Studies*, 21, 349 - 372.
- Foucault, M. (1991). Questions of method. In G. Burchell, C. Gordon, and P. Miller (Eds.), *The Foucault Effect : Studies in Governmentality*. Chicago: Chicago University Press.
- Fullagar, C. (1983). Organizational behaviour in South Africa: An historical overview. In J. Barling (Ed.), *Behaviour in organizations. South African perspectives*. Johannesburg: McGraw-Hill.
- Gallie, W. B. (1956). Essentially contested concepts. *Proceedings of the Aristotelian Society*, 56, 167 - 198.
- Hudson, W. (1953). *The occupational classification of Africans*. Unpublished PhD thesis, University of the Witwatersrand, Johannesburg.
- Jensen, A. (1969). *A review of personnel research in the gold mining industry 1947-1968*. Report no. 16/70. Johannesburg: Chamber of Mines of South Africa Research Organisation.
- Louw, J. (1986). *This is thy work. A contextual history of applied psychology and labour in South Africa*. Unpublished Ph D thesis, University of Amsterdam, the Netherlands.
- Louw, J. (1987). World War II, industry, and the professionalization of South African psychology. *South African Journal of Psychology*, 17, 33-39.
- MacCrone, I. D. (1928). Preliminary results from the Porteus Maze Test applied to native school children. *South African Journal of Science*, 25, 481-484.
- Minde, M. (1937). *In search of happiness*. London: Muller.
- Rich, S. G. (1917). Binet-Simon tests on Zulus. *South African Journal of Science*, 14, 477-482.
- Rose, N. (1985). *The psychological complex*. London: Routledge.
- Rose, N. (1990). *Governing the soul*. London: Routledge.
- Rose, N. (1996). *Inventing our selves*. Cambridge: Cambridge University Press.
- Samelson, F. (1975). On the science and politics of the IQ. *Social Research*, 42, 467-488.
- Van Rensburg, J. A. J. (1938). *The learning ability of the South African Native compared with that of the European*. Pretoria: South African Council for Educational and Social Research.
- Vernon, P.E. (1969). *Intelligence and cultural environment*. London: Methuen.
- Webster, E. (1980). Servants of apartheid? A survey of social research into industry in South Africa. *Africa Perspective*, 14, 1-33.
- Wilcocks, R. W. (1929). On the correlation of intelligence scores between siblings. *South African Journal of Science*, 26, 881-887.
- Wilcocks, R. W. (1932). *The Poor White Problem in South Africa. Report of the Carnegie Commission*. Part II. Psychological Report: The Poor White. Stellenbosch: Pro Ecclesia.
- Wolf, T. H. (1973) *Alfred Binet*. Chicago: Chicago University Press.