EAST AFRICAN INSTITUTE OF SOCIAL RESEARCH

CONFERENCE PAPERS - JANUARY 1966

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2nd draft

Jon R. Moris

The Impact of Secondary Education Upon Student Attitudes Towards Agriculture : Some Preliminary Considerations[1]

by
Jon R. Moris

This paper is in the nature of a progress report on a continuing research project. At this time I cannot yet offer the research results (which are still being analyzed), but the preliminary interviews have raised questions which seem exciting enough to warrant prior presentation. Furthermore, it is not yet certain that the research instruments used in the project were sufficiently discriminatory to answer the more important questions. Thus what follows will be a discussion of the working hypotheses used in the research project, but presented here in hopes that they can be developed, refined, and improved by others working along the same lines.[2]

The research itself consists of an attempt to assess the impact of formal secondary education upon productivity. The long range aim is to carry out several types of sociological surveys of students attitudes in the three areas of East Africa where education has been longest established: the Kilimanjaro Region in Tanzania, the Central Province in Kenya, and Buganda in Uganda. These surveys will try to define how secondary schools relate to the surrounding countryside, what they teach in the way of specific agricultural knowledge, and how they affect students' willingness to enter upon either farming or professional agriculture as a career. The information gained will be used in a larger inquiry just being organized, which seeks to discover the factors responsible for the emergence of modern farming in areas of high potential within East Africa.[3]

The stage of research reported here took place in June and August of 1965. Using questions I had derived from previous interviews on agricultural education, two research assistants (Miss Sandra Johnson and Mr. Dedan Kamau) visited seven secondary schools in the Moshi - Arusha vicinity of Tanzania, and interviewed a small sample of science teachers. Simultaneously I interviewed teachers of agricultural subjects in various institutions which recruit from a School Certificate level. The purpose of the interviews was to stimulate our own thinking about the various issues involved, prior to the construction of questionnaires which could then be given to students en masse. Eventually students in five schools did supply us with some 800 protocols, comprising four types of questionnaire. As intimated above, however, I am not yet sure that our research instruments succeeded. Events beyond our control forced us to prepare the questionnaires on very short notice, without benefit of pilot studies. Since it is already apparent that some of our more important questions were misunderstood, I have felt obligated to do justice to the generous support we received from the Tanzanian Government and from the schools we visited by recording here the things that seem most pertinent to further research.

The research was made possible through the support of the East African Staff College in Nairobi, West Virginia University in the U.S.A., and the Principal Secretary of the Ministry of Education in Tanzania. It owes much of its final form to considerable help received from Dr. A. Molnos, who introduced me to the intricacies of sentence completion projective tests, and to H.C.A. Somerset, who freely shared his own experience with similar tests in Uganda. Ultimately, however, the staff and the students of the schools visited made the greatest contributions to them I must apologize for these but very tentative conclusions, pending further analysis of the materials they have furnished.

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[1] Financed by a grant from the Agricultural Development Council, and by a previous research grant from the Rockefeller Foundation to West Virginia University for a survey of agricultural education in East Africa.

[2] Especially two parallel studies: Dr. Molnos' research in Buganda, Usukuma, and Nyanza (cf. EAISR Conference Papers, January 1966) for the IFO Institut, and Dr. Paul's research in Kenya for the University of the Saar, Research Centre on the Role of Education in Social Development.

[3] To be carried out in part under a UNICEF study of farm family welfare through the Faculty of Agriculture, Makerere University College.

1. Theoretical Rationale for the Study

One might ask, "Why use sociological surveys to study what are basically educational and economic problems?" Most simply, for at least three reasons. Firstly, because many of the arguments employed in deciding policy about the place of agriculture in the educational system refer to sociological and psychological factors. The negative attitudes towards agriculture shared by students and by their home societies are often made the scapegoats for sacrificing measures which would otherwise be desirable. The attitudinal question is, therefore, central to our inquiry on the role of education in furthering national development. Secondly, one frequently finds generalizations to the effect that "education, as such, has historically-speaking probably been more opposed to growth than it has supported it."[1] This genre of opinion is virtually untestable, save by employing carefully conceived micro-studies which use a variety of measures. Sociological study of the workings of an educational system ought to be able to suggest a number of the more important ways by which that system affects development, for good or for ill.

Finally--and this is really the most important reason--there is a strong tendency to discuss educational policy from the standpoint of one's normative values. Education, as a profession, combines the roles of theoretician and practioner. When one reads the literature, such as it is, on the place of education in developing countries, one is struck by the prevalence of discussion of what ought to be over the discussion of what is.[2] The absence of descriptive information on just what is happening in the educational system forces those making policy into depending upon personal opinions alone--whether their own or those of "expert" advisors. It is my feeling that a sociological perspective can give an alternative framework for looking at educational events, and for postponing normative considerations until such time in the decision-making process as they are more appropriate. The behavioural study of an instructional situation must precede deciding whether or not that situation accomplishes the desired ends.

As the first step in constructing an alternative, sociological viewpoint, we chose to look at a secondary school as a corporate, social entity. The school as a social sub-system has a distinctive set of traits which make it a very special case within the broad spectrum of various types of social organisms. A school is, first of all, a group of people very intimately bound together: the frequency of their mutual contact is likely to be high, and regular. Socially speaking, it is more like a ship than a club; and indeed one might learn very much about the problems of a small boarding school by studying a submarine.

The submarine analogy could be pushed a good bit further. A school is a system with a fixed, definite, and imposed authority. There is little leeway for individual members to chart their own course, or, for that matter, for the institution as a whole to depart from the pattern set for it. The rank system antecedes the members in the group, and cannot be altered substantially by their efforts. Thus, being a member of the group involves having a considerable degree of passivity towards its structure. It is not a group from which one can expect internal self-reform on any important issues.

A school also bonds together two markedly different sets of actors: staff and students. The overall group composition is not heterogeneous: it splits easily according to age and authority, with age being added to authority to make teachers the perpetually dominant actors. The inherently dominant authority of teachers, the lack of formal necessity for them to develop friendships with students, and the generational disparity --all interact to produce a situation where teachers need know little if anything about students. (Indeed, the egalitarian aspects of a friendship relationship immediately introduces role conflict into the teacher-pupil relationship.) This does not hold true in reverse: the pupils stand to gain a great deal by learning as much as they can about a teacher's biases.

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[1] John Viasey, OECD, 1962?, p. 41.

[2] As exemplified in recent works on the order of Education and Political Independence in Africa, by L. J. Lewis (1962) and others.

Theoretical Rationale, cont.:

Consequently, one commonly finds that the school culture becomes internally differentiated to reflect this basic division between "inmates" and "staff."[1] Communication about one another consists in stereotypes, and social mobility between strata impossible: "two different social and cultural worlds develop, tending to jog along beside each other, with points of official contact but little mutual penetration."[2] These often include major components of Merton's "self-fulfilling prophecy," in that what one group believes about the other is erroneous, and yet of a nature to be re-inforced by the behaviour of the other and thereby be shown "true" to the holders.

Here is added reason why structure is so important. There is a definite tendency for individuals to rely upon the formal structure in place of personal relationships to accomplish group goals. Around the world one finds that boarding schools are characterized by an elaborate and legalistic regard for "the rules." As individuals, students have little formal means of exerting pressure upon the system. The only means for them to do so is to act jointly, and thereby affect the smooth running of the total system. (Which can lead to counter-pressures for "staff" to present a common front through "unanimous" decisions vis-a-vis students.) One finds that "ratting" becomes the supreme "crime" between students; there are often efforts to let spokesmen represent the whole student group before the staff, rather than approaching authority in individual capacities. In schools where authority has broken down, it tends to be because the students have achieved an autonomous group organization with sufficient control over its members to keep any sizable number of them from cooperating with the administration in observance of the rules.

The allocation of tasks is also centrally controlled by the institution. All students' needs must be provided for, usually by non-students in the general category of "junior staff." Specialization of tasks proceeds much further than is the case with the family---an alternative social institution which is usually incompatible with "total institutions"---so that each individual plays only a limited part in the success of the whole.[3]

Finally, we see that a secondary school institution contains at least three, separate reward systems. There are, first of all, rewards and sanctions that are controlled by the peer group: group prestige and social ostracism being two of the more potent types of behavioural reinforcement. Then there are the rewards mediated by the institution, usually of a formal nature but also including the high regard and support given by individual teachers to individual students. Goffman makes the important point relevant here that institutional rewards for work performed are almost always different from those given "outside" in the larger society. The "getting" of work "out of" inmates often poses the institution with its more perplexing problems.[4] Lastly, there are the rewards held by the larger society---both by the Ministry of Education and by the overall economic system---for those who complete the course within a given institution. These three systems of reward may all affect an individual student's behaviour, and one of the more important research tasks is to assess which ones are of greater importance in a given situation or institution.

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[1] A contrast well described by Erving Goffman in his approach to what he designates as "total institutions." (1964, pp. 312 - 340.) Goffman's ideas have proved to be most germane to this whole subject, though unfortunately I was unaware of them at the time this research was conducted. My initial ideas came from Musgrove's discussion (1952, pp. 234 - 249).

[2] Ibid., p. 315.

[3] Ibid.

[4] Ibid.

Theoretical Rationale, cont.:

It can be seen that the institutional setting of a boarding school does not lend itself to the growth of independence on the part of students. They achieve independence by leaving, not by maturation.

The consequences for personality development may be quite significant. The student is entirely dependent upon the institution for all things of importance in daily life: for his food, his soap, his laundry, his allowance, etc. The choice of daily activities, and the deciding of daily schedules, are not left open to him. In fact, the supervisory commitments of the staff are increased in direct relationship to the independence of student activities; while, on the contrary, staff requirements are minimized when everyone is doing the same thing at the same time. The student entrepreneur is, likely as not, regarded by the staff as a "troublemaker."

Such tendencies are the antithesis of what would be desirable to produce initiative and responsibility. A total institution is simply a very poor place for practice in decision-making or in carrying out a multiplicity of commitments simultaneously (and, by the same token, it can be a haven for those who find life "outside" as "too much"). Attempts to teach such matters may only aggravate the situation. The divorce of training from doing allows mistakes in mastery to pass unnoticed, and much of necessary consequence to final mastery is immediately forgotten through lack of practice. The artificiality of such "training" is often all too obvious to those involved.

The institutional environment is not one which tolerates nonconformity. It exerts a tremendous pressure upon students towards the standardization of their role conceptions. They are constantly under observation by staff, and by one another, being forced to act out or to reject the roles which come to be assigned them by group consensus. The degree to which students hold common conceptions of career or personality types, and the effects of these types upon individuals who accept them and then strive to fulfill group expectations would make a fascinating piece of research in its own right.

What has been said above would apply on a priori grounds to most secondary schools (viewed as an institutional type) the world over, and especially to boarding schools. For the purposes of our inquiry, it must be modified to encompass the particular characteristics of secondary education in West Africa. What are some of the special attributes of a secondary school institution in East Africa, and how might these affect a research design? Several points seem worth consideration:[1]

(1) The idea of a secondary school institution is obviously a cultural import. The model for it was introduced en toto from out of its English setting by successive generations of British school administrators and teachers. The concept did not itself undergo evolution in response to changing needs here as it had in the country of its origin. Those who created secondary schools in East Africa were already thoroughly familiar with the pattern they were introducing. From prior experience in childhood and as teachers in England, they had developed a firm concept of what secondary schools ought to be.

(2) The model for secondary schools was, therefore, fundamentally structural. If one views culture as a communication system (along the lines suggested by Hall's The Silent Language)---a most useful standpoint when one is dealing with cultural borrowings---the levels of culture drawn upon for the new institutional form were technical and formal in nature. The transfer is much less complete at the informal level, where students' own backgrounds enter into the functioning of the educational system. To the outsider, it is remarkable how little

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[1] Derived in part from a stimulating article by Lawrence (1963) which, though about West Cameroon, has a great deal of relevance to the East African situation in education.

the models held today in East Africa for various institutions--secondary schools, to be sure, but also teacher training colleges, technical colleges, agricultural institutes, etc.--depart from the received models as brought in some years ago from England. Further, as new branches of specialized training are being opened, the similarity increases from month to month. But one must assume that the institutions such as secondary school which have been a part of the East African scene for a long time have begun to develop some characteristics sui generis. These departures from the model are most likely to be within the sphere of the informal relationships within the educational system.

(3) The formal model transmitted contained a strong association between the subjects which were to be taught and the evaluation of the prestige and qualitative connotations of education. On the one hand, only a narrow list of subjects was taught. For example, subjects like sex education or driver training were not provided--not because they were considered entirely irrelevant, but because in England and America other social institutions furnish such instruction. With respect to subjects offered, the overseas educational establishments have proved themselves to be more conservative than have been the parent bodies, which have long since added newer subjects of importance in the modern world. On the other hand, the received model distinguished sharply between whole categories of supposedly exclusive subjects: "science," "the arts," and "vocational - technical" subjects. (It followed Oxford in not even recognizing the social sciences![1]) These prestige and qualitative connotations are not inherent in the subjects themselves; they are an added epiphenomenon peculiar to the educational system from which they were derived. The grouping of subjects into this particular set of classes, and the imputation of qualitative connotations to each class, is very much a part of the model. More than most, this aspect has proven very resistant to suggestions of change.

(4) The economy lacks alternative routes open to individuals for acquiring training, such as apprenticeships, family business connections, etc. (at least, insofar as Africans are concerned). Schooling has been almost the only route to personal advancement. The standard governmental response to any kind of manpower need has been traditionally to set up yet another training school for candidates. The association between jobs and schools is well established.

(5) Hence the evaluation system in use for rating individual progress has come to have much more far-reaching implications. To a very considerable extent, it also determines careers, the economic well-being of localities, and the ranking of schools. The examination system has taken on awesome and manifold functions all out of proportion to its intrinsic validity and reliability.

(6) The "staff" component in schools and in the parent Ministry of Education encompasses several quite different groups of individuals. There are at the top a cadre of long experienced, African administrators who have generally a diploma in education and some experience abroad. Beneath them are a larger number of ministerial expatriates, all British, who adhere strongly to the traditional and academic model as it has been administered under the colonial regime. These individuals are in the process of being replaced by young graduates, East Africans back from degrees in Makerere, the U.K., or America. In the schools themselves, one tends to find British headmasters of varying experience, a few African or Asian diploma holders, and a larger contingent of American or British degree graduate teachers. Some of these will be missionaries, with a long experience in the country; but many nowadays will be newcomers to both teaching as a profession and to

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[1] This viewpoint has been espoused by none other than the Oxford University Department of Education in a report Technology and the Sixth Form Boy. The argument will be pursued again later in this paper.

East Africa as a region. However loudly we decry this situation--a recent seminar of the East African Academy concluded that it was less desirable to have expatriates in teaching than to using them in technical fields--it will continue for the foreseeable future.[1] Consequently, a large number of the teachers in secondary education are from a different culture, nationality, and race from the pupils they instruct.

(7) Secondary education is conducted in what is a second or third language to students. Students become accustomed to using English in the school world, and it may be that the stereotyped views they give in this language about non-school affairs reflects this association with the schoolroom, rather than indicating any simplicity in their out-of-school thinking about such things. The restriction of English to the school environment favours the growth of stereotypes; after all, much of simplified teaching consists of no more than a conveyance of stereotypes.

(8) Similarly, what the student learns in school is not necessarily reinforced at home. There is a marked cleavage between the school world and the home world. In a boarding school, which supplies a total way of life, the contrast between in-school and out-of-school is particularly great. The students' home environments often do not allow for a continuation of habits learned in school; they often cannot even provide the student with personal privacy.

(9) The age range in many schools is sufficient to support the generalization that "for the foreseeable future the great majority of African secondary school students will be adults and allowances will have to be made for this."[2] Chronologically, then, students are old enough to have formed stable attachments to their self-conception as adults. This aspect permeates many facets of student - staff relationships. Similarly, girls in secondary school are definitely within the marriageable category by out-of-school standards. We may expect the average ages to decrease as primary education takes wide hold and as it is shortened to seven years. Nevertheless, for the present it is not entirely misleading to speak of secondary school leavers as adults.

(10) The afore-mentioned characteristics, added to the fact that the governments generally pay most school expenses, combine to change students' status vis-a-vis the outside. We find that sutdents are much more a privileged elite, and boarding students have higher status than day students. This is somewhat the reverse of the situation in some other countries, where one finds much greater desire on the part of boarding students to "escape." The balance of privilege in school as opposed to out of school rests with the former.

(11) The selectivity of secondary intake (generally on the order of 10% or less of primary leavers) provides a student population whose mental abilities are among the highest in their age group. The competition for places, especially in the schools with national reputation, is so great that most of the "problem students" are already eliminated. When one deals with such a select segment of the population, representing the cream of an area's youth, the differences between students' performances are more a function of the quality of their previous schooling than of their innate ability.

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[1] Cf. the August, 1965 special issue of the East African Journal, "East African Brain Power," B.A. Ogot & T. R. Odhiambo, eds., p. 30.

[2] C. F. Hampton, 1964, p. 36.

In spite of these differences, it is quite commonly assumed that secondary schools function in the educational system much as they do "at home." There is considerable evidence to the contrary, shown most clearly when important investment decisions do not bring about the anticipated consequences. To cite but one of several examples, I refer to expenditure on veterinary training in one of the East African countries. For several years now this government has, in cooperation with U.S. A.I.D. and the Rockefeller Foundation, tried to build up a training facility which could turn out forty veterinary technicians per year. The facility provided has absorbed on the order of £ 40,000 capital investment and some of the highest trained teaching staff (in their field) in the country concerned. Yet for last year's class the government was able to recruit only 26 candidates for 40 places, and of these only 6 stayed full term to the completion of the two-year course! (All but one of the others left of their personal choice to take up more attractive training offers elsewhere.) Clearly, the planners' assumptions about what attracts secondary students into career training were in error in this case. These and other instances lead one to conclude that the situation in East Africa is much as it has been in Ghana, where

> . . . the schools have rarely functioned in the manner anticipated by educationists or officials and the story of their development is largely one of the unplanned consequences of educational growth.[1]

Herein lies cause for urgent concern in this day of central planning and manpower predictions. Of necessity most policy decisions must be made by reference to the models people hold in mind about the educational system, rather than by reference to time-consuming inquiry into how it is functioning at the moment. It was my feeling that we have reached a stage of virtual "culture lag"--a term used by anthropologists to signify periods when social models become sufficiently incongruent with events to lose their predictive power. At the secondary level, the lack of reliable information seemed especially acute in the areas of special education--agricultural, vocational, technical, and girls'--which all have important development functions.

It occurred to me that here was an excellent opportunity for applying an approach much like that which Friedland used in his study of labour unions in Tanzania. One had, first of all, an externally introduced model for a relatively complicated group structure. Some modifications of this structure were inevitable, to fit it to local conditions in East Africa. Others occur slowly, as innovations to further accomodate to changing surroundings. Gradually the expatriate administrative personnel in the educational system are replaced, and local people take their places. Thus one expects that the functioning of the system is changing through time, and that the nature of the changes may be very diagnostic of the assumptions of the actors and of the conditions within which the system operates.

The theoretical concepts required are, then, ones already familiar in social theory. One has a structure, defined in terms of models held by actors within a sharply delimited institution. The actors communicate their concept of the structure largely through attitudes manifested towards various alternative behavioural possibilities. This lends to their common activities a certain integration which can be termed a function of the institutional structure. The special qualities of the institutional structure (in this case, a secondary school) are, therefore, empirically demonstrated by the extent to which the functioning of the system departs from what one would expect on the basis of the parent model.

There seemed to be an advantage in using attitudes as well as activities as indicators, since different attitudes could be specific to different groups, even when these were involved in a common set of activities. Since there are many who would say that the basic developmental impact of education is in the modification of attitudes,[2] we have here a convenient indicator which is at the same time of substantive importance. The attitudes indicate simultaneously the models held by actors and the extent to which these models are changing in the direction which furthers development.

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[1] Foster, 1965, p. 303.

[2] Griffiths, n.d., p. 2.

2. Field Methods & Activities

Our field research was severely affected from the start by the late arrival of funds (three months after promised) and by other commitments (I was concurrently completing a survey of agricultural training institutions). Field activities had to be of a kind which could be done at sporadic intervals as the opportunity to visit schools presented itself. In accord with the train of thought already reviewed, I decided to concentrate upon two types of indicators: (1) interviews with teachers and students, and (2) attitudinal tests. In the former, we would concentrate upon qualitative phenomena: events which seemed to either teachers or students "unexpected" or puzzling from the standpoint of the actors' ideas about a secondary school. Our criterion of strangeness assumes that those within each group share a common set of ideas about the institution, and that they can identify things which seem to depart from the pattern. The criterion identifies the things which we will pay attention to, but it does not indicate their content: each instance can be revealling of different aspects of the total situation. It is an exploratory device which reduces the need for a careful sampling strategy within the school visited. Our hope was that the content of these interviews would then suggest the points for inclusion in an attitudinal test to be administered at a later date within the same schools.

It was immediately apparent that the published information on secondary education in East Africa lacked enough substance to give testable hypotheses. Nor did I have opportunity to carry out a preliminary piece of "information retrieval" research within the ministries of education to give the needed background data. So the first research activities had to be devoted to open-ended interviews with teachers, to try to elicit a list of areas for more systematic questioning. Ten points were chosen, more or less fortuituously, as a guide for the interviews with teachers (averaging about an hour and a half in length):

(1) Factors which enter into students' choice of careers,
(2) Degree and nature of students' career commitment,
(3) Their attitudes towards different types of farming,
(4) Their attitudes towards training in skills and in management,
(5) Areas of pleasure and of difficulty for students in the curriculum,
(6) Students' self-concept as an elite,
(7) Their concepts of modernity and development,
(8) Effects upon schooling of the examination system employed,
(9) Students' relationships to their families and home communities,
(10) Their experience of the world external to school.

About a dozen such interviews, and a larger number with teachers in post-secondary agricultural institutions, gave a larger outline of points which were used from then onwards in a more standardized fashion.

In the second stage, then, Miss Johnson and Mr. Kamau took the expanded list of open-ended questions, and began visits to secondary schools in the Moshi - Arusha vicinity. We were fortunate in the choice of this Region: it contains several very different types of schools which are representative of the diversity found in Tanzania on the whole. The ten or so schools in the area can be categorized separately on many important dimensions:

(1) urban/rural
(2) day/boarding
(3) Protestant/Catholic/Muslim
(4) long established/ recently established
(5) academic/technical
(6) boys/girls/co-educational
(7) racially homogeneous/ racially heterogeneous
(8) Chagga (agricultural) / Arusha-Masai (pastoral)
(9) high national prestige/ no-national prestige
(10) Higher School Certificate stream / non-HSC stream
(11) high proportion local teachers / low proportion local teachers
(12) high proportion local students / low proportion local students

Of course, a number of these characteristics are clustered in certain schools--there are no Muslim, non-urban, boarding schools, for example--but one is helped by the presence of students within this category even where the school as such must be categorized differently. The designations given to schools cross-cut those given to students, and make a larger number of comparisons of students possible. We hoped that we could trace an impact of the formal differences between schools in the responses of teachers and pupils, both in the interviews and in the attitude tests. If there is any validity to the approach suggested--viewing a school as a "total institution" with the power to communicate and modify attitudes--it ought to be shown in the results from these schools.

At each school Miss Johnson carried out the interviews with teachers, and Mr. Kamau the interviews with students. Miss Johnson was introduced by letter to the Principal, as a fellow teacher under short-term assignment to research on the behalf of the East African Staff College.[1] Mr. Kamau was introduced to students under the same auspices; they were told only that he was a University College student from Nairobi. In this way most Africans were interviewed by a fellow African, and most ex-patriates by a fellow ex-patriate teacher. We tried to frame the generalizations resulting from teacher interviews separately from those following student interviews, without prior knowledge one of the other. (Thereby discovering points on which there was a divergence of opinion--or so we hoped!) In practice this proved impossible: knowledge of the other researcher's results inevitably begins to creep into one's own open-ended interviews.

In the process, however, we came to realize more clearly the strengths and weaknesses of open-ended interviewing. The technique draws its greater exploratory value from the cummulative impact of past interviews upon the interviewer. Any interview is an imposition upon the time and energy of the one interviewed. A survey which uses printed and mailed schedules is insulated by its very procedures from discovering this fact: no one is present to witness the disgust and rage registered when a foolish or irrelevant question is asked. The open-ended interview brings such reactions into the open. One quickly discovers that legitimacy is essential; the one interviewed must know who is sponsoring the investigation and why the information is required. His support must be won to the extent that he will devote an hour or two of scarce time to giving his opinions. One can maintain the necessary rapport only for as long as questions appear to be relevant, and in an order logically related to one another. Undoubtedly these features are equally true of other survey techniques, but they may not be so obvious.

The advantages are many, but so are the disadvantages. The interviewer is in a position to evaluate directly whether or not answers are given in a spirit of trust and confidence. By the same token, however, the interviewee immediately senses whether or not the interviewer "knows his business." To maintain trust, the interviewer must be "on top" of his subject: he must be able to trade nuance for nuance, to play his knowledge of the phenomenon under discussion from a position of strength. A new interviewer without such background has a very rought time of it, and tends to be treated as a pest. The very qualities which might predispose to bias--commitment, common background with the one interviewed, knowledge of the subject in advance--are those necessary for open-ended interviewing to be a success.

Furthermore, the method involves formidable data-recording problems. As the interview succeeds, the one interviewed will bring out his own observations and hunches. The best subjects are those who are most perceptive, and they will have the most to offer in fresh ideas about the topics under investigation. The relaxed social atmosphere needed to stimulate the discussion is destroyed if it must be recorded verbatim. The employment of two questioners (who alternate in taking notes) or of a tape recorder may be a partial solution; but we never did feel that we had fully resolved the conflict between data gathering and data recording. What is best for the one is inimical to the other. In a preliminary inquiry, where one starts from such a slender base of knowledge, it seems advisable to sacrifice the proofs in order to get ideas worth proving in the first instance.

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[1] Miss Johnson had taught primary school in Dar es Salaam for the year previous.

Our third stage of activities was meant to supply the evidence missing from the second. We intended to revisit each of the schools, and administer a variety of projective and attitudinal tests to students. At least one of these tests was to be based upon the points raised in the previous interviews. I hoped that some of the other measures could be ones which had been used elsewhere, so that we would have more control over our generalizations. As it was, circumstances beyond our control dictated otherwise. The dates for term closing conflicted with other commitments, so that we could visit only five of the schools. Then, two days before the tests were arranged to be given, we were forced to devise a completely new series due to unforseen complications. The irregularities evident in the final questionnaires are a result of the extreme pressure of time under which we worked: one set of tests was delivered fifty miles to a school where the entire student body had been standing at attention to receive it for ten minutes!

In the end, we employed three types of written measures: (1) a two-page, 25 item sentence completion test, administered by Mr. Kamau to students in their 9th. year (Form I); (2) a two page direct questionnaire on parallel topics given to 11th. year students (Form III); and (3) a series of essays by students in their 11th. and 12th. years (Form III & IV) on three topics: "Things I consider important in choosing my career," "Differences between progressive farmers and old-fashioned farmers," and "What it means to be modern" (given only to girls). A fourth type of questionnaire was used as a control in the one girls' school visited,[1] since most of the points in the others had been devised with boys in mind.

Of the four types, the sentance completion tests were the only projective devices; they were also the most novel. Dr. Molnos and Mr. A. Somerset of EAISR suggested their use in this context, and gave us a great deal of help in devising a series for this occasion. The opinion by users of this type of test in America seem favourable to the purposes we intended:

> Since the items appear to draw information upon current social experiences and attitudes towards the subject's social relations, it has considerable potential value in studies of institutional change and culture contact in which it is necessary to include the individual as a focal reference point.[2]

In America, the test has the advantage that it can be used with different age levels. The same "trigger" phrases, however simple, have been successful with adults, college students, and high school students. The hypothesis is that the test calls forth attitudes relevant to the social setting of the person who takes it; test results have been used to score the extent of individual adjustment. As such, the test ought to have been ideal for measuring changes in attitudes that occur as a result of students' exposure to a new social environment--the secondary school institution.

In East Africa, however, the test appears to lose its projective qualities. It takes a good deal of cultural sophistication to grasp the "as if" element involved in completing random phrases. The American college student is not insulted by the test; the East African college student well might be. Viewed as an achievementtest, the device is successful only at the level of its vocabulary--i.e., about Form I or II. More advanced students find it "too easy"! Frankly, I am at a complete loss to explain what might be the effects upon projective test results if those tested regard it as an achievement test. But this appears to have been the case: all of our tests were received with a grim determination which was quite different from what we expected (the tests were administered at end of term, after examinations had occurred). In all of the testing situations we emphasized that the tests had no relationship whatever to the school, and that they would not be used to evaluate an individual's school performance. Unfortunately, this did not seem to counteract the school setting. Most students took the tests very seriously, and it seems that this seriousness stemmed from their feeling that the tests were measures of their academic ability.

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[1] Cf. Appendices I & II for the materials included in the first two types.

[2] Rychiak, Musson, & Bennet. 1957, p. 28.

We made other errors which might also have been avoided if we had had more time and the occasion to run pre-tests. From previous work by Oliensis with projective tests, we knew that the race of the person supervising the tests could affect their content in significant ways.[1] I was particularly anxious to avoid the effect he found, to wit that responses given to a European tended to "lack color and vitality" when compared to responses elicited by an African. We will have some control over this aspect, since circumstances forced me to give some of the tests in one school. But what are the effects of sex difference? Mr. Kamau did all of the interviewing of female respondents. In spite of his impression "that it makes no difference" one cannot but wonder how it might have affected their replies on a number of topics. Similarly with Asian students; we ought to have built into our design greater controls over these sources of potential bias.

There were also matters arising out of the simple mechanics of registering a response. If one examines the direct questionnaire (Appendix II), one sees that the careers list at the bottom of the first page is much too tightly spaced. This error should have been eliminated by pre-testing; the students had trouble keeping the lines separate. In addition--and this we did not expect--they were further confused by the instructions to "check the boxes" as a means of indicating positive opinion. Apparently the school systems uses "checks" to indicate "wrong" or "no"; "ticks" to indicate "yes" or "O.K." Thus the instruction was inherently contradictory. The students found the command to check their preferred choices confusing. Generally such tests should avoid unfamiliar marking devices, and more time should be allocated to the preliminary explanation of the test and to its administration than one anticipates.

These difficulties (except for the careers question) can probably be overcome. Now that preliminary analysis of the results has begun, however, a more serious and basic weakness appears. It looks very much as if the measures used lack the discriminatory power which they would have needed to relate the answers given to the general theory already described. Their major weakness lies in the very stereotyped nature of a large percentage of the responses. It appears that agricultural topics are most likely of all to get a set, standard response. Very probably we get no more than the teacher's standard list of the attributes of good farming: irrigation, fertilizers, terraces, spraying . . . The difficulty with stereotypes is in knowing what to do with them. They cannot be correlated with individual differences (if they are uniform to a class or a school), and our procedures give us no real insight into their source.

The fault is partially in the choice of measures, but I think it also reflects a tendency in the school system itself. It may be a consequence of the language question--perhaps students tend towards classroom stereotypes when they are working with a language which is still new to them. It may also relate to the question of their passivity (as discussed further in the following section). If the results continue as they appear to be doing, we shall be left with a body of relatively uniform, simplified student opinions: and no guideposts for interpreting it. Possibly this can be overcome in time with the building up of case studies in depth on each school and with participant-observation data on school activities.

In my own thinking I have come to feel that much of our problem grows out of a failure to discriminate between the techniques appropriate for finding ideas and those useful for testing ideas.[2] Traditional social survey procedures are simply rather inefficient instruments for deriving new ideas on any topic where one does not have a backdrop of existing information. In his own culture the survey analyst intuitively supplies a whole family of contingent questions relating to the survey purposes which give it explanatory power. Without the focus provided by such questions, the gap between a general theory and particular data remains too great: the survey becomes a mere tabulation without keys to unlock its meaning.

[1] D. Oliensis, 1964 EAISR Conference paper, pp. 1 - 9.

[2] An argument I have developed further in a faculty of agriculture Rural Development Paper (No. 12), "Applying Social Survey Methods to the Study of Agricultural Innovation."

3. Related Contingent Questions for Further Inquiry

What are some of these questions whose answers would have added focus to the initial survey? In what areas must one seek background information in order to assess the developmental impact of secondary education? The exasperating consequence of doing a survey on a new topic is that one's best questions have a way of appearing towards the end of the survey, when it is too late to incorporate them. Here are some of the ones which seem potentially significant, presented in no particular order:

(1) Students relationship to their home culture. What is most striking is how little bearing students' home culture seems to have upon what they do in school and what they choose after school.[1] In general, schoolboys from "pastoral" tribes have no more difficulty than others in "agricultural" subjects. Career choices seem to follow on the emphasis in government policy with respect to provision of services in an area, rather then on the culture concerned. The cultural impact is felt indirectly, through the degree of emphasis people place upon education as such. The two main exceptions which we encountered were (a) a greater tendency in Buganda towards the well-known "white collar complex" in attitudes, and (b) the high affection shown towards handling animals by schoolboys from areas where children tend livestock.

(2) Status of education in the home community. Regard for education seems to be a highly significant variable for comparing different communities. Many measures could be used. In some, for example, a girl who is educated commands a proportionate bridewealth;[2] in others, the boy can use this as an argument that they are both "modern" enough to avoid the custom. In Kenya, some communities have been able to raise their taxes only by threatening to dismiss schoolteachers, or by refusing to let parents pay school fees until they can show a tax receipt.[3] The demand for education appears to correlate very closely with modernization.

(3) Ability of the home community to provide its own schools. Among the Ba-Ganda, Kikuyu, Chagga, and others the aggregate income of local communities is sufficient to allow them to finance their own schools, even at a secondary level. Schools which originate in this way generally share different characteristics from the "national" schools, and it would be fascinating to study the means used by the community to influence the activities of the school. The three ministries of education in East Africa follow different policies with respect to how much local initiative is allowed. There are astonishing regional inequalities in the provision of secondary education in each of the three countries. This topic needs urgent study.

(4) Growing importance of tribalism in some schools. Ironically, it is this increased local awareness of the value of secondary education which has made some communities so jealous that they will not accept outside students. In mission schools, also, past policy often "fiddled" examination results and entry criteria to give a greater tribal balance to school compostions (usually in favour of weaker tribes who did not value education). Rigid adherence to regional or national standards often has the effect of diminishing the chances of marginal areas to get students into secondary schooling. The growth of inter-group tension over this issue is easy to trace; one of its more persistent manifestations is the feeling that one group or the other has cheated through leaking out examination questions. Such accusations---sometimes unfounded---are found in all three countries.

(5) Effects of national policy towards fees. The East African countries follow different policies towards school fees. In some, primary school fees are high, while secondary school is free to those who gain admittance. In other cases, the reverse is true. The situation is complicated by private high schools, commercial"colleges", etc. High school fees are clearly one of the sources of pressure forcing rural families into the cash economy; in Uganda, they seem to be the only reason given by parents who have decided upon a limitation in family size. In view of the repeated statements by officials on the desirability of free education, the impact of fees should be studied.

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[1] Cf. a study by Siegenthaler (1965) of the correlation between home backgrounds, performance in agricultural topics, and careers in Ethiopia.

[2] Kanoga, 1963 EAISR Conference paper, p. 4.

[3] Cf. a notice by the Nyeri County Council (Daily Nation December 30, 1965) to this effect.

(6) Personal effects of school fees. Many students have bitter memories of the struggle to raise school fees. In some cases the need for fees dictates residence: a student lives with whomever he feels will pay his fees. There may be conflict, because relatives expect him to do manual work for his keep when he may prefer to study; or there may be jealosy between siblings over who gets to go to school.[1] In some areas, it is expected that a father is released from further obligations towards a wife's children once one of her sons has obtained a salaried job through his being educated. The son then may be forced to take over a father's obligations towards his younger brothers and sisters. Insecurity about school fees seems to have been widespread.

(7) Placement within the family. We have almost no information on the effects of differential placement within a family group (1st. son, 2nd. son, etc.). Yet this must be a significant factor in determining who in the family gets access to education, particularly in large families. Is education treated as an alternative to getting resources (land, livestock), so that those sons who don't get one get the other? Is cash shared equally, so all sons get a little education, or does the group "push" one of the brighter lads as far as he can get? Do girls get equal access to education? What levels of education are considered appropriate at what income levels? Are traditional customs favouring the oldest or the youngest sons carried over into the realm of education? And what are the various intra-family obligations in a polygamous family?[2] These questions all deserve serious study.

(8) Effects of residence upon school performance. The two fore-going aspects contribute to a fluid pattern of residence for students. Some live at home, some with mothers who have separated from their husbands, some with relatives, some with friends, some with fellow-schoolmates, and some at school.[3] The attempts to get into schools with extra places or to repeat classes by changing schools require frequent moves for some students. These changes in residence may entail major re-adjustments, as well as emotional isolation. Most "day" secondary schools contain a large number (even a majority) of pupils who do not go home every night. The living conditions of such pupils (and even more urgently, of pupils in urban private day schools) ought to be investigated from the standpoint of privacy, health, diet, emotional support, etc. The element of change in residence ought to be included in educational histories when these are collected.

(9) Nature of parental pressures in education. We need specific information on what types of pressure parents bring to bear upon their children, and on what issues this occurs. Where this has been studied, as in northern Uganda, lack of parental pressure has been named as a chief cause for student drop-outs, and as the reason for pupils reluctance to take up non-academic trades training after leaving primary school.[4] Throughout Eastern Africa where there has been European settlement, the inclusion of "vocational" aspects has been a prime feature in "African" education as opposed to "European" education. As early as 1911 we read for Rhodesia that efforts in "African education" should be "directed into approved paths: agricultural instruction, demonstration plots, handicrafts and trades needed on the reserves or useful to European craftsmen."[5] Thus over the years the political interpretation put upon any practical training was that it was a device for "keeping Africans down" (as indeed it was). In many areas parents still share this opinion. They also oppose the inclusion of any items in the curriculum which will prejudice their children's performance at higher levels of training. (But in some communities this attitude has changed decisively since Independence.) It appears that the main thrust of parents' concern is to keep children in school for as long as possible; such concern is readily measured through figures on wastage. Interestingly enough, parental pressure does not seem important in students' choice of careers (see section anon).

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[1] Sheldon Weeks, "A Look at Selected Student Autobiographies," pp. 1 - 3

[2] Quite possibly school fees, costs, etc. are one of the factors (added to shortages of land) which make polygamy an economic liability in modern circumstances. Cf. also the impact of schooling on child labour.

[3] Cf. Somerset's findings on the significance of residence with patri-kind after parental separation as opposed to matrikin, 1964 EAISR Conference Paper, pp. 1 - 19.

[4] Maleche, 1962, pp. 4 - 5; Kanoga, 1963, p. 4.

[5] Cash, 1964 EAISR Conference Paper, p. 4.

(10) Alternatives to secondary school. To my knowledge, no systematic consideration has ever been given to the alternatives that exist to secondary education, and to the effects of such alternatives on productivity and mobility. In addition to the private day secondary schools (which exist on the borderline: formally constituted as "secondary schools," practically seldom so), we have theological training (seminaries used to recruit from primary school), primary teaching on a year-to-year basis, trades schools, recruitment into police or army training, etc. One would like to know what role these institutions have had in giving brighter students a second chance to continue secondary education at a later date. Also, many of these institutions do not really require someone of a secondary school level; but as soon as the number of secondary school leavers increases, they begin recruiting from the higher level nonetheless. One of the first effects, therefore, of an expanded program of secondary education seems to be the destruction of alternative employment and training opportunities for primary leavers--even in jobs and programs where greater preparation is unnecessary.

(11) Refusal to accept terminal nature of training. The models of training held by expatriates in East Africa consist to a large extent in a multiplicity of terminal training programs. Students, on the other hand, will willingly accept the best that they can manage at any one moment; but they do not regard any training program short of degree level as terminal. They will willingly drop one program at a moment's notice to take up another in a quite different field, if the second has greater promise. This propensity is not at all strange, given the importance of education in determining personal mobility, but it is certainly not provided for within existing ideas about the educational system. Attempts to broaden the model are stoughtly resisted on the grounds that a developing country needs many low-level specialists. Not infrequently one meets students who have worked their way up through half a dozen special training programs. Students consider that there is nothing immoral in registering a permanent intent to take up some career or other (which they do not intend to follow). Their matter-of-fact attitude occasionally enrages expatriates, who are likely to feel that choice of a program should lead to commitment. In fact, the unreality of the educationists models force students into this position. On the other hand, students who are married seem to take much closer interest in specifics of a training program: for them, it is all or nothing.

(12) Secondary students have high and generalized aspirations. The foregoing tendency may result from students' holding in mind more general goals than we expect. They want as high a level of education as they can get--in any field--in order to qualify for a permanent and salaried job. But they do not associate careers with interests; there is no "crisis" when they choose "a life work." Only a few occupations seem to carry connotations of vocation as such, among them theology, medicine, and teaching (for boys, and only then for a small minority). One wonders if this is a consequence of the fact that these professions have been among the oldest, and also were in the past associated with mission education? Requests on school leaving forms for students to indicate their interests are often answered by students according to how they think they will place in examinations or what the opportunities are. Such questions can have only rather general relevance to determining career choices.

(13) Certain careers have become associated with security. Security seems to be less important than one would think in the first choice of careers: but many students keep in mind certain fields as viable possibilities to fall back upon if they fail to do better. As professions, agriculture, theology, police, and primary teaching may have this connotation, especially the latter. These fields are troubled more than most by the transient commitment of trainees.

(14) Families exert minimal pressure on career choice. Students do not expect to receive career direction from their families. When questioned, parents seem to feel that their children know better than they what the opportunities of a moment are. One rarely finds conflicts of the Western type, where a father or mother puts pressure on a child to follow a certain vocation. But this generalization does not seem to hold for Asian students--whose parents take a much more active interest in their career choice--or perhaps for children of high status African professionals.

(15) School sources of career knowledge. Because of the relative unimportance of family pressure in the choice of careers, the way is left open for school experience to have a greater impact in this respect. Students rely quite heavily upon teachers, advice from headmasters, personal contacts, etc. --- all within the school environment--in deciding what strategy to pursue. From interviews with teachers, it appears that many of them actively discourage better students from choosing agriculture: they feel the best students should become "scientists" instead. Visiting programs which introduce professionals to the student body seem to have had dramatic effects where they have been followed, but usually the technical department concerned loses interest and the exchange breaks down. The subject of the specificity of students' career knowledge, and of what factors influence career choice, should be pursued in greater detail. Many of teachers' ideas about student motivation seem to be erroneous: teachers overrate the "white collar" and "money-mad" orientation of students. One of the effects of having HSC within a secondary school seems to be the greater amount of career knowledge which gets diffused in the whole school.

(16) Career attitudes very different for girls. Girls seem to have quite different priorities in mind from boys when they choose further training. The differences are most pronounced in respect to marriage. Boys will often feel that marriage is ten years or more away; they do not take it into account in their decisions (excepting perhaps at lower levels, with regard t o raising brideprice). Girls are apt to want vocational training which can be done anywhere---stenography, teaching, then nursing---because of the uncertainty about where there husbands may be posted to. Girls are more likely to need the consent of parents, and they often feel that their further training is a financial burden on their family. The length of a training course seems to be an important consideration, both because of the worries about marriage and because of cost. Surprizingly, the desire to work in town seems to figure more importantly for girls in the upper forms than for boys (though this remains to be verified). There seems to be a tendency for girls in the co-ddducational schools visited to have a higher regard for their own abilities to compete with boys in academic subjects, but this may be an artifact of the particular schools visited (we were able to interview only one girls' school). At any rate, the differences between boys and girls in regard to school performance, aspirations, and career choice seem to be both significant and complex. They need urgent study. One is appalled at the slender information being used in deciding current policy. For instance, we have the decision made by the Kenya Education Commission to recommend "single-sex" secondary schools. The Commission reached its decision by the simple expedient of polling Headmasters (mostly men already in control of single-sex schools!): 99 were for, and 24 against.[1] One wants better evidence than that!

(17) Closer staff-student relationships in girls' schools. From very limited evidence, it seems that the quality of personal relationships between teachers and students in girls'schools is potentially more personal and more open tha n in boys' schools. Perhaps the reason lies in the greater discipline which girls are subjected to at home. Perhaps girls lack the egalitarian aspirations which tend to make boys more critical of teachers, and more competitive in their approach to them as individuals. Nevertheless, for whatever reason, one cannot escape the feeling that racial differences between staff and students are less important at girls' schools.

(18) Greater vocational emphasis of girls' training. We find that girls' schools have historically always tended towards the inclusion of vocational and comprehensive subjects in their syllabus, and that this has aroused very little opposition. These schools seem to be allowed a greater latitude for innovation than has been permitted boys' schools, but the inclusion of such subjects seems to have been at expense of science teaching. (The difficulties which girls show in science subjects may be local to the area visited.)[2]

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[1] Kenya Education Commission Report, vol. I, 1964, p. 72. But the recorder of the Commission's opinion hedged its recommendation as being "qualified" pending further experiments with co-educational schools.

[2] In general these generalizations agree with Foster's findings about the aspirations of girls in the Ghanaian secondary schools. 1965, p.265.

(19) Failure to tap nation-building sentiments. It was our impression that the East African governments have succeeded in "getting across" the concern for nation-building much more than they are aware. Students mentioned the aspect of nation-building quite frequently in answer to various questions, and a smaller number seemed sincere in their consideration of this aspect in choosing careers. On the whole, however, the concern about nation-building (no matter how sincerely given) seemed vague and unrelated to students' personal lives. Schools have not mobilized their students in this connection: they have been unable to make the issue a real one. Much more could be done in this direction.

(20) Tendency to form group opinions. In both boys' and girls' schools, the students react to many different situations by trying to achieve a group consensus. Here "student opinion" has a very explicit meaning which is lacking in many American and British schools. Students seem to feel the need to achieve a consensus on issues of any importance to them; when interviewed, they not uncommonly asked to be allowed to consult other students first before registering an opinion. For example, younger students may seek out older students to get career information. Then they will discuss among themselves what action should be taken. One is reminded of Hughes' caution in interpreting answers to essay questions because "Discussions among the students must have followed the lectures on land tenure, and the possibility that the similarity of the views advanced by them is largely a reflection of a predetermined 'party line' cannot by overlooked."[1] The concern for arriving at a unanimous decision seems to be a peculiarly African trait, and one which makes it imperative that students have good information on any point about which they must take action.

(21) Relative absence of disciplinary problems. One is also struck by the general ease of staff - students relationship in most schools. Students are highly motivated. If anything, they seem to the outsider rather overconfident of their ability to do anything asked of them. Students will frequently claim to have mastered certain topics or certain operations, when it later transpires that they have not. One hears nothing of incidents such as have occurred in some other parts of British Africa, where students have fought teachers or burned their books in the courtyard. Where discipline becomes a problem, it is usually a group phenomenon: pupils will go on strike en masse or they will all sign a petition, etc. Such problems are more a failure of understanding[2] than they are tokens of personal animosity or rebellion.

(22) Working to please a teacher. Several teachers mentioned that they noticed Asian students were more likely to work for the teacher's approval than African students were. They claimed that Asian students concentrated upon their daily assignments; African students concentrated upon preparing for the examinations. This generalization would be hard to test, but it might explain the difficulty teachers have in conveying subjects which require either precision or memorization but which do not obviously relate to larger goals in the initial stages of mastery (i.e., arithmetic, laboratory operations in science, map-drawing, etc.). Quite possibly those subjects which put a premium on patience are best taught when a student is working to please his teacher.

(23) General passivity and rigidity. Many authors have noted with puzzlement the sense of general passivity which seems to pervade secondary schoolboys' activities. For example, students will eagerly participate in activities organized on their behalf, but they will not originate them. They seem slow and unwilling to take advantage of special opportunities which might help them in preparation for future careers. Various explanations have been put forth to explain students' reactions. It may be because students are just generally inhibited before European teachers, as Oliensis' results would indicate. Or it may be that the whole school world is so unfamiliar and unrelated to his home background that a pupil concentrates upon the mastery of formal elements and does not participate beyond that.[3] The whole question deserves much more careful study from the psychological standpoint.

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[1] Hughes, 1962, p.275. (A very provocative article, worth study.)

[2] Reactions to Peace Corps teachers might indicate otherwise; but it seems to me that here the real problem is cultural. Students interpret informality in class as a sign of weakness, so that a teacher is doomed from the start.

[3] Silvey, 1963, p. 17. There is some evidence that perceptual rigidity increases with the less acculturated students; Cf. also Musgrove's article.

4. Some Tentative Conclusions on Agricultural Education

The points in the preceding section do not deal directly with the current, practical problems of policy-making in respect to agricultural education. I come to this question last, because I have tried to lay a groundwork for suggesting that many of our accepted assumptions are actually erroneous. Put most briefly, I believe the results of this survey will ultimately show that:

1. There is no inherent difficulty with student attitudes towards any subject which can be shown to relate to their further progress within the educational system,
2. Students have mixed attitudes towards agricultural topics, but would respond very well to some aspects such as animal husbandry at any level of instruction from primary school to Ph.D. training,
3. Agricultural science subjects carry considerable transfer benefits to other science subjects, but the reverse is not true,
4. Almost all students, both men and women, will have important control over investment in agricultural enterprises at some time in their lifetimes; many will have direct charge over day-to-day agricultural operations,
5. Terminal training in vocational agriculture is most appropriate at the upper primary level,
6. The main function of agricultural science topics in secondary school is to attract the better science students into professional careers within the agricultural sciences,
7. Therefore the most advantageous organization would include agricultural and technical subjects within comprehensive secondary schools, rather than isolating their effectiveness to a few specialized schools,
8. Science subjects can be taught and examined in such a way as to destroy their developmental impact,
9. The general impact of current training in advanced science within all fields at the Higher School Certificate and University levels is such as to minimize its developmental value,
10. The East African countries cannot automatically assume that they will gain significant developmental impact from a heavy investment in producing more science graduates within the existing structure of scientific professions and University training.

It will be obvious that my conclusions 3, 5, 7, and 9 fly in the face of almost all that has been written about the role of agricultural and science subjects in African education. I cannot here present the full defence of my position, but I can stress that the evidence is not lacking for any of these conclusions. In separate publication I hope to make a very strong case on their behalf. But to do so will require a sweeping examination of the entire structure of professional training as well as of the educational system.

A short research paper is not the place for such polemics. I would rather like to confine the final discussion to topics relating more directly to the survey. In particular, I shall question a series of assumptions which have been instrumental in the formation of current opinion about the role of education in development. I would question whether:

1 Teachers and administrators have enough actual information about the students in the educational system to make informed judgement on major policy issues. There were many questions in our survey of teachers which proved impossible--teachers simply did not know enough about their pupils to answer intelligently. This ignorance is predictable on the basis of the model of a "total institution." Its practical significance is, however, seldom recognized: teachers are themselves poor judges of student motivation and student problems. We found

that the "two worlds" of dialogue (each of which misrepresents the other's viewpoint) was most marked in the very areas of this inquiry--- teachers' estimates of pupils career motivations, willingness to do manual work, etc. vs. pupils' estimates of the relevance of what they were being taught, etc. Teachers grossly overestimated their pupils' concern over money and security in the choice of careers. They also attributed to pupils a "white-collar" complex which student responses did not support.[1] On the other hand, pupils were often poor judges of the value of what they were being taught and they frequently misrepresented teachers' intentions. All of which indicates merely how careful one must be in gathering empirical evidence on the behalf of policy decisions. What is assumed to be the case by Headmasters is no substitute for information on what actually is occuring.

2 That students' attitudes are a major barrier to the addition of either technical or agricultural subjects to the general academic curriculum. What is true is that students do not like hard manual work from which they reap no rewards, and they fiercely resent any subject which takes up their time but which does not "count" in the examination system. Apart from this, they favour the addition of practical subjects to the secondary curriculum. But because in most schools extra subjects are associated with separate, terminal education for those who cannot "make it" into the regular secondary schools, educationists have wrongly[2] come to believe that the disrespect is intrinsic to the subjects. If anything, East African students show too little association between personal interests and choices of further training; they are quite successful in almost any program which they feel offers promise of continuing their education. One is struck by the absence of connection between individual attitudes and careers, not by the obstacles which might be expected if students had clear identification with certain vocations.

3 That specific training determines "the types of people who, in general, fill the strategic occupations in modern societies."[3] Again and again one comes across lists of "high level" occupations in contexts which presuppose that training for an occupation is that commits people to an occupation. We need constant reminder that an occupation is defined by the work a man does, not by what he is capable of doing or what he was trained to do.[4] A developing economy is by definition characterized by a relative absence of careers: its dominant career specializations change as its economy matures. Professionalism is slow to develop because the occupational mobility in high level jobs is sufficient to preclude the development of true "careers." The country's "high level" manpower demonstrate their capabilities by changing jobs as opportunities improve. This is strikingly evident in interviews with progressive farmers: one finds that they have usually trained for and served in four or five occupations before eventually coming to farm exclusively in middle age. Any

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[1]Strangely, this tendency was most pronounced among teachers in agricultural colleges. Many seemed to resent that students did not find any intrinsic satisfaction in "good, hard work." They claimed pupils were in agriculture because they could not get anywhere else; whereas pupils quickly pointed out that any one of them could earn as much as a Police Inspector (with six months training) as they were to after three years' training. But the four teachers in the sample who had taught students abroad (mostly Asian) all praised the African students' willingness "to pitch in and work with their hands"!

[2]Students at one of the technical secondary schools used to wear sweaters over their uniform so that they could disguise their identity when in town-- a horrifying illustration of the social consequences of segregating special education into institutions which then carry permanent, inferior status.

[3]Harbison & Myers, 1964, p. 16.

[4]Doos, n.d. (1962?), pp. 123 - 137, an excellent critique of forecasting manpower requirements by reference to occupational categorizations.

follow-up survey of the professions actually entered by African degree graduates will show how many switch out of their field of training when they take up employment.[1] The prevalence of this pattern to date makes a mockery of the arguments for specialized education; what use is specialization if one's work is unrelated?

4 That interest is related to occupational choice. The forementioned occupational mobility (at least in the initial stages of economic development) results in a stair-step pattern of personal advancement which is closely related to expanding opportunities and little related to aptitude or interest. Under these circumstances, many people with high aspirations may yet get "caught" in jobs for which they have no liking: "What you so often find is teachers who are obviously in the wrong profession."[2] And, again, "The majority of teachers chose teaching in ignorance . . . "[3] I once interviewed a class of 14 "diploma" agriculturalists from Tanzania being trained in the United States. Of these, only two would not have chosen to go on for degree training in any field if given the opportunity. We find that one's educational level becomes more important than his field insofar as his personal advancement is concerned.

5 Farming is a man's career. The age profile of East African countries is such that a youth from any of the more populated areas cannot expect to come into effective control of rural resources until middle age. Where polygyny exists, a son's mother will control the day-to-day farm operations of the homestead. To practice even the rudiments of modern farming, a farm youth must have more capital and land than his family can supply. He expects to have to leave home to earn money before marriage, and possibly again afterwards to get land and equipment. Only the poorest and most traditional families retain their sons "on the land." If a son returns to the land directly after schooling he will have to compete with three or four others for the small share that will be his at some distant date when his father dies. His situation makes for acute role conflict, in that a student qualifies as "adult" in the Western sense long before he can gain exploitation rights in his home community.[4] His difficulties are further exabercated if he lives where land registration has been carried out, which excludes minority and dependents' rights from claim (as exemplified in Kenya).[5] For the future progressive farmers in the high potential zones of East Africa, farming will come at mid-career after some other employment has furnished one with investment capital. Even then, many of the occupational tasks associated with the land (daily farm routines, etc.) are likely to remain under the supervision of a man's wife or mother. Farming becomes a woman's career, and a man's avocation.

6 That those who go into "modern careers" are permanently or even temporarily cut off from the countryside. The converse to the foregoing argument is the consequent fact that men of influence expect to retire from public life into farming. Few of those in "high level" occupations are so cut off from the countryside that they maintain no further connections. The government policy of frequent rotation in posting for all higher level personnel favours the practice of keeping up two homes, one where one "works" and one where one's

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[1] Cf. Olubummo & Ferguson, 1960, p. 32. African students who have gone to the U.S.A. for training have "switched" even more frequently.

[2] Maleche, 1962, p. 9. [3] Kamoga, 1964, p. 4

[4] Stanley, 1961, p. 34.

family lives. Throughout a man's salaried career he continues to direct the expenditure on farm enterprises; he may even manage a full-scale farm unit. In short, a salaried "occupation" by no means excludes a man from the need for agricultural knowledge--it rather helps him become a "gentleman farmer" who may derive more income from his farm than from his job! Ironically, of all types of posts the one where this pattern is most feasible is in primary school teaching. The primary school teacher is not likely to be shifted against his will, and his salary is so low that he must get extra income to keep his family in clothes and his chidren in school. Almost all primary school teachers who have any access to land are doing some kind of farming as well (hence the common accusation that they use pupils as "slaves" on their shambas).

7 That agricultural training should be concentrated in marginal areas and in new, non-academic schools. Actually, the marginal areas usually depend upon migrant labour for their cash incomes: they are the most difficult to convince of the benefits of advanced farming techniques. They are less likely to ask their children for advice on farming practices, and the children are in turn more likely to look upon education as a means of escape from rural life. The areas where schooling is still new are usually the ones that can employ all of the graduates as clerks and teachers--it is the older areas which begin to have a surplus of secondary students first. It is students in the long established academic schools whose parents are the more likely to have perrenial cash crops (coffee) and exotic cattle; by the same token, these students have better chance of continuing to University level in science subjects. The better schools and the wealthier areas are the ones who are most likely to produce professional agriculturalists and who are the more likely to need their advice.

8 That agricultural training in a school syllabus should be terminal in its orientation. Immediate entry into farming is the only reason discussed in the literature for giving agricultural training in the schools. This assumption underlies the insistence that farm schools and technical schools ought to be set apart from academic secondary schools, on grounds that their graduates pass en masse into direct employment. This conception of agricultural education completely neglects its most important functions, to wit: (a) giving a background of specialized information to those who will be managing farms at a later stage in their lives (as almost all men will be), (b) providing a realistic and attractive image to encourage science students to choose any one of some twenty different agricultural science professions as a career, (c) preparing teachers who will instruct in science subjects that overlap with agricultural science and could be used to convey a developmental impact. One also notes that no other subjects except for applied science subjects (agriculture and technology, for boys) are given solely for their terminal training value. We do not expect secondary students in geography to proceed at once into occupations as geographers--but we do not therefore demand the exclusion of geography from the curriculum!

9 That agriculture is a unitary subject. Discussion by educationists frequently under-estimates the diversity of topics included under the multi-faceted rubric of "agricultural sciences." These do not form a unit on the order of, say, European history or arithmetic, which should be either in or out of the curriculum. Included under the very broad tent of "agriculture" one has many types of specific knowledge: plant and animal genetics, entomology, plant and animal physiology, soil conservation, soil testing, ecology, population biology, mechanics, fluid mechanics, electricity, elementary statistics, farm accounting, agricultural economics, etc. Each of these fields are represented by separate professions, which cross-cut the traditional boundaries of the "pure" sciences. If differs from these in four

basic respects; (1) Within each sub-area, such as genetics, agricultural science is more specialized than the parent science (in the direction of local information), but as a whole the range of topics is much wider than those covered within any one parent science, (2) each agricultural science has immediate and objective points of reference to the local environment (plants, animals, pests, marketing organization, etc.), (3) the routine working procedures of agricultural science take place in the field rather than in the laboratory, and require greater elements of analysis and decision-making, (4) hence successful mastery of agricultural sciences requires the mastery of a diverse set of field procedures which are also of use in other areas of life. To do well, a student requires a higher order of problem solving abilities and general comprehension than are required for the mastery of, say, chemistry or physics or biology alone.[1]

10 That basic science instruction in any one or two of the sciences can be relied upon to have a considerable transfer benefit to those who become involved in agricultural activities at a later date. These days we read many recommendations by educationists to the effect that: "So far as agricultural training . . . is concerned, we believe that the right preparation in the secondary school lies within the basic sciences, particularly physics, chemistry, biology and mathematics."[2] In practice, the expected transfer does not take place. The men who have to interview applicants to the better agricultural colleges, such as Egerton College in Kenya, find that the majority of pupils are unable to relate their secondary school science in any meaningful way to a discussion of practical problems, either agricultural or mechanical. What reasons might be responsible for this failure?

(1) The specialized nature of agricultural knowledge in any one field. In each of the sciences as now taught in secondary school, the syllabus is more general than the agricultural syllabus in areas where they overlap. Science tends to be taught as a theoretical and descriptive subject divorced from the local natural environment; agricultural science must be anchored to its locale, and employs explicit analysis of the application of general principles. Thus science subjects have a low order of transfer into agriculture; but agricultural subjects can be transferred in their entirety to the various fields of the relevant parent science.

(2) Student attitudes towards what is relevant for examinations. Students have what is almost an obsession with the "relevance" of what they are taught. Their aim is to master a syllabus, not a subject. Standard examination practices, such as the publication of a syllabus in advance, bias the evaluation against measuring either one's mastery of the entire field or of working procedures. Where teach-

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[1] One must always remember that neither "farming" nor "agriculture" are, as such, unitary occupations. The categorization for either involves multiple criteria: we have extensive ranchers, truck-gardeners, traditional farmers, etc. on the one hand; and, on the other, veterinarians, soil scientists, experiment station research scientists, etc. The diversity is substantiated in occupational ranking tests, where "farming" as a label is given a high standard deviation in the scores. School students will react more favourably to "modern farming," and to "farm manager" than to "traditional farming"; they will also choose "veterinarian" above "agriculturalist". Cf. Foster, 1965, p. 270; and Xydias, 1955, p. 466. One is dealing here with a whole family of occupations, and the linguistic tag of "agriculture" becomes a source of distortion in our thinking about these professions. At a University level, a faculty of agriculture subsumes no less than twenty-two distinct and recognized professions! Towards some of them students attitudes will be very positive; towards others, more negative. There may be no "average"

[2] Kenya Education Commission Report, 1964, pt. I, p. 83.

ing of basic science is towards a syllabus which is set from abroad the developmental benefit of that science is destroyed. In School Certificate or general biology, the choice of whether or not one uses a cat instead of a pig and a lightening bug " instead of a weevil as specimens is fortuitous; in agricultural science, it is crucial. Similarly, students who spend their time in entomology identifying insects in the field will have difficulties in an examination based upon laboratory dissection even though the two activities are of equivalent intellectual difficulty. In short, the selectivity of a syllabus (and the consequent examinations) is of no intellectual importance in biology; but it is of utmost importance in agricultural biology.

(3) Teaching by demonstration is not sufficient to give students an active mastery over any field of science. Many of the less well endowed secondary schools in East Africa rely heavily upon demonstration methods for the teaching of science subjects. The examination system is unable to measure students' active mastery of their field, and so tends to perpetuate this kind of teaching. The failure of secondary basic science instruction appears only when students are put in contexts where they must perform operations or solve problems.

(4) As students progress into Higher School Certificate science subjects, they absorb the negative attitudes of their British expatriate teachers towards applied science in any guise. Is this being too strong? I think not: careful testing of fifth and sixth form boys' attitudes in England reveals a significant trend towards the choice of "pure science" professions:

> Evidence obtained for 1459 sixth-form boys (from 121 grammar and public schools) who had taken their "A" level science examinations in the summer of 1961 supports the popular assumption. It shows quite clearly that, to an extent quite unusual in other countries, boys from the top grades of our science sixths cluster in the faculties of pure science, while engineering and Diploma in Technology courses draw on the lower grades.[1]

Further, on the question of the "image" of applied science:

> It becomes clear from the boys' answers to the questionnaire and from the interviews that they believe that scientists are educated at universities and go on, if they are lucky, to do research: research, for them, is glamorous, "interesting," leading always to exciting new discoveries, is not really "work", and may well make one famous. Technologists, on the other hand, are educated in technical colleges, have low social prestige, are less intelligent and less well paid than scientists, and their work is often "boring".[2]

The Oxford enquiry concluded that the low image of applied professions appeared to be something uniquely British, shared in a lesser degree in Germany. National studies of students' and teachers' attitudes elsewhere reveal no such basic split in prestige and desirability between "pure" and "applied" science.

It appears that non-British criticisms of Higher School Certificate and University level training on the British model have been invalid. The real "villains" from the development standpoint are not, as is so often asserted, merely questions of "Science" vs. "the Arts." The more basic reason for the lack of developmental impact flows from the very image of what a scientist is and does. The received model puts a high prestige upon "basic science" and a low prestige upon "applied science." This is the root of the problems inherent in many of the professional training programs which draw their recruits from students trained in science at the HSC level.

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[1] Jones, 1963, pp. 239 - 240, & Hutchings, 1963, p. 240. [2] Ibid., p.242.

In conclusion, then, I should like to suggest a number of "working hypotheses" on the developmental impact of education. The survey which I have described will be able to test some of them, but much more work must be done before anything approaching "aswers" for public policy can be suggested. The one thing I have especially tried to accomplish in this paper is to make a case for more research, now. If further research substantiates only a few of the foregoing tentative opinions, it will be enough to contradict current recommendations which have been made by national Education Commissions. What one wants now is evidence, especially evidence for or against the following propositions:

1 The communities which rely upon migrant labour for income associate agriculture with security and poverty, whereas communities which have cash crops associate it only with lack of education.

2 That scores of student ranking of the prestige of agricultural occpations show a wide standard deviation, according to the criteria employed: traditional vs. modern, large vs. small, animal vs. plant science, etc.

3 That generally animal science has greater attraction for boys than does plant science, but that this attitude is variable between areas.

4 That students rely more upon school and mass sources of information about careers than they do home sources.

5 That only a few occupations exert the attractiveness of "vocations", among these being theology, teaching, law, and medicine.

6 That Asian parents exert greater pressure upon their children to follow certain careers than do African parents.

7 That girls rely more upon parental support in their choice of further training, and consider length of course and residence in their decision.

8 That for boys "city life" is less important than factors of income, interest, security, and promotional prospects in choosing a career.

9 That ability to continue with one's education takes precedence over all other factors in boys' choosing of further education or training.

10 That married students show greater attention to the vocational aspects of any training program.

11 That primary teaching, EACSO employment in fields like customs, and police are all occupations which are chosen for their security while students seek better alternatives.

12 That the use of a common language, such as Swahili, reduces the tendency for students to form friendship groups on the basis of tribalism.

13 That group cohesion among students as a whole is high becuase of a value placed upon achieving consensus in group opinions on many matters.

14 That racial differences exclude students from identifying with teachers as a "pull" into certain professions.

15 That African students do not generally try to work to please an expatriate teacher as much as Asian students do.

16 That students view preparation solely in terms of its instrumentality in passing the examinations, and not in terms of its usefulness to them personally in the future.

17 That students regard educational performance on examinations as the chief determiner of further personal mobility within education.

18 That lack of self-confidence in ability to do academic work is a problem for girls but not for boys.

19 That the career aspirations of primary school leavers are more realistic than those of secondary school leavers.

20 That cultural differences are less significant than educational differences in students' choices of careers and further training.

21 That students' willingness to return to farming is more influenced by home population pressures and family size than by land tenure.

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Facsimile Moris

APPENDIX I[1]

East African Staff College, EACSO
SURVEY OF EDUCATION & PRODUCTIVITY: TANZANIA
Secondary Students Schedule

This form is part of a larger survey studying the relationship between education, student attitudes, and nation building. Please fill it out carefully, because the topic is an important one on which little good information exists.

1. Background information

Your name . . . . . Your group or tribe: . . . . . .

Your age . . . . . Boy . . Girl . .(check which) Place of birth . . . . . .

Father's home . . . . . Where is your mother living now? . . . . . .

Number of years of father's education: . . . . . .

Your class in school: . . . . . Your religion: . . . . . .

Name of school: . . . . . .

2. General attitudes

Just about everyone has some idea of what it means to be a success in life. What do you think it means to be a success in life?

"To have education and good friends and have enough money to lead a good standard of living"

What are the necessities of modern life? "Education, cooperation"

What are the things people sacrifice when they live away from town? "Luxuries like cinemas"

What are some benefits of living away from town? "fresh air, food is cheap in the country"

What things make a man respected in life? "Co-operation, Personalities, Helpful"

3. Careers

In five years from now I hope to be: (complete) "a field Officer or Executive / Officer"

What job would your father like you to do? "A Docter"

What jobs would you yourself prefer to follow? "Information or Field Officer"

Do you think a son or daughter should follow a father's wishes about a career? "A son or daughter should follow the career he or she is interested in."

Do your parents expect you to return home after your education? "NO"

If not, what do they hope you will do with your schooling? "I will have a job which will benefit both the Public & my parents"

Here is a list of some jobs open to young people. Please check the boxes to show how you would feel about choosing each occupation for yourself.

	like very much	like	don't care	dislike	dislike very much
Policeman:	" ___,	" ___,	" ___,	" ___,	" " X
Secondary teacher:	" ___,	" X,	" ___,	" ___,	" " ___
Medical doctor:	" ___,	" X,	" ___,	" ___,	" " ___
Agriculturalist:	" ___,	" ___,	" X,	" ___,	" " ___
Businessman:	" ___,	" ___,	" ___,	" ___,	" " ___
Factory worker:	" X,	" ___,	" ___,	" ___,	" " ___
Modern farmer:	" ___,	" ___,	" ___,	" ___,	" " ___
Lorry driver:	" ___,	" ___,	" ___,	" ___,	" " X
Veterinarian:	" ___,	" ___,	" ___,	" X,	" " ___
Primary teacher:	" ___,	" ___,	" ___,	" ___,	" " X

[1] Questions are as given on the original questionnaire, but compressed slightly vertically to fit the page format. A sample answer is given to show a typical response, omitting the personal data which could be used to identify the respondent.

APPENDIX I, page 2

4. Attitudes towards Agriculture

Are you in favour of practical subjects in secondary school? "Yes"

Why or why not? "I enjoy doing things with my hands"

Which practical subjects do you think could be introduced into secondary school training? "Driving, carpentry"

Do you hope to farm later in your life? "Yes" If so, when? "After some years in public job"

What would you need to begin? "Capital & land"

What would you grow? "Vegetables" Where would you prefer to farm? "Kilimanjaro Region"

Is there anyone who relies on you help in daily work? "Yes"

for what kinds of work? "Advices for better farming"

Have you worked for money somewhere else? "no" What kind of job? "no"

What do you think an ideal farm should have: "contours, cultivating machines, water for irrigation"

Which of these do you think a farmer can achieve in your home area? "contours"

A farmer needs the help and services of many people to succeed; what are the most important ones? "labourers, customers"

What do you think are the farmer's greatest difficulties: "Water supply, Little capital, harmful insects, draught"

List some of the differences between progressive farming and old-fashioned

farming here in Tanzania (write a short essay): "A progressive farming fertilizers are used and irrigation is practised to the dry places while old-fashioned farming there is lack of manuring and crops always fail due to dryness. Old-fashioned, there is much soil erosion but modern farming contours are used and Rotuvian of crop is practised."

What things do you consider important in choosing your futhre career?
"A career must be well chosen to suit the interests of the one who is going to take it.
"In choosing a career I must first consider in which field of work I am interested in. Then what job I would like to have in that field.
"The post I will like to take and the kind of work is not enough for choosing a career. I then find out how many chances or is there any chance of that kind of post in Tanzania or not. I also consider the qualifications of the job to find out if I have the required qualifications.
"Lastly I consider the salary of the career or the fortune I will get from that career."

What would you do if you could not for some reason continue in school?
"I will become a bussinesman."

How do you prefer to spend your holidays? "Helping my parents in their farm."

Where do you stay during holidays? "Home"

How long should an ideal holiday be? "One and half months"

What are your greatest worries about the future? . . . . . .
(no answer)
. . . . . .

Moris

APPENDIX II

On all forms of the questionnaire:

East African Staff College, EACSO
SURVEY OF EDUCATION & PRODUCTIVITY: TANZANIA
Secondary Students, Form I & II & III

This form is part of a larger study of the relationship between education and nation building. It is not a test of your academic knowledge. Please fill the space after each phrase with whatever things it causes you to think of. First fill in the following background information:

(This section was the same as that already given on the preceding sheet, Appendix I, page 1.)

Variant sentence completion phrases:

(All four variants are given in the place where one variant appeared on each schedule. The order is as it was given, but, of course, the spacing and details of presentation different.)

1. (a) In five years from now I hope to be . . .
   (b) In ten years from now I hope to be . . .
   (c) In twenty years from now I hope to be . . .
   (d) When I am old I hope to be . . .

2. (a) Girls do not like to spend their time in . . .
   (b) Boys do not like to spend their time in . . .
   (c) Girls like to spend their time in . . .
   (d) Boys like to spend their time in . . .

3. (a) A clerk likes his job because . . .
   (b) A farmer likes his job because . . .
   (c) A farmer does not like his job because . . .
   (d) A teacher likes his job because . . .

4. (a) When the rains fail to come . . .
   (b) When the dry season comes . . .
   (c) When there is too much rain . . .
   (d) When it is too dry and hot . . .

5. (a) A house with mud walls . . .
   (b) A house with big windows . . .
   (c) A house with a tin roof . . .
   (d) A house with a thatch roof . . .

6. (a) My greatest worries are . . .
   (b) My greatest worries used to be . . .
   (c) My father's greatest worries are . . .
   (d) My mother's greatest worries are . . . (but placed in order 9th on questionnaire d)

7. (a) To do well in farming one must have . . .
   (b) Farmers do well if . . . (but placed 20th)
   (c) Farmers make a profit if . . . (placed 19th)
   (d) To make a profit in farming a person must . . .

8. (a) Poor people have . . .
   (b) Poor farmers have . . . (placed 7th)
   (c) Wealthy farmers have . . .
   (d) Wealthy people have . . .

9. (a) Boys prefer to marry girls who will work as . . .
   (b) Girls prefer to marry men who will work as . . . (placed 8th)
   (c) Girls don't like to marry men who will work as . . .
   (d) Boys don't like to marry girls who will work as . . . (placed 10th)

10. (a) A woman goes to Dar es Salaam to . . .
    (b) A man goes to Dar es Salaam to . . . (placed 9th)
    (c) A woman goes to Moshi to . . .
    (d) A yong man goes to Moshi to . . . (placed 11th)

11. (a) The new ways of doing things . . .
(b) The old ways of doing things . . . (10th)
(c) The Chagga ways of doing things . . . (15th)
(d) The Masai ways of doing things . . . (13th)

12. (a) To be modern a schoolboy must . . . (13th)
(b) To be modern a woman must . . .
(c) To be modern a schoolgirl must . . . (11th)
(d) To be modern a woman must . . .

13. (a) If someone has a thousand shillings . . . (15th)
(b) If someone has a hundred shillings . . . (14th)
(c) If I could have a thousand shillings . . . (13th)
(d) omitted by error . . .

14. (a) Parents want their son to go to school so that . . . (16th)
(b) Parents want their daughter to go to school so that . . . (15th)
(c) Parents who don't want their children to go to school . . .
(d) Parents want their children to go to school so that . . .

15. (a) A person prefers to live in the bush because . . . (14th)
(b) A person prefers to live in Chaggaland because . . . (13th)
(c) A person prefers to live in town because . . . (12th)
(d) A person prefers to live in Dar es Salaam because . . .

16. (a) If you need some money (12th) . . .
(b) If you need lots of money . . . (11th)
(c) If someone needs some money . . .
(d) . . . omitted by error . . .

17. (a)
(b) Sons tell their fathers . . . (21st)
A son will tell his father . . . (16th)
(c) A daughter will tell her father . . .
(d) Daughters tell their mothers . . . (16th)

18. (a) Other people do not respect a man who . . .
(b) To be respected a woman . . . (17th)
(c) To be respected a man . . .
(d) Other people do not respect a woman who . . .

19. (a) We study hard so . . .
(b) I study hard so . . . (18th)
(c) A schoolboy studies hard so . . . (7th)
(d) A schoolgirl studies hard so . . . (6th)

20. (a) The difference between an old fashioned farmer and a progressive farmer is that the progressive farmer . . .
(b) The difference between an old fashioned farmer and a progressive farmer is that the old fashioned farmer . . . (19th)
(c) The difference between a progressive farm and an old fashioned farm is that in a progressive farm . . .
(d) The difference between an old fashioned farm and a progressive farm is that in the old fashioned farm . . .

21. (a) A mother will listen to her daughter if . . . (17th)
(b) Parents will listen to their children . . .
(c) Parents ask their children about . . .
(d) A father will listen to his son when . . . (20th)

22. (a) During holidays I . . .
(b) When holidays come I like . . .
(c) A holiday is not enjoyable if . . .
(d) During holidays young people . . . (21st)

23. (a) What would be the happiest thing that . . .
(b) What would be the worst thing that . . .
(c) I would be so happy if . . .
(d) I would be so sad if . . .

24. (a) A doctor needs . . .
(b) A teacher needs . . .
(c) A farmer needs . . .
(d) A storekeeper needs . . . (17th)

25. (a) List what things you want in life . . .
(b) List what things you expect in life . . .
(c) List what things you fear in life . . .
(d) List what things everyone expects in life . . .

ACHIEVEMENT MOTIVATION AMONG THE CHAGGA PEOPLE OF TANZANIA.

JOHN OSTHEIMER

The purpose of this research is to explore the possibilities of providing economists with some more exact knowledge of the psychological factors involved in the process of economic development. For purposes of investment allocation priorities, economists, quite understandably, have concentrated on those factors for which the refinements of their discipline have provided adequate measuring tools.[1] Some economists have also pointed out the importance of social and psychological factors.[2] A few others, like Joseph Schumpeter, have attempted to explain the psychology of entrepreneurial behaviour, but they have done so with substantial trepidation.[3] In this field study in the Kilimanjaro Region of Tanzania, I have tried to apply known psychological research techniques to the question of Chagga achievement motivation. My aim is to achieve some methodological advances in the effectiveness of measuring achievement motivation. If tests were to be found that did effectively measure this variable, the results might be an important addition to the knowledge of both economic theorists and policy makers. Educational policy is an example of where such attitudes and their importance to economic development might add much to the planners' knowledge.[4]

Available testing techniques and modifications for this research :

One of the first tasks of this project was to see if any methods already exist that might help us examine the characteristics of the entrepreneur in African contexts. If appropriate measures were found, we might hope to be able, through quantitative analysis, to discover psychological reasons for economic differences between African peoples. We might find psychological explanations of why some are economic achievers while others are not.

To design tests, the social psychologist must start with some hypotheses about the personality traits in which the achiever will differ from the non-achiever. Do achievers perceive activities around them in different ways? Do they relate themselves differently to their environment? Physically, how do they move? Are their movements decisive and final, or imprecise? What is their

attitude towards time? Measures for all these questions have been developed and were considered for use among the Chagga. Attention was given to whether the tests that have been perfected are appropriate for research in Africa. Where they were considered to be inappropriate, modifications were made to bring them into line with African conditions.

Finally, after analyzing the available techniques, I decided to employ a battery of five tests, each of which would measure some particular characteristic where successful economic achievers might differ from those who have shown no significant entrepreneurial talent.

Thematic apperception as a measure of achievement motivation :

In the examination of entrepreneurship and economic growth, several writers have suggested certain psychological characteristics of the economic achiever. The need to achieve has been put forward as a crucial behavioral characteristic of the entrepreneur. For the concept to be meaningful or useful, methods must exist for the measurement of this acquired motive. It was to provide such a measure that the McClelland research group spent several years developing various tests of motivation levels. The feeling of the McClelland group was that motivation research, for which definitive tests had not yet been developed, should not rely on previous work relationg to "the other two main variables in contemporary psychological theory, namely, perception and learning".[5] Also, the research group felt that "motives might be best measured in phantasy", for two reasons. First, this method would differ from the measures already devised for perception and learning. Second, they are taking a cue from psychoanalysis, which had "found phantasy of immense practical value in developing the dynamic or motivational theory of personality".[6] Because one of the tests used for this study has been based primarily on the work of the research group, the McClelland Thematic Apperception Test for Achievement Motivation, some discussion of the group's decisions is necessary.

The research group assumed that a projective or semi-projective measure was necessary to quantify achievement motivation. Allport and others have questioned the basic assumption that

personality must be measured subconsciously. They call for more direct and straightforward methods.[7] Says Allport :

> The normal subjects tell you by the direct method precisely what they tell you by the projective method. They are all of a piece. You may therefore take their motivational statements at their face value, for even if you probe, you will not find anything substantially different. It is not the well-integrated subject, aware of his motivations, who reveals himself in projective testing. It is rather the neurotic personality, whose facade belies the repressed fears and hostilities within. Such a subject is caught off guard by projective devices . . . .[8]

On the other hand, some psychologists have found projective techniques of great value in getting below the surface of personality with "normal" subjects. Frequently they argue, more can be discovered even from the normal subject than he will consciously divulge. Leonard Doob has found the following situation in his research :

> Among the Ganda there was virtually no relation between the hostility expressed in reply to direct questions and that revealed by the TAT-type drawing. During the research, those people were officially hostile to the British who had exiled their king, but their reaction to the drawing confirmed the impression that they continued on the whole to be grateful to the Crown which otherwise respected their political system, which had brought great benefits to them, and which had prevented permanent European settlement by outlawing the purchase of land by Europeans.[9]

Doob's example applies to acculturation in a colonial context which, in a sense, as Mannoni[10] might argue, presents an "abnormal" situation. (In "abnormal cases", Allport did say that projective techniques are necessary.) Thus, while certain psychological abnormalities exist among the Baganda (the author is not trying to be ethnocentric), we would hesitate to say that as a people, they are generally "abnormal" or neurotic. We have admitted an important point. To assume that only neurotics are valid subjects for projective testing is to assume that all normal people are open books. For this study, no such assumption was made.

If any assumption is made in this research, it would have to be fairly stated as follows : Although with normal subjects projective and direct techniques may produce many of the same results, those characteristic which are most elusive may be, in motivational

research, the most important. To measure them effectively, one cannot rely on direct methods like interviewing and questionnaires, although these continue to be valuable for background information.

Because of these considerations, the tests used here are mainly projective. Direct methods were considered extensively, and a value test as well as a short questionnaire were used for this project. My feeling was that value-attitude questionnaires do not present as useful an instrument as some of the existing projective or phantasy methods.[11]

Most relied on in the past for the measurement of achievement orientation has been McClelland's Thematic Apperception Test (TAT), developed in the post-war years. The basic idea of this test, adapted from the original TAT perfected by Henry Murray, is that the subject is presented with an incomplete situation, for which he is asked to supply the details. This is done by showing a picture such as "two men standing next to a machine in a workshop", and asking for answers that depict what the subject thinks might be happening in the picture. The respondent is asked : "What is happening? What has led up to this situation. What is being thought? What will happen?" It is hoped that the respondent will take part in the phantasy by empathizing with one of the characters in the picture, and that his response will thus be a projection of his own personality. J. DeRidder has described the object of thematic apperception in the following terms :

> From the point of view of the TAT, perception is considered a key cite for the study of personality. Translated into psychoanalytic terminology, the act of perceiving brings the personality (the ego) in touch with the outer world (reality); the reaction of the personality to the world by its response to a given perception will be in terms of its mode of meeting the world (its ego-controls). The organism continually strives to maintain a balance between its inner needs (id impulses) and the demands of reality. In this task, the ego puts perception to use - the personal style of the ego (its perceptual attitude) being determined by the demands of the id impulses on the one hand, and the demands of reality on the other. The perceptual stimulus is adapted by the ego in terms of its particular ego-control or defence mechanism.....

> In this integrative, evaluative and interpretative process, the light energy of the reality perception is adapted and modified by the ego-controls of the personality. In other words, because the organism is always to some extent prepared by its ego-controls and is never randomly set, it not only perceives but, more important, it apperceives. 13

David McClelland, explaining the mechanics of his modification of Murray's TAT for an adequate measure of achievement motivation, wrote about the procedure :

> First the achievement motive was aroused in a group of subjects to see what its effect on behavior might be. In this way, we could avoid the mistake of assuming "a priori" that the strength of the achievement motive might be inferred simply and directly from some particular type of behavior. For example, actual achievement cannot be considered a safe index of the strength of the need to achieve any more than eating can be considered a safe measure of the strength of the hunger drive. . . .
>
> Instead, we need some more unique measure of the presence of an aroused desire for achievement. Ideally, of course, we might favour something like a "psychic X-ray" that would permit us to observe what was going on in a person's head. .... Lacking such a device, we can use the next best thing - a sample of a person's spontaneous thoughts under minimum external restraints, in short, of his waking fantasies and free associations, as already used by Freud. . . . 14

In order to measure achievement motivation, McClelland's group decided to employ "a sample of a person's spontaneous thoughts". During the first attempts at measurement, the subjects' achievement motive was aroused through exposure to some simple tests. They were then called upon to answer the TAT pictures. "But in fact", as McClelland noted,

> there were no differences in the frequency of various types of outcomes of the stories written under "aroused" conditions as compared with those written under normal conditions. So the outcome of the story, or of the achievement sequence in it, cannot be considered a sign of the presence of heightened achievement motivation, no matter how good an "a priori" case might be made for using it in this way. 15

The obvious conclusion to be drawn from these experiments was that the subject should be scored for his responses to the TAT under normal, or "unaroused" test conditions. "What the experiments had demonstrated was what channels peoples' thoughts turned to

under achievement pressure. But suppose a person's thoughts run in those same channels without any external pressure. It seems reasonable to infer that he has a strong "inner concern" with achievement."[16] This simplified test became the final form of the "McClelland TAT for Achievement Motivation," which, with some modification, was used in this project.

The TAT for achievement motivation has not been unanimously accepted as a valid measure. McArthur, de Charms, and Child, Frank, and Storm have attacked various of McClelland's hypotheses, as well as the test and scoring methods. Child, Frank and Storm conclude that "The overall quantitative score of achievement motive shows virtually no relation to the self-ratings of achievement tendency or of anxiety about achievement."[17] These authors concur generally with Allport's feelings, cited earlier. Commenting on the reliability of the group TAT, they note that it is lower "than one ordinarily hopes for even in group research instruments and is far lower than the reliability of self-rating questionnaires such as we have also used in trying to measure the same variable."[18] McArthur reported that in separate tests which he had performed to examine McClelland's hypotheses that the highly-motivated achiever will perform in certain ways in response to the TAT, fully half of McClelland's results were proven to be merely "artifacts of his experimental design."[19]

In spite of the many attacks on the TAT for achievement motivation, it remained an important part of the test battery used in this study. It was, in a sense, <u>because of</u> the criticisms that it was used.[20] If certain of the eight hypothesized responses to the TAT by high achievers did not correlate to high actual achievement, or to the other tests, some cross-cultural light might be thrown on the arguments between the "self-raters" and the projective testing school.

Any decision to use the McClelland test, however, was sure to open up a new area of problems, which are discussed presently. The adaptation of the TAT was a crucial part of the preparation for work among the Chagga.

Adapting McClelland's TAT for use in Africa :

The difficulties of applying most modern psychological techniques cross-culturally were stated in general terms by Simon Biesheuvel : "Western Culture, within which scientific psychology originated, has inevitably served as the frame of reference for the formulation of these hypotheses. As a result, psychological laws may lack universality."[21] While Biesheuvel's concern was with general psychological precepts, his fears are even more applicable to most of the tests that have appeared to provide raw data for psychological study. In discussing McClelland's test for achievement motivation, we have been considering a test designed in America, used for the most part under American conditions, with only several (non-African) exceptions. To what extent can such a measure be applied to African cultures? What alterations must it undergo?

As far as this student is aware, no attempt has yet been made to apply the TAT for achievement motivation to Africa south of the Sahara.[22] There have been, however, some efforts to employ thematic apperception with more general purposes in mind, and much can be learned from these examples. The problems of using the TAT technique in Africa run deeper than might be expected. Andre Ombredane, whose work involved explorations into some thirty psychological needs, created a set of seventeen TAT plates closely oriented to life in the Congo. He has stated several important reasons for his severe restructuring of Henry Murray's original pictures.

> In order that such pictures might be favourable for the projective result, the characters that they represent in context must be easy for the subjects who undergo the test to associate with the familiar figures in their environment, and with fantasy figures that may live in their imagination. This is why we thought that the material of Murray's Thematic Apperception Test, used in a white society, was obviously not suitable to the black society of the Congo, and that a modification made by Thompson for use with American negroes was not suitable either.[23]

Ombredane was obviously aware of one of the most basic difficulties to be encountered in Africa. That he was then able to solve these problems with successful TAT pictures has, however, been the subject of some question. Leblanc reports that she used some of the Ombredane pictures in research with the Katangese, and that many of her subjects were shocked by them.[24] Robert Levine's opinion

was that they were poorly drawn. Because extreme care is obviously necessary for TAT pictures to be successful, perhaps we must go back to the basic concepts in a search for correct method.[25] Ombredane's reference to Charles Thompson's work provides an excellent starting point for a glance at the evolution of the TAT from Murray's original test.

Thompson's problem, although obviously set in a different context, was similar in some respects to that faced in this study. "In any clinical situation where one is asked to evaluate members of a minority racial-cultural group," Thompson wrote, "the validity of an evaluation standardized on another racial-cultural group is questionable. Specifically, can any test standardized on a "white" cultural group be validly utilised to test a similar factor in a "negro" cultural group?"[26] Thompson had noticed that results among American negroes who had taken Murray's test did not seem to produce any useful or explicable trends. He also felt that the Murray TAT "was based upon the assumption that identification would be greatest when there existed the greatest number of symbolic elements common to the preceiver." He then presumed that "if negro figures were substituted for white figures the identification would be increased for negro subjects or patients." After scrutinizing the results produced through the modified pictures, he concluded : "Apparently there is more opportunity for closer and freer identification when pictures of negroes are substituted. . . . "[27]. The first and perhaps the most crucial factor in modifying the TAT for cross-cultural duty, the racial factor, was thus solved by Thompson. Without empathy, or the ability of the respondent to identify himself in the scene depicted in the TAT by actually placing himself in the role of one of the characters, any response may be limited to mere description. Without the prospect of racial identification, the hope of achieving more than a descriptive response is indeed slim. Racial coincidence is, however, only the first of the factors to be taken into account for Thompson's final dictum : Identification is likely to be greatest when the pictorial material reflects the culture of the individual."[28]

Lee, in a study of South African Bantu dream content, created a set of twenty-two pictures, especially designed to represent not only Bantu people, but also a South African environment. Because of the nature of his research, the pictures are not of great use for a study of achievement motivation, but among Lee's written notes are some very pertinent warnings. He recommends that the TAT be given by African administrators, in the vernacular. Also, he stresses the necessity of being intimately familiar with the subjects' culture as a prerequisite for being capable of interpreting the tests.[29] As Robert Levine has commented, "One can easily imagine a psychologist who lacks knowledge of the culture and who has not interviewed concerning sources of the plot making incorrect interpretations of such responses."[30] Lee pointed out that the examiner must be able to recognise folk tales and traditional fantasy characters of the particular culture in order to be able to sort out community folk lore from an individual's personal projective reaction.

Like Ombredane and Lee, E.T. Sherwood has designed a [illegible] with Africans. His efforts among the Swazi have contributed importantly to the body of experience from which we must draw, particularly because he was designing pictures for specific purposes, rather than for general psychological examination. Sherwood cites two different approaches to TAT picture design; "spontaneity-first", where generous and spontaneous fantasy are considered the most important result, and the "area-first" approach, where "the designer is primarily concerned with achieving pictures each of which evokes fantasy relating to a specific area of personality or particular social relationship, and only secondarily with the volume and spontaneity of the fantasy elicited."[31] Sherwood's distinction between the two approaches was important for the purposes of this project, because Sherwood's desire, like my own, was to measure a particular area of motivation. His conception of the "area-first" method is well depicted by the following passage from his work. He chose

> . . . to regard a TAT picture as a question addressed to the subject - addressed both to his conscious and to his unconscious mind. Seen in this way a TAT series is rather like a questionnaire. . . .

> The formulation of the question posed by an individual picture is accomplished, then, not in words but by the selection and arrangement of pictorially represented symbols. Thus a picture in which an older woman and a young man are represented is received by the subject's conscious mind as "What kind of story can you tell me about an older woman and a younger man?" Received by his unconscious mind, it could be phrased, "What can you tell me about your relationship with your mother?"[32]

Biesheuvel has expressed doubt about the usefulness of Sherwood's research for definitive test-designing in cross-cultural contexts.[33] However, some of the general criteria introduced by Sherwood for testing Swazi culture and personality changes are useful as guideposts for research in other parts of the continent. Regarding the sharpness or clarity of the images in the TAT pictures, Sherwood said, "In general, the images of which each picture is composed must be defined neither with a sharpness sufficient to simulate reality nor with a vagueness sufficient to render the identification of the content uncertain."[34] Between these extremes, he stressed, considerable latitude was possible.

The pictures must involve an incomplete situation. Each picture should be designed so that "while it tends to evoke associations bearing upon a particular topic or theme, its content and the situation it suggests will be incomplete to a degree such that the subject, in elaborating his response, will be obliged to exercise his imagination and creative facilities and thus to reveal something of his inner self."[35]

Obviously, the TAT must be interesting to the subject. "The series as a whole must offer to the eye of the subject an impression of contrast and variety, with a view to engaging and holding and interest."[36] As Ombredane had done, Sherwood stressed the necessity of making the human figures recognizable to the subject as members of his own cultural group. "They must exhibit the subjects' characteristic physical traits, their clothing, hair styling, ornaments, etc. . . ."[37] Naturally, physical environment must also be familiar to the subjects.

Most crucial is that the picture as a whole must be easily assimilable in its symbolism, gestures, activities and overall appearance. "These symbols must be so selected and presented as to facilitate the reflection of unconscious processes, especially in their relation to the infantile stages of personality

formation."[38] In considering the capacity of African subjects at less acculturated stages of development to assimilate TAT pictures, some of the past discussion on depth-perception is of interest. Hudson has argued that tests demanding three-dimensional visual interpretation are dangerous in certain conditions. In many cases where three-dimensional art is not well developed, subjects will tend to interpret two-dimensionally. Thus a picture showing a man in the foreground and an elephant in the distance might be wrongly interpreted as "a man with a baby elephant," or a "giant man and an elephant." This particular possibility would appear to be less important among the Chagga, who have been exposed to missionary education and other forms of modernization for decades, and for whom three-dimensional interpretation should not be difficult.[39] The warning made by Sherwood, if put in general terms, is, however, not inappropriate for anyone doing testing in Africa. Biesheuvel has perhaps stated it better for our purposes :

> Preliminary investigations indicate a profound unfamiliarity with the conventions of graphic representation, even among fairly well educated Africans. The rules of perspective drawing are not understood.[40]

Frequently, Biesheuvel pointed out, details in a picture are mis-interpreted. Ordinary forms of representing a face or a type of posture might be misunderstood, and might even suggest mutilation, blindness or disease. Usually, adequate educational levels are sufficient to dispel these problems with the TAT. But as Hudson noted in his South African research :

> School-going samples saw predominantly three-dimensionally, the others almost entirely two-dimensionally both in outline drawings and on a photograph. The hypothesis that their dimensional perception was an artifact of test construction was rejected. Formal schooling and informal training combined to supply an exposure threshold necessary for the development of the process. Cultural isolation was effective in preventing or retarding the process, even in candidates possessing formal education of an advanced level.[41]

We have now compiled a set of criteria for developing a TAT for use in Africa, employing the research of scholars who have had experience with these and attendant problems in African contexts. The necessity for such an intensive examination was brought about, of course, by the tremendous differences between African cultures and those in which the tests originated. The next step was the

creation of appropriate pictures for this research, without changing the basic design of the McClelland TAT. Four pictures were eventually produced, and were scored according to the McClelland "Scoring Manual for the Achievement Motive,"[42] but with one modification.[43] 932 Chagga Secondary School students took the test.[44]

Results of the TAT :

As soon as the scoring for the TAT was completed, inter-scorer correlations were analysed, and some policy decisions were made.[45] In the first place, TAT plates 1 and 2 seemed to show sufficient achievement motivation elicited in the stories to be useful for research, while plates 3 and 4 definitely did not.[46] The most plausible explanation for this seemed to be that the first two were photographs, the second pair, drawings. The subjects may have been less able to empathize with characters they saw in the drawings. For this reason, I considered the results from TAT plates 3 and 4 to be much less reliable than those from the first two pictures. Another reason also contributed to this decision. The inter-scorer check disclosed that agreement on the results of the second pair of plates was not high enough for reliability in comparison with the other tests given to the subjects.[47] Pictures 3 and 4 were, therefore, discarded fro the cross-test comparative analysis.

An encouraging result from the two pictures that were used, aside from the high inter-scorer correlation, was the significant level of agreement between the results of the two plates.[48] Whatever the tests were measuring, there was consistent correlation between the results of picture 1 and those of picture 2.

A non-verbal measure of achievement Motivation : Graphic Expression

Among the psychological characteristics of the economic achiever which may distinguish him from those of lesser motivation are his physical actions. How does he do things in a physical sense' Does he move rapidly or slowly, carefully or recklessly?

An ingenious method of measuring these behavioral styles was created in the early 1950s by Elliot Aronson, a student at Wesleyan University. Aronson's primary concern was to find a measure for achievement motivation which did not depend on verbalisation. The void Aronson attempted to fill, as the reader will easily appreciate from his opening statement, obviously pertained to my project. His solution occupies a crucial place in the research carried out during my study. Aronson wrote in the beginning of his article :

> Although the achievement motive has proved to be a useful concept in the prediction of a variety of behaviours, the verbal nature of the measure has rendered it difficult to apply to such problems as the need for achievement in young children, in certain extinct civilizations, and in many contemporary cultures. It has not been feasible to measure achievement motivation in young children because it is difficult to get them to write connected stories. Many ancient civilizations are beyond reach simply because they have left little or no written material which can be examined for the presence of achievement imagery. Differences in semantics have made it difficult to standardize the measure cross-culturally, and thus, the measurement of achievement motivation in cultures other than our own has not been practicable.[49]

For another reason, a non-verbal measure of achievement motivation was useful. Aronson noted the possibility of highly achievement-oriented subjects who might not score well on the verbalized TAT because they suffer from special inhibitions when expressing achievement imagery. This problem might easily apply to subjects with anxieties about possible failure to achieve. Other scholars[50] have questioned whether anxiety about failure actually qualifies as "achievement motivation", but we can nonetheless readily conceive of more general situations where someone with high achievement motivation might be less able to verbalize fantasy <u>of any type</u> as well as his less motivated colleagues. The beatnik poet, for example, might through sheer volume of images produce a higher achievement-related result on the TAT than a person less capable with words, but with higher achievement orientation.

Aronson decided to employ the study of expressive "doodles" as his non-verbal method of examination. He drew on A.H. Maslow's Motivation and Personality for his precept that "Expressive behaviour has been considered more indicative of the underlying personality structure (i.e., less conscious, less situationally influenced) than problem solving or coping behaviour. Thus it seemed particularly well suited to our purposes."[51]

Aronson employed two abstract designs composed of "basic scribble patterns" which have been classified by Rhoda Kellogg.[52] These designs are presented to the subjects, who are asked to "reproduce" them on paper. Since the designs are exposed, for less than two seconds each, any exact reproduction would be impossible. Therefore the subject draws what he thinks was there. More precisely, the respondent draws not what he sees, but what he knows. As Aronson described his method and its principal result,

> There were no particular hypotheses concerning the relation of n Achievement to graphic expression. The design of this study was to discover empirical relationships between n Achievement and various modes of graphic expression, and then to test the validity of these relationships in several cross-validating groups..... the drawings of the 13 subjects above the median n Achievement score and of the 13 below the n Achievement score were segregated. A content analysis was then performed, i.e. the drawings were carefully examined for differences between the "highs" and the "lows". The major distinction perceived was that the drawings of the "highs" contained a preponderance of single, unattached, discrete lines, while those of the "lows" seemed more overlaid, fuzzier.[53]

Other secondary correlations of high achievement motivation with particular forms of graphic expression included the following : "Highs" tended to draw doodles 1) using more of the space provided and leaving smaller margins, 2) containing "more diagonal configurations", 3) showing more "S-shaped (two directional, nonrepetitive lines)," and drawing "less multiwave lines (lines consisting of two or more crests in the same direction)."[54]

Although Aronson's experiments seemed objective in method, (no preconceived hypotheses about the predicted response of high achievers dictated the choice or structure of his designs), another problem, admitted by the author, casts doubt on the validity of the measure. ". . . We are forced to validate our measures on the

basis of their correlations with "n Achievement",[55] which is admittedly an imperfect measure".[56] Concerning the discrepancies that do exist between the graphic and verbal measures, Aronson offers the following conclusions :

> That the correlations are for the most part significant is a strong indication that the graphic expression test and the n Achievement test are measuring roughly the same thing. That the correlations are not larger than they are may be caused by the fact that the measures of graphic expression are not inhibited by anxiety the way the verbal measure may be.[57]

Through this test of graphic expression, we have some measure of the characteristics of peoples' motions. The results can be recorded and studied at the examiner's leisure, an important convenience in field research, which can be hindered by hasty examination of results while tests are in progress. From Aronson's tests, we may have some indication of how achievers behave, at least in America. "The drawings of the "highs" suggest motion, are non-repetitive, unrestricted in space, and economical in movement; those of the "lows" seem to be immobile, restricted in space and redundant in movement".[58]

With some modifications, Aronson's hypotheses and scoring systems for doodles have been applied in some ingenious, though questionable, historical analyses. Examining the designs on representative ancient Greek vases of the periods of rise, climax and fall of Greek civilization, Aronson correlated the two variables. Reviewing his results, McClelland concluded that "the signs of high n Achievement are most frequent (more diagonal and S-shapes, less unused space) in the period of growth and significantly less frequent in the period of climax".[59] He deduces that the evidence of high achievement orientation before the climax of culture indicates a causal relationship. High achievement led to cultural and economic floration, or at least was part of the group of forces stimulating cultural and economic growth. In explanation, McClelland noted :

> In case the findings should appear too mysterious or at least too flatly empirical, it is fairly easy to give them a reasonable interpretation. The designs the persons with high n Achievement makes are not completely meaningless : what they suggest is that in movement as in everything else, he is energetic. . . and likes variety or tends to innovate . . . .Furthermore, the functional similarity between painting vases and making doodles is greater than one might at first suspect. The artist is as free as the "doodler" in many respects to make whatever designs he likes.[60]

A similar analysis was performed by McClelland, Lathrap and Swartz, with Peruvian funerary urns. Because of the poor distribution of the sample materials over the 1500 yr. period studied, and their probable incompleteness, not too much should be claimed for the results of this study. The general conclusion that emerges does second the Greek results. During the period considered, the n Achievement curve begins at rather high levels, but then pottery designs begin to show less achievement orientation. The high level of achievement motivation during the beginning of the period "is succeeded by the slow growth of civilisation in the area. . . . The n Achievement curve has in the meantime, as in our other cases, been showing a slow, but steady decline. . . ."[62] Thus the authors intimate, similar studies may show that high points in civilisation and culture have regularly been preceded by high levels of achievement motivation.

Another study, of adolescent boys in four contemporary societies, has contributed mixed impressions of either verbal or graphic expression testing, as well as knowledge of the tremendous problems to be faced in cross-cultural research. McClelland's conclusions about this four-country project were that "as far as India was concerned, it was clear that the verbal n Achievement measure would have to be used. However, for Japan, Germany and Brazil, the graphic expression measure "yielded far more significant relationships in accordance with theoretical expectations based on research in the United States."[63] Unfortunately, as McClelland explained, the results were clouded by great disparities in examination conditions and procedures.

A solution to these many and varied difficulties in cross-cultural testing, and to the more general question of which measure, verbal or graphic, is more appropriate, was to try both among the Chagga. Two most important considerations began to emerge during the background study for this project. In the first place, I began to feel that the usefulness of cross-cultural measures will only be really proven by rigorous compliance to test instructions. Subjects in one society should receive no greater hints as to how they should respond then those in another. The test conditions should, if at all possible, remain unvaried.

At the same time, as some of the discussion in this paper has demonstrated, there are problems in Africa which can only be solved by the use of African assistants to give the tests, thus eliminating racial differences between tester and respondent. Also, tests must be redesigned so that they conform closer to the environment of the subjects. If these antithetical factors can be resolved, valid cross-cultural tests may result, but the dilemma of cross-cultural testing is obvious. The doodle test, it was hoped, would circumvent many of these problems.

Results of the Graphic Expression Test :

Like the TAT results, analysis of the doodles left the author with mixed feelings.[64] In comparing the two designs elicited from each subject certain features showed high correlation. Those students who utilised most of the available space on the first drawing, also did so on the second : those who "saved" space were likewise consistent.[65] Although not as high, there was correlation in the predicted direction for the discreteness-fuzziness variable.[66] Regrettably, there has not been enough time to analyse the results of the multiwave line, S-shaped line and diagonal configuration, other variables put forth by Aronson as possibly significant in relation to achievement motivation.[67]

Achievement Motivation and Colour Preference :

In unravelling the psychological attributes of the economic achiever, another pertinent factor emerges. Unless we attain some understanding of it, the secrets of "why entrepreneurs are different" may continue to elude us. This characteristic is the relationship of the individual to his environment. In the succeeding section, we will examine the achiever's attitude toward time as part of the environment. In this section, we will focus on the psycho-visual environment. How does the entrepreneur see the world around him?

In a 1959 article, Robert Knapp and Helen Green referred to the higher achiever as one who is "fundamentally committed to playing an active role with respect to his environment. He looks upon his environment as something to be managed and manipulated, and upon himself as the executive or manipulator."[68] Here the

achiever is "looking at" his environment only in general terms. What, we might ask, does he actually "see" in visual terms? All of us live in an environment of colour and shape. Ordinarily, we see a range of colours including brown, green, blue, gray and tan as we look across the land. These are environmental colours. Koffka spoke of "ground colours", and another Gestalt psychologist, Liebmann, referred to them as "soft" colours.[69] As Robert Knapp explained, a soft colour "holds form poorly, is malleable, and is a preferred "ground" colour." Hard colours, on the other hand, or "figure" colours are red, yellow and other bright colours. Red, as an example, "resists perceptual distortion, and imposes itself as figure in the perceptual field."[70] Because of these relationships of the two types of colours to the environment, Knapp proceeds :

> We may now tentatively assert that the preference for somber bluish tartans and the dislike of red by individuals with high n Achievement follows. For such persons require that their environment be "soft" while they are "hard"; they wish to exert their will effectively - to manipulate, not to be manipulated. They will seek a "passive" environment and eschew strong, intrusive stimuli.[71]

These are not entirely new arguments, merely Freudian interpretations of phenomena that have been observed before in less psychological terms. Oswald Spengler's "Faustian will" colours were blue and green, the colours of the distant environment, while red and yellow were "near" colours, competing with the individual himself.[72] As McClelland has pointed out, Spengler's Faustian will "has a strong power component." But he added "it still seems reasonable to infer that the person with high n Achievement might prefer colours like blue and green which he can "act on" as background, so to speak, as contrasted with reds and yellows that act on him."[73]

Knapp cites several examples from history to substantiate the theory; northern Europe's Protestants as opposed to Mediterranean Catholics, Puritans as different from the Cavaliers.[74] McClelland goes further, citing an American example. Of the flags from the northern states, "where the Puritan tradition was strong," 21 are mostly blue-green, while only two are predominantly red-yellow.[75] Among Southern state flags, six are blue-green and nine are red-yellow.

Of course, the further we searched through history, the more examples we could find to substantiate this evidence. Equally likely is that we would find many exceptions to disprove it. To raise the subject from the level of coincidence and conjecture, Knapp created a colour preference test which could be correlated to other measures of achievement motivation. Because the test used in this study owes its general nature to Knapp's measure, his "Tartan test" will be briefly outlined at this point.

Knapp's "Tartan test" bears certain resemblance to his "Time-metaphor test" which is discussed below. In both tests, a choice is presented which is composed of examples that are "controversial." In other words, the test materials include only choices for which there is no general agreement as to whether an object is "good" or "bad". As Professor Knapp reported, earlier efforts to use paintings failed because of the subjective nature of the examples. In a test that involves projection, it is desirable that the subject not be entirely aware of the nature of the response being elicited from him. Nonetheless, the subject's choice must be primarily determined by the particular psychological characteristic being tested. Paintings were thus unsuitable because of "object identification, variation in technique, size and shape", which created a choice dictated by criteria other than colour.[76] Scottish tartans, to which Knapp finally resorted, suffered from few of these distractions.[77] The test is described as follows :

> . . .30 tartans were selected out of the 200 represented in Bain's The Clans and Tartans of Scotland (London and Glasgow : Collins, 1954). This was accomplished in the following manner. Initially, all 200 were examined, and from this number 48 were selected, including a wide variety from which patently unattractive or repetitious specimens were eliminated. These 48 tartans were then submitted to 40 judges, who arranged them into six categories according to preference and general appeal. Then the average ranking for each tartan was computed, and the nine most popular and the nine least popular were eliminated. This left 30 highly varied "controversial" tartans . . . .[78]

The results of preference tests using these remaining "controversial" tartans were than correlated to achievement motivation scores by the same subjects on McClelland's verbal TAT. At first, the low significance of correlations, ranging only from .18 to .20 with the TAT results, seemed discouraging.

But when Knapp looked at the characteristics of the ten tartans that correlated with high achievement motivation, and of the ten that correlated negatively, he "found some clear differences in stimulus properties which cannot be ignored and which quite surely cannot be explained as a chance deviation from a null relationship."[79] How did the ten positive tartans differ from the ten negative ones? "First and most obvious, the positive tartans are almost uniformly somber while negative tartans are almost uniformly bright. This impression is immediate and overwhelming."[80] Seven of the tartans correlating negatively with achievement motivation scores were "dominantly red, while among the positives only one could doubtfully be so described."[80] The final conclusion to emerge from Knapp's study brought out colour as the important variable.

> It would appear that this chromatic difference constitutes the most significant basis for separation between our two groups of tartans, and that preference for red is consistently associated with a low n Achievement while preference for blue is associated with high n Achievement. The examination of other features of stimulus quality, such as fineness of texture, symmetry, etc. do not yield decisive further findings .....[81]

Thus, according to Knapp, the choice of tartans relates to one's achievement motivation. In the case of "high achievers, their choice of somber tartans reflects a particular "ego strategy." They follow "a general policy of pursuing well-being through adopting an active manipulatory role with respect to the environment."[82]

For the researcher approaching field work in non-Western contexts, Knapp's work leads directly into questions well-known to readers experienced in problems of employing Western tests cross-culturally. The medium employed as a setting for any projective test is tremendously important to the results. Colour is usually associated with a particular context. The sea is blue-green. A Western businessman's suit is usually gray or brown. Knapp's problem was to find a medium which would be subjectively acceptable in <u>any</u> colour, thus making the subconscious colour choice the crucial variable. Tartans would indeed seem to fulfill this requirement, unless some knowledge of and personal feelings about particular clans and their tartans interfered with the projective colour choice. (For example, the Tartan test might prove invalid in Scotland). Furthermore, as was noted above, some attempt was made to eliminate non-controversial tartans.

Are tartans then applicable cross-culturally? McClelland warns "Previous research has tended to emphasise that colours mean different things in different countries; what seems lively to Spengler, the colour for "noisy hearty market days and holidays' may be the colour of other-worldliness, withdrawal, and holiness for another people ..... Is it really likely," asked McClelland, "that people with high n Achievement would be attracted and repelled by the same colours the world around?"[83]

To answer this question, he attempted to correlate colour preference with the results of the graphic expression test cited earlier. In making their doodles, subjects were given sets of blue, green, red, and yellow pencils. Since the stimulus designs used in the four-country graphic expression test (see page 16 above) were black on white, colour choice was entirely up to the subject.[84]

The results of the colour analysis then performed correlated significantly with graphic expression as a measure of achievement motivation, but only slightly (.05) with thematic apperception as a measure. Colour and achievement motivation correlated positively "in all four countries and significantly so in the predicted direction for three of them." McClelland then felt confident to say that the results "yield the inference that on a world-wide basis there is highly significant tendency for subjects with high n Achievement to prefer blues and greens over reds and yellows." He goes on to add :

> Apparently, so far as such fundamental distinctions as the "figural" quality of red and the "ground" quality of blue and green are concerned, one need not be a complete cultural relativist and hold that it is equally easy for people to see these colours one way as the other. Instead, the simplest interpretation of the significant results is that blue and green are universally perceived as less "intrusive" than red and yellow, and that subjects higher in n Achievement prefer them for this reason .[85]

The trouble with all this evidence, as McClelland himself admits, is that history holds many examples of entrepreneurs who were not and are not particularly "ascetic" in the sense that Max Weber talked of in connection with the Protestant ethic. What about the Japanese, Indians, Lebanese, Goans and others, either living

outside or having been forced out of their own culture, who don't conform in many ways to Weber's norms? To clarify this conflict, McClelland calls for a change in the definition of "asceticism" from its emphasis on morality to an emphasis on psychology. Rather than a moral sense of renouncing pleasures, or denying "libidinous impulses in the interest of maintaining a completely rationalised social and moral existence," we should consider asceticism in terms of "avoiding intrusive stimuli; so that one may act on rather than be acted upon by the environment."[86] If we were to think in these terms, asceticism "may more nearly universally characterise entrepreneurs."[87]

We are somewhat hesitantly assured by this point that colour preference may be indicative of achievement motivation cross-culturally. In the Tartan test, we have a possible tool ready for use. Other considerations still exist, however, which dictate caution. Frequently, observers have noticed that agriculturally, architecturally and in other practical contexts, basic design among traditional African peoples is not often rectilinear. The groundplan and other features of Zimbabwe serve as a famous example. Psychologists have also noticed this phenomenon, and have statistically measured it in some ways. Using a rotating window frame viewed from an angle, Alport and Pettigrew found that optical illusions of certain types were perceived more frequently by "urbanised acculturated" Zulu children. Other Zulu children, less influenced by westernisation, "whose own culture is virtually devoid not only of windows, but, to a surprising extent, of angles, straight lines and other experiential cues," reported seeing "trapezoidal" illusions less frequently.[88]

Should this Zulu example deter us from using rectilinearly - designed test materials among any Bantu? The authors of the Zulu study admit that those South African peoples represent the "most spherical or circular" of African cultures. Given a modern plow, they are unlikely, at first, to plow a straight furrow.[89] In a test situation among the Zulu, subjective inability to accept or comprehend the tartan design might jeopardize subconscious colour choice as the crucial variable. In this case, we would have an example of the psychologist unwittingly substantiating predetermined hypotheses, something for which he must constantly be on his guard.

Westernised Zulu, who are more likely to be economic innovators in the money economy, would be also more likely to understand the test's rectilinear forms, and respond better to it!

For the purposes of the present research, I felt that the Chagga, highly exposed to the money economy and extremely "progressive" in comparison with their neighbours, would have little trouble with rectilinear designs. For that reason, a form of the tartan test was employed.[90]

Awareness of Time and Achievement Motivation :

No effort to isolate the psychological characteristics of the economic achiever can neglect his attitude toward the passage of time. How aware of the importance of time is the high achiever? Does he watch time closely, concerned that minutes are continually slipping past; hours that will be gone without appreciable result unless he employs himself and his resources as productively as possible? Robert Knapp and Helen Green have written about this question :

> Anthropologists again and again have spoken of the distinction between the acute time awareness of industrialized Western man and the obliviousness to time which characterize many non-Western and primitive peoples. We believe that one of the most striking features of Western civilization has consisted in the manner in which it has come to manage and measure time. Upon this skill, much of the development of modern industrialism depends.....91

There have been some attempts through psychological research to discover the relationship between achievement motivation and attitudes toward time. McClelland asserted that individuals with high achievement orientation are more apt to organise their affairs carefully to take advantage of time. They are more likely to anticipate with greater accuracy and consistency the success of future goals. Generally, achievers are more adept at time measurement. In producing his thematic apperception measure, McClelland was to take these presumed attitudes into account as influencing the responses of the high achiever by scoring for the presence of time awareness in TAT results.

More recently, a number of ingenious tests have been devised, notably by Robert Knapp. Knapp and Garbutt's "Time-metaphor test" is an attempt to measure time orientation indirectly by eliciting a preference for certain time-influenced poetic phrases rather than some others. A basic assumption about the nature of the highly motivated achiever forms the foundation of their test. They assume :

> that individuals with high need for achievement are basically committed to an "ego posture" characterized by a desire to manipulate the environment. As such, it is a matter of ego strategy to look upon the environment as the material upon which it may work its will. We might anticipate, therefore, that persons with high n Achievement would have an acute awareness of time as a medium in which achievement might be realised, that time would be deemed more than usually precious and that time would therefore be viewed as moving rapidly.[92]

Differences in time orientation between developed and under-developed countries serves as a guide, on a large scale, to these arguments. E.T. Hall has pointed out that very great disparities exist between time orientation in the United States and in most poorly developed countries. Time is seen as something tangible in the United States, a commodity that can be manipulated to the advantage of its "owner." Americans are more likely to consider time "valuable." From Hall's description comes a general picture of the entrepreneur's attitude towards time.[93] McClelland compares "entrepreneurial spirit" with the actions of Hermes; off and running in search of Apollo's cattle as soon as he was born![94]

If these attitudes towards time are representative of general characteristics of entrepreneurs, there should undoubtedly be value in their measurement. We will consider several studies, which mainly have been carried out under American conditions, and have attempted to correlate time orientation to achievement motivation. Green and Krapp demonstrated that subjects who score high in achievement motivation on the "aesthetic preference" or "tartan test" also tended to recall past events, like the Korean War, as having been closer to the present. Those subjects with low subconscious concern to achieve in the "aesthetic preference" test, (those who had preferred active coloured tartans) tended to recall past events as more remote than they actually were. The same subjects were all then asked to guess how long a moving point would take to reach a certain target after it was hidden from their view. Those who had shown high achievement orientation on the "tartan test," and then also had under-estimated the passage of time since recent historic events, were in most

cases the same persons who guessed that the moving point would reach the target before it actually did. Time passes so rapidly for this "high achievement-orientation" group that the future is "upon us before we know it."[95]

In another experiment, Knapp and Green related high need to achieve to the ability to maintain close awareness of time despite serious distraction. They "present evidence that individuals of high need for achievement show a distinctive pattern of performance when required to judge equal intervals of time when listening to distracting musical selections." From these tests, the authors concluded, "Probably individuals of high achievement motivation are resistant to these solicitations of music and are more strongly committed to the maintenance of the executive functions of the ego, of which one is the judgment and measurement of time."[96]

By employing a questionnaire composed of 23 "attitudes toward time" to another group of subjects, to whom the "aesthetic preference" test had been previously given as a control, Knapp was able to isolate certain attitudes toward time that seemed to be interrelated. A factor analysis showed that one cluster of attitudes, preferred by those who had scored high in achievement orientation on the control test, was characterized by the following feelings :

> annoyance "to find your watch has stopped or does not run properly."
>
> guilt feelings "if you sleep late in the morning."
>
> feeling that "you waste the time or spend it uselessly."
>
> feeling anxious "when you are not certain of the time."[97]

Still another study of time attitudes in the United States has been made, "employing ratings of the concept of time on dichotomous adjectival scales." Individuals who had scored high on other achievement motivation tests preferred to characterize time as "clear, young, sharp, active, tense, fast." Weakly motivated achievers preferred to think of time as "empty, soothing, sad, cold, deep."[98]

Several other tests have been given in the United States, Trinidad and Germany, measuring the length of time perspectives and involvement, and the ability of subjects to delay gratification, choosing a larger reward later instead of a small reward immediately.[99]

For the purposes of the present research, where a wide sample was to be tested, and time orientation was only one measure for which quantification was needed, it was necessary to choose a simple and short test. A second consideration, even more important, was the desire to employ a test which could be used cross-culturally. The "time metaphor test" mentioned previously in this section, was chosen. Perfected by Knapp, this test was designed to reveal the individual subject's subconscious attitude toward time. In Knapp's opinion "anticipation" of future goals, scheduling and other such concerns with the management and measurement of time would appear to characterise the individual with high achievement motivation.[100] The test was designed to elicit from the subject a choice of "aesthetic appropriateness" of several time phrases typical of many existing in folk lore and literature. Why not ask the subject directly how he views the passage of time? Knapp explains his use of a semi-projective measure. "It is our judgment that this procedure succeeds in tapping attitudes and motives which are not readily formulated spontaneously." The subjects were first given McClelland's TAT, and then called upon to judge the appropriateness of 25 "controversial" time metaphors. The results showed the following correlations with the TAT.

Table I (Knapp and Garbutt)[101]

Metaphor	Correlation with n.Ach.	Metaphor	Correlation with n.Ach.
a dashing waterfall	.41	marching feet	00
a galloping horseman	.32	a road leading over a hill	-.01
a bird in flight	.30	drifting clouds	-.03
a winding spool	.26	wind-driven sand	-.05
a speeding train	.23	budding leaves	-.06
a fleeing thief	.22	an old man with a staff	-.06
Rock of Gibraltar	.22	a large revolving wheel	-.23
a fast moving shuttle	.20	a vast expanse of sky	-.31
a whirligig	.12	a string of beads	-.31
a burning candle	.12	a stairway leading upwards	-.37
an old woman spinning	.08	a quiet,motionless ocean	-.41
a space ship in flight	.04	a devouring monster	-.49
a tedious song	.00		

Knapp pointed out that in the top ten metaphors that correlated positively with high achievement motivation, eight depicted fast motion, while only two were slow or static. Of the ten metaphors with greatest negative correlation, none described fast motion.[102] He concluded that "Our expectation that n Achievement would prove associated with swift image of time seems generally confirmed."[103]

Further analyses of the results showed that positiveness of direction seemed to be an important embellishment to rapid motion in making certain metaphors acceptable to highly motivated achievers. "A fast moving shuttle" and "a whirligig" show haste but little direction, and they tended to correlate less positively with n Achievement than did metaphors with clear direction.

Can such a personality measure hope to be truly cross-cultural? A study by Asch, cited by Knapp, has shown a "tendency for similar metaphorical figures to occur in widely disparate linguistic groups, suggesting that common attitudes may be expressed by similar devices in many varying cultures."[104] Certainly we may assume that African cultures will in most cases be familiar with drifting clouds, birds in flight and wind driven sand. I feel that great care must be exercised, however, in the choice of metaphors. It may be that cross-cultural time-metaphor testing is hopeless in terms of one widely-applicable set of metaphors. Perhaps the most we may assume (until even that is disproven), is that achievers will a world-wide attitude toward time. The choice of particular metaphors may have to depend on the particular culture.

For the present, I have settled on a simplified and shortened applicable of the metaphor test for use among the Chagga. Eight metaphors were offered for the students' choice according to a Five-point preference scale.[105] The metaphors were :

a vast expanse of sky	a roaring river
a fleeing thief	a quiet motionless ocean
a large revolving wheel	a bird in flight
drifting clouds	a speeding bus.

Results of the Project

Tables 3 and 4, showing the correlations of time and colour preference measures, like the results of the first two tests, do little to encourage optimism that real measures of Chagga achievement motivation have been created. Inter-test correlations are weak and sometimes contradictory and none of the tests consistently correlate with either measure of actual achievement; students' grades and coffee production (in lbs.) on his family's shamba.

Many questions, therefore, remain to be answered. Are coffee production data and students' grades adequate measures of actual achievement? Are the tests, created originally for western culture, based on different value systems (i.e. protestant ethic vs. African co-operation), or on different psycho-social foundations (i.e. linear vs. circular time sense). Much discussion of these problems and a challenge to the idea of cross-cultural testing may be necessary before we will have more effective testing methods.

FOOTNOTES

1. Many economic development theorists have concerned themselves particularly with questions of capital formation. Typical of the arguments among this group has been the discussion of the problem of proper investment intensity. Until the mid-1950s, the gradual approach had been emphasized. Then, perhaps because of the failure of appreciable growth to materialize in some areas, various other apprcaches emerged, stressing the importance of vicious circles and the necessity of breaking their grip on the development process. Thinking in terms of discontinuities and the "big push" became more popular, at least for theorists if not for those whose job was the financing of development. Rosenstein-Rodan stressed the relationship between Social Overhead Capital and Directly Productive Investment, pointing out that investments should attempt to maximize external economies. (P.N. Rosenstein-Rodan, "Problems of Industrialization of Eastern and South-Eastern Europe," A.N. Agarwala and S.P. Singh, The Economics of Underdevelopment. (New York : Oxford U.P., 1963). see also Rosenstein-Rodan's, "Notes on the Theory of the Big Push", (M.I.T., CIS, March 1957).) To Rosenstein-Rodan's consideration of indivisibilities, Nurkse added the importance of recognising that individual projects alone face a high risk because of uncertainties in the market, thus substantiating the modern importance of Say's Law. (Ragnar Nurkse, Problems of Capital Formation in Underdeveloped Countries. (Oxford : Blackwell and Mott, Ltd., 1953).) Leibenstein then talked of high profit rates that will satisfy entrepreneurs, calling for a "critical minimum effort" of investment. He considered the necessary investment level to be 12 to 15 percent of annual national income. (Harvey Leibenstein, Economic Backwardness and Economic Growth. (New York : Wiley and Sons, 1963). Ch.8.) As Gershenkron has summed up the feelings of these "big push" theorists :

> Precisely because some value systems do not change readily, because economic development must break through the barriers of routine, prejudice, and stagnation, among which adverse attitudes towards entrepreneurship are but one important element, industrialisation does not take place until the gains which industrialization promises have become, with the passage of time, overwhelmingly large, and the prerequisites are created for a typical spurt-like upsurge. (A Gershenkron, Economic Progress. Papers and Proceedings of the Round Table ..... Louvain, 1955, p.3.19).

Richard Nelson and Hans Singer have agreed with the "big push" approach; the former plumping for a sudden effort substantial enough to break out of the "low-level equilibrium trap", while Singer cited the need for a "lump of capital" to complete the big projects that provide a base for economic development. (R.R. Nelson, "A Theory of the Low-Level Equilibrium Trap," American Economic Review, December, 1956, pp. 894-908, and H.W. Singer, "Economic Progress in Underdeveloped Countries," Social Research, Vol. 16, 1949, pp. 1-11).

Others have concentrated on the correct balance of investment. To escape from the vicious circle of low productivity - lack of capital - low savings, developing countries must increase the size of the market. This will be achieved most effectively, said Nurkse, by a wide frontal attack, or "balanced investment." (Nurkse, op.cit. p.5. See also Rosenstein-Rodan, W.A. Lewis and Tibor Scitivsky for other "balanced Growth" arguments). For various reasons, Singer, Hirschman, Fleming, Chennery and others have attacked this thesis, some going so far as to advocate deliberate unbalancing of the economy by investing heavily in certain sectors. Singer worried that concentrating on big packages of industrial investment might not be wise unless agricultural productivity was increased, the same argument employed by most "balanced growth" theories, but he added that the very same point made balanced growth nearly unattainable. He argued that the capacities needed for such a policy were so large "that a country disposing of such resources would in fact not be underdeveloped". (H. Singer, "The Concept of Balanced Growth and Economic Development : Theory and Facts". University of Texas Conference on Econ. Dev., April, 1958, p.10). Similar arguments have been expressed by Marcus Fleming, and eloquently by A.O. Hirschman. (A.O. Hirschman, The Strategy of Economic Development (New Haven : Yale University Press, 1958), p.53. The application of balanced growth theory "..... requires huge amounts of [illegible] which we have identified as likely to be in very limited supply in underdeveloped countries."). Recognition of this important feature of underdeveloped leads instead to a strategy of concentrating ".... available resources on types of investment which help to make the economic system more elastic, more capable of expansion under the stimulus of expanded markets and expanding demand." (Singer, op.cit., p.10). Investments must be strategic in approach, aimed at specific bottlenecks where their impact is most effective. Hirschman, Chennery and others have isolated the degree of backward and forward linkage for sectors and particular industries of the economy, stressing the importance of investments in "intermediate manufacturing".

In most of these arguments, the emphasis lay on the question of whether to attack development problems on a wide front, or to concentrate investment in order to storm certain key positions of the stagnant economy. Still another "capital-accumulation" oriented controversy has been the running battle over factor proportions. Should a developing country's investment programme recognize and utilize existing factor proportions as its base, or should capital-intensive techniques be employed automatically on account of their higher potential savings. Alternatively, is full-employment an important enough objective to demand development by existing factor proportions? C.P. Kindleberger and others have suggested a compromise between the extremes, "community development and cottage industry." (C.P. Kindleberger, Economic Development, (New York : McGraw-Hill, 1958), p.130).

On and on to other areas the arguments go. Should underdeveloped countries make their own techniques, or borrow from others? Will the price system suffice to point out and correct scarcities and bottlenecks for development, or must a developing economy be dominated by government planning? What are the effects of international trade on primary-producers? How should the developing country treat population increase as an economic variable? Undoubtedly, all these economic considerations are important, and, yet, none of the existing theories have been accepted universally. Although seven years old, one criticism of existing theories still stands today. ".... each has part of the truth, none all." (Ibid., p.130).

2. Benjamin Higgins and Arthur Lewis are examples, but recently a more comprehensive general theory about non-economic factors has emerged, and is definitely worthy of consideration : the variation of "social deviance theory" produced by Everett Hagen. (Everett E. Hagen, On the Theory of Social Change (Homewood, Ill. : The Dorsey Press, Inc., 1962). Bothered by his own personal experiences in underdeveloped countries, particularly Burma, Hagen began to feel that technical economic barriers were not the cause of stagnation. His attempt to explain the process of social and economic change interests us not so much because of his final conclusions, which seem to make very little advance over past efforts, but because of the wide and intensive examination of psycho-sociological factors he has covered, and the implied interrelationships between these factors. Writing about disparities in economic development, Hagen commented :

> Since it seemed clear to me that the differences were due only in very minor degree to economic obstacles, lack of information, or lack of training, I turned my attention to other possible causes of differences in human behaviour - to differences in personality, and hence personality formation and the social conditions affecting it. (Ibid., p.7.).

Hagen turned, in other words, to social psychology, to see what answers economists might glean from its methods and accomplishments. He hoped in this way to arrive at a general theory. Basic psychological needs of individuals are classified as "manipulative", "aggressive", "passive", and "succorant-nurturant". By investigating the strength of each need in different individuals, Hagen isolates two personality types : "innovational" and "authoritarian". The first views the world and its phenomena "as forming systems whose operation is orderly and amenable to logical analysis." The authoritarian personality, however, "perceives the phenomena of the world as forming a system whose operation is not orderly and not capable of analysis." While the innovator is driven by a "high need succorance, need to receive assurances of being valued," which in the long run "drives him to achieve", the backward authoritarian individual is beset by high need dependence, because he "sees the world as not valuing him highly, and sees power as residing in position rather than resulting from accomplishment" (Ibid.,p.119). But these

are generalizations. Hagen's attempt was obviously directed towards creating a general theory of the effect of personality structure on economic development. But as valuable as such attempts always are in clearing the air and offering new approaches, how can they hope to add much unless the facts on which they are based are proven by testing and quantification. When Hagen offers the dictum that authoritarian individuals see the world in certain ways, he is conjecturing, because no proven data exists for such a statement. What emerges from his theory, however, is a compact hypothesis of the reasons for economic underdevelopment. The important features of static, non-developing society are its stable class structure of elite and peasant groups with little social or economic mobility, and the co-existing groups of traders, either immigrant or indigeneous, who have chosen an entrepreneurial path out of fixed status. In some ways, Hagen's picture is similar to the "sociological dualism" approach of Boeke. (J.A. Boeke, Economics and Economic Policy of Dual Societies (New York : 1953)).

Because of social immobility, the extended family and traditional interpersonal relationships, and the authoritarian social structure in general, it seems only natural to Hagen that "authoritarian personality" should prevail in traditional societies. Furthermore, he asserts it is difficult to find a cause and effect relationship between personality and social structures in these situations. Instead, we find "interlocking functional relationships." (Hagen, op.cit.,p.74). Both elite and peasantry lack creativity, because of the authoritarianism inherent in stablized traditional society. In a sense entrepreneurs appear because of this authoritarian immobility. Hagen then leads us on a historic ramble through the various periods that have seen economic growth to pick out the entrepreneurs. (Ibid., ch.9).

3. Before the present emphasis on development, practically the only economist to delve into the attitudes and thinking process of Entrepreneurship was Joseph Schumpeter. One of his major contributions was in clarifying the distinction between "innovation," performed by entrepreneurs, and invention. (W.W. Rostow has come to similar conclusions. See C.P. Kindleberger, op.cit. p.78). As we gave already seen, Schumpeter saw the process of innovation as the employment of new resources or techniques into an economic situation. Any new alignment of the factors of production that increased the total product was an innovation. The key to the innovation process, on which the future of capitalism depended, was the entrepreneur. However, Schumpeter's concept of entrepreneurship transcended the usual economic concepts of risk-bearing. One cannot understand the actions of entrepreneurs, he argued, without going beyond economic history to, as he put it, "universal history".

> Because of this fundamental dependence of the economic aspect of things on everything else, it is not possible to explain economic change by previous economic conditions alone. For the economic state of a people does not emerge simply from the preceeding economic conditions, but only from the preceding total situation (J. Schumpeter, The Theory of Economic Growth, op.cit, p.58).

Entrepreneurs can only be identified and understood if the entire situation is studied. Thus, according to Schumpeter, they are "not only those 'independent' businessmen in an exchange economy who are usually so designated", but on the other hand, all those who carry out "new combinations" of productive factors with economic result. Therefore, the Schumpeterian entrepreneurial class includes, and is in fact becoming increasingly represented by "dependent employees of a company, like managers, members of boards of directors and so forth....." (Ibid., p.74). The definition is narrower than the traditional one, because managers of businesses who do not invoke new combinations of productivity are specifically excluded. But, as Schumpeter explained, his definition "does no more than formulate with greater precision what the traditional doctrine really means to convey". In one sense, his definition

> agrees with the usual one on the fundamental point of distinguishing between "entrepreneurs" and "capitalists" - irrespective of whether the latter are regarded as owners of money, claims to money, or material goods. This distinction is common property today, and has been so for a considerable time. It also settles the question whether the ordinary shareholder as such is an entrepreneur, and disposes of the conception of the entrepreneur as risk bearer. Furthermore, the ordinary characterisation of the entrepreneur type by such expressions as "initiative", "authority", or "foresight" points entirely in our direction. (Ibid. p.75).

Risk bearing is therefore the burden of the owner of the means of production, and not necessarily of the entrepreneur (unless he also is owner or shareholder). What characterized the true entrepreneur, in Schumpeter's eyes, was not risk-bearing as an entrepreneurial characteristic to the exclusion of the other important features. (W. Fellner, op.cit. p.94). Thus he was careful to clear up the confusion between entrepreneurship and ownership. Because of the lack of functional specificity of roles during earlier epochs, "most economists up to the time of the younger Mill failed to keep capitalist and entrepreneur distinct because the manufacturer of a hundred years ago was both : ..... " (Ibid. p.77). Furthermore, Schumpeter was eager to point out that entrepreneurs do not form any "social class" as such, "because being an entrepreneur is not a profession, and as a rule not a lasting condition." It can "lead to certain class positions", but does not separately represent a distinct social group (Ibid. pp.77-78).

Because neither economic concepts such as risk-bearing and ownership nor social groupings such as class throw great insight into our understanding of entrepreneurship, Schumpeter still finds the decisive question unanswered. "Why then is the carrying out of new combinations a special process and the object of a special kind of 'function'?" (Ibid. p.79). Three essential questions must be answered for a true definition of

entrepreneurship; the nature of "the task", the psychology of the individual, and the environment's socio-political reaction to the resulting changes. (Ibid. p.86). Schumpeter points out that making decisions about new ways of doing things requires certain types of conduct.

> Every schoolboy would have to be a mental giant, if he himself had to create all he knows and uses by his own individual activity. And every man would have to be a giant of wisdom and will if he had in every case to create anew all the rules by which he guides his everyday conduct. (Ibid., p.83).

In fact, of course, most everyday matters already have well developed techniques and thus "within the ordinary routine there is no need for leadership." The necessity for real entrepreneurship begins "outside these accustomed channels", because

> the individual is without those data for his decisions and those rules of conduct which are usually very accurately known to him within them. Of course he must still foresee and estimate on the basis of his experience. But many things must remain uncertain, still others are only ascertainable within wide limits, some can perhaps only be "guessed". In particular, this is true of those which he wants to create. Now he must really, to some extent, do what tradition does for him in everyday life, viz. consciously plan his conduct in every particular. (Ibid. pp. 84-85).

On the surface, this planning proceeds with rationality, and is a more difficult course of procedure than acting according to custom. "Carrying out a new plan and acting according to a customary one are things as different as making a road and walking along it." Force of habit militates against the prospective innovator.

> A new and another kind of effort of will is therefore necessary in order to wrest, amidst the work and care of the daily round, scope and time for conceiving and working out the new combination and to bring oneself to look upon it as a real possibility and not merely as a day-dream. This mental freedom presupposes a great surplus force over the everyday demand and is something peculiar and by nature rare. (Ibid. p.86).

The ability to employ new ideas and techniques faces social obstacles as well, because "any deviating conduct by a member of a social group is condemned, though in greatly varying degrees according as the social group is used to such conduct or not."

Schumpeter also recognizes the importance of a fourth factor in the stimulation of economic leadership. (Schumpeter considers this as part of his three-part classification, but I choose to separate it as being equally important). It is strong "only where new possibilities present themselves." The Slavs showed little innovation capacity for centuries because of "their unchanging and relatively protected life in the marshes of the Pripet". It is not the intellect of the leaders that brings

them to accept changes that are already available to them, but rather the actual "doing the thing". (Ibid., p.88).

Finally, not unaware that he was leaving the field of economics for uncharted lands, Schumpeter deals with that aspect of entrepreneurship which is of greatest interest to the present study.

> We shall finally try to round off our picture of the entrepreneur in the same manner in which we always, in science as well as in practical life, try to understand human behaviour, viz. by analysing the characteristic motives of his conduct. Any attempt to do this must of course meet with all those objections against the economist's intrusion into "psychology" which have been made familiar by a long series of writers. We cannot here enter into the fundamental question of the relation between psychology and economics. It is enough to state that those who on principle object to any psychological considerations in an economic argument may leave out what we are about to say without thereby losing contact with the argument of the following chapters. For none of of the results to which our analysis is intended to lead stands or falls with our "psychology of the entrepreneur", or could be vitiated by any errors in it. Nowhere is there, as the reader will easily satisfy himself, any necessity for us to overstep the frontiers of observable behaviour. Those who do not object to all psychology but only to the kind of psychology which we know from the traditional textbook, will see that we do not adopt any part of the time-honoured picture of the motivation of the "economic man." (Ibid., p.90).

To some extent, Schumpeter's entrepreneur is "rational". He must be, in one sense, more rational than ordinary man, because "conscious rationality enters much more into the carrying out of new plans, which themselves have to be worked out before they can be acted upon, than into the mere running of an established business, which is largely a matter of routine." Also, the entrepreneur's rationality has an "egotistical" flavour, because of his willingness to go against tradition and be guided by his own thinking. (Schumpeter points to evidence of the "self-centeredness" of the entrepreneurial personality. "It is, of course, no mere coincidence that the period of the rise of the entrepreneur type also gave birth to utilitarianism."). But to consider the entrepreneur as "rational" in any other sense, according to Schumpeter, is wrong, and "in no sense is his characteristic motivation of the hedonist kind". To come to such a conclusion would be ludicrous considering the evidence, which shows that

> typical entrepreneurs retire from the arena only when and because their strength is spent and they feel no longer equal to their task. This does not seem to verify the picture of the economic man, balancing possible results against disutility of effort and reaching in due course a point of equilibrium beyond which he is not willing to go. Effort, in our case, does not

> seem to weigh at all in the sense of being felt as a reason to stop. And activity of the entrepreneurial type is obviously an obstacle to hedonist enjoyment of those kinds of commodity which are usually acquired by incomes beyond a certain size, because their "consumption" presupposes leisure. Hedonistically, therefore, the conduct which we usually observe in individuals of our type would be irrational. (Ibid., p.92).

All this evidence points not to the complete exclusion of economic self-gratification as an explanation of economic entrepreneurship, but merely to "another psychology of non-hedonist character, especially if we take into account the indifference of hedonist enjoyment which is often conspicuous in outstanding specimens of the type and which is not difficult to understand. (Ibid., p.93).

What are these characteristics? "The dream and the will to found a private kingdom, usually, though not necessarily, also a dynasty." Of course, as Scumpeter points out, such achievements are impossible in our modern egalitarian world, but nonetheless, there are roughly equivalent rewards for modern status seekers, and their attainment through economic enterprise is most precious "for people who have no other chance of achieving social distinction." Other motives also exist to goad the true entrepreneur, none more hedonistic than the seeking of status, and most a good deal less so.

> Then there is the will to conquer : the impulse to fight, to prove oneself superior to others, to succeed for the sake, not of the fruits of success, but of success itself. From this aspect, economic action becomes akin to sport - there are financial races, or rather boxing-matches. The financial result is a secondary consideration, or, at all events, mainly valued as an index of success and as a symptom of victory, the displaying of which very often is more important as a motive of large expenditure than the wish for the consumers' goods themselves. (Ibid., p.93-94).

Private property enters into the picture only in the personality factors of the entrepreneur which are related to status - seeking, and therefore, Schumpeter's model of entrepreneurial personality can fit the capitalist or non-capitalist entrepreneur.

Schumpeter's examination of the entrepreneur is important because of the questions it poses. He admits the fact that man is not entirely rational or economic, and is motivated by other desires and drives outside those represented by the category "economic gain". He recognises the desire for power, independence, combattiveness, superiority, success and achievement, and creativity as influences leading to the acceptance of new economic techniques, hoping that "by detailed observation of the psychology of entrepreneurial activity", more information about the entrepreneur's distinguishing personality traits will become known. (Ibid., p.94). From the foremost champion of the role of the ind vidual in economic growth has come perhaps the clearest understanding of the necessity of new techniques and knowledge.

4. Many Economists realize that they are faced with perennially incomplete understanding of the real process of economic change unless they receive some help from other quarters. Some of them, seeing the importance of adding other items to their list of economic variables, have tried. The less brave have contented themselves with calls for help from other disciplines. Benjamin Higgins typifies this timid but perhaps ultimately wise group.

> It is clear that the research needed to improve our empirical knowledge of the development process must be inter-disciplinary;..... So far, most of the research on non-economic factors in economic development has been undertaken - or at least organised - by economists, whose limited training leaves them inadequately equipped for the task. If psychologists, sociologists and anthropologists are to be really useful in the field of economic development, however, they must not only be interested in its problems and have some initial understanding of the relationship of their own speciality to the others involved, but they must also be willing to undertake some revisions of their own scope and method and perhaps even of their training. (Benjamin Higgins, Economic Development, (New York : W.W. Norton and Co., Inc., 1959) p.772).

5. R. C. Birney and R. C. Teevan, (eds.), Measuring Human Motivation. (Princeton, New Jersey : D. Van Nostrand Co., Inc., 1962), p. 88. In his chapter, "Measuring Motivation in Phantasy : The Achievement Motive", McClelland adds, "It seemed logical that motivation in turn would get its greatest lift as a theoretical variable if some methods for measuring it could be developed that were not identical with those that were already in use to measure perception and learning". Ibid.

6. Ibid. "In fact," McClelland notes, "one could argue that the whole psychoanalytic school of thinking is built, operationally speaking, on an analysis of imaginative behaviour, whether it be the free association of adults on a psychoanalytic couch or the imaginative play of children."

7. In Anthony Davids, "Comparison of Three Types of Personality Assessment", Journal of Personality, Vol. 23, (1954-1955), p. 423-424, the author makes the following definitions : Projective tests "refer to assessment procedures which require the subject to impose structure or completion upon some form of ambiguous or incomplete stimuli". Direct tests "refer to procedures in which the subject is asked consciously to report about some feature (motive, feeling, interest, etc.), of his personality".

8. G. W. Allport, P.E. Vernon, and G. Lindzey, Study of Values : Manual of Directions. (Boston : Houghton-Mifflin, 1951), p.4.

9. L. Doob, "An Introduction to the Psychology of Acculturation", Journal of Social Psychology, Vol. 45 (1957), p.156.

10. O. Mannoni, Prospero + Caliban : The Psychology of Colonialization. Trans. Pamela Powesland. (New York : Frederick Praeger, 1956).

11. R. B. Cattell, "Projection and the Design of Projective Tests of Personality", Character and Personality, Vol. 12 (1944), p.177-194, argues that "The TAT is by design and administration, largely a fantasy test, not a projection test. The pictures may involve an initial projection but thereafter the individual develops his fantasy in a free manner.....". In order to provide some evidence of whether or not value and projective measures are measuring similar variates, the Morris "Ways of Life" test was also administered to the Chagga, but unfortunately the results are not yet scored.

12. Birney and Teevan, op.cit., p.90.

13. J. C. DeRidder, The Personality of the Urban African in South Africa. (London : Routledge and Kegan Paul, 1961), pp. xiii-xiv.

14. David C. McClelland, The Achieving Society. (Princeton, New Jersey : Van Nostrand Company, Inc., 1961), p.39.

15. Ibid., p. 42.

16. Ibid., p. 43.

17. I. L. Child, K. F. Frank and T. Storm, "Self-Ratings and TAT : Their Relations to Each Other and to Childhood Background". Journal of Personality. Vol. 25 (1956-1957), p. 107.

18. Ibid., p. 104.

19. C. McArthur, "The Effects of Need Achievement on the Content of TAT Stories : A Re-examination." Journal of Abnormal and Social Psych., Vol. 48 (1953), p. 536.

20. Ibid., p. 532. McClelland expects high achievers' answers to show more (1) mention of mastery over problems, (2) failures by the hero, (3) acts to overcome failure, (4) statements by the hero of the need for mastery, (5) press hostile to mastery, (6) wishes for mastery by the hero, (7) anxiety over mastery by the hero, (8) mastery images in the story, especially vocational ones. McArthur's results threw doubt on the validity of (2), (3), (5) and (7).

21. S. Biesheuvel, "Objectives and Methods of African Psychological Research," J. Soc. Psych., Vol. 47 (1958), p. 161.

22. Modifications of the TAT have been made for Japan, India and Brazil, and dream reports have been analyzed for need achievement in West African contexts.

23. A. Ombredane, "L'Exploration de la Mentalite des Noirs Congolais au moyen d'une Epreuve Projective : Le Congo TAT", Institute Royal Colonial Belge- Sect. des Sciences Morales et Politiques, Memoires, Vol. 37 (1954), p.32. trans. J. M. Ostheimer.

24. R. A. Levine, "Africa", Psychological Anthropology, ed. F. Hsu (Homewood, Ill. : Dorsey Press, Inc., 1961), p. 67.

25. Ibid., p. 67.

26. Charles E. Thompson, Manual for Thematic Apperception Test - Thompson Modification (Cambridge, Mass. : Harvard University Press, 1949), p. 3.

27. Ibid.

28. Ibid., p. 4.

29. S. G. Lee, Manual of a Thematic Apperception Test for African Subjects (Pietermaritzburg : University of Natal Press, 1953).

30. R. A. Levine, loc. cit.

31. Edward T. Sherwood, "On the Drawing of TAT Pictures, With Special Reference to a Set for an African People Assimilating Western Cultures," J. Soc. Psych. Vol. 45 (1957), p. 166.

32. Ibid.

33. [illegible] Biesheuvel, "Methodology in the Study of Attitudes of Africans", J. Soc. Psych. Vol. 47, (1958) p. 176. Biesheuvel adds : ".E. T. Sherwood has made an important methodological contribution to the general problem of designing TAT pictures for Africans in a state of cultural transition, but although his criteria dealt with the need for appropriateness in the human figures, the physical environment and the situations presented, the requirements of appropriateness were not defined in detail... for African cultures generally."

34. Sherwood, op. cit., p. 168.

35. Ibid., p. 173.

36. Ibid., p. 182.

37. Ibid., p. 183.

38. Ibid., p. 181.

39. Two noted Tanzanian Artists, both Chagga, have substantiated this point in conversation with the author.

40. Biesheuvel, "Methodology in the Study....." loc. cit.

41. W. Hudson, "Pictorial Depth Perception in Sub-cultural Groups in Africa", J. Soc. Psych., Vol. 52 (1960), p. 197.

42. D. C. McClelland, J. W. Atkinson, et. al., "A Scoring Manual for the Achievement Motive," Motives in Fantasy, Action and Society, ed. J. W. Atkinson (Princeton, New Jersey : Van Nostrand Co., Inc., 1958), pp. 179-204.

43. After consultation with Professor McClelland, the scoring category for "achievement task" imagery was altered by including as task stories some mention of nation-building goals and problems. The relationship between unrelated imagery and Achievement task stories was affected by this, but none of the scoring categories that denote real achievement motivation, (i.e. personal involvement or need to achieve) were weakened.

44. The Four Secondary Schools in Moshi District were most co-operative. During early May, 1965, the tests were given at Old Moshi, Mawenzi, Umbwe, and KNCU Lyamungu Schools.

45. TAT pictures 1 and 2 were scored with inter-scorer correlations of .85 to .90 consistently. But with pictures 3 and 4, the inter-scorer agreement dropped into the .60s and .70s.

46. Pictures 1 and 2 averaged nearly 1/3 achievement motive stories, but pictures 3 and 4 only about 10%.

47. See note 45.

48. See Table I for complete results from the thematic apperception test.

49. E. Aronson, "The Need for Achievement as Measured by Graphic Expression," Motives in Fantasy, Action and Society. p. 249.

50. See McArthur, op. cit., cited on page 7 above.

51. Aronson, op. cit., pp. 249-250.

52. Rhoda Kellogg, What Children Scribble and Why (San Francisco : 1955). On page 5, she writes, "Art is of utmost significance and importance in this matter of communication. Being non-verbal, persons of all ages, times and cultures can react to it directly."

53. Aronson, op.cit., p. 252. Obviously, Aronson's N's are too small to read much importance into his data. One of the principal objectives of this project's organizational aspects was to employ adequate sample sizes.

54. Ibid.

55. "Need for achievement" as measured by McClelland's TAT.

56. Aronson, op. cit., p. 262.

57. Ibid., p. 262.

58. Ibid., p. 264.

59. McClelland, The Achieving Society, p. 126.

60. Ibid., pp. 126-127.

61. McClelland, D.C., Lathrap, D.W. and Swartz, M. "An Attempt at the estimation of n Achievement levels from archaeological materials in a non-Western tradition." (Unpublished paper, University of Illinois, 1961).

62. Ibid., p. 156.

63. Ibid., p. 486.

64. See Table II. Beyond the relationship between Discrete-Fuzzy and Space utilized, little seems to have emerged.

65. See Table II.

66. See Table II.

67. Also until the analysis of these three variables is complete, it will be impossible to present a "Total Score" for Graphic Expression, which may be the most meaningful measure produced by the test.

68. R. H. Knapp and H. B. Green, "The Judgment of Music-Filled Intervals and n Achievement," J.S. Psych., Vol. 54 (1961), p. 263.

69. S. Liebmann, "Uber das Verholten Forgiger Formen bei Helligkeitsgleichheit vom Figur und Grund," Psychol. Forsch., Vol. 9 (1927). cited by Knapp in Atkinson et. al., op.cit., p. 372. K. Koffka, Principles of Gestalt Psychology (New York : Harcourt, Brace, 1935), p. 127.

70. R. H. Knapp, "n Achievement and Aesthetic Preference," in Atkinson et al., op. cit., p. 372.

71. Ibid.

72. O. Spengler, The Decline of the West (New York : Knopf and Co., 1932), Vol. 1, p. 246.

73. McClelland, The Achieving Society, p. 309.

74. R. H. Knapp, "n Achievement and Aesthetic Preference," loc. cit. "If we examine the dress, architecture and decor of such achievement-oriented cultures as the Germans, the Dutch and the British, we find a consistent somberness in the use of colour when contrasted with Mediterranean peoples. But it is perhaps in the history of 17th Century England that we have the most striking contrast of the two tastes and the two character styles. The Puritans, imbued with very strong achievement motivation, eschewed all but the somberest of dress and ornament, imposed fines for the wearing of bright colours, destroyed the stained glass windows of churches, and cultivated unconditional austerity in dress and decor. They stand in dramatic contrast to the Cavaliers with their feudal and chivalric traditions of ascribed status, colourful dress and fondness for indulgent living."

75. McClelland, The Achieving Society, p. 310. Some of the flags are neither distinctly red-yellow nor blue-green.

76. R. H. Knapp, "n Achievement and Aesthetic Preference," op. cit., p. 367.

77. "First, they vary in design only in certain specific and measurable ways, i.e. predominant colour, number of colours, fineness of texture, symmetry, complexity, brightness contrast, etc. Each of these is objectively measurable. Again, they are of uniform size. Third, they do not contain object representation with its attendant distractions. Finally, there are over 200 recognised clan tartans from which selection may be made."

78. Ibid., p. 368.

79. Ibid., p. 370.

80. Ibid.

81. Ibid., p. 371.

82. Ibid.

83. The Achieving Society, p. 310.

84. One might well ask whether the use of black in the stimulus design might not have "cued" subjects to draw their doodles in blue or green.

85. McClelland, The Achieving Society, p.312.

86. Ibid.

87. Ibid., p. 313. "The question is no longer whether entrepreneurs deny their impulses, or even whether they avoid excess, but rather whether they avoid a situation in which they are no longer in control and are "pushed" about, as it were, by sights and sounds from without, by strong stimuli in the environment. It is easy to see how such an attitude might lead to renounciation of certain wordly pleasures (those involving vivid sights, tastes, sounds, etc.) but not others. The point can, perhaps, be made clearer by an illustration. Quakers sternly prohibit wearing bright colours. They assumed, as did everyone else, that they did this for highly moral and religious reasons. They were avoiding "vain and wordly display" and concentrating on things of the spirit. Yet even the famous ascetic "Quaker gray" could be, and was, converted into a luxurious dress of costly material to be worn by the wife of a wealthy Quaker merchant. What had become of their "worldly asceticism"? The usual answer given is that they were hypocrites, that they were denying a worldly impulse at one level and giving full expression to it at another. But hypocrisy is not an explanation for a psychologist..... we assume that the avoidance of bright colours for the Quaker had psychological significance over

and beyond the religious one of rejection of worldly display,..... they may have avoided bright colours in order to maintain the posture of acting on the environment rather than being acted upon by it, and then found a moral explanation for a posture which they vaguely felt was right. The subsequent step of making clothing out of rich and sumptuous material, though of somber hue, contradicted the religious rationalisation, (worldly asceticism), but not the psychological basis for it. They were still avoiding strong intrusive stimuli."

88. G. W. Alport and T. F. Pettigrew, "Cultural Influence on the Perception of movement : the Trapezoidal Illusion among Zulus." J.A.S.P., Vol. 55 (1957), p. 106.

89. Ibid., pp. 106-110.

90. I plan nonetheless to examine this problem in a separate study and have compiled alternative test materials, the most likely possibility being a collection of wall-paper samples, the intention being to use only those with roundish designs.

91. "The Judgment of Music-Filled Intervals and n Achievement", op. cit., p. 266. Placing time orientation into perspective as one of the characteristics of high achievement motivation, the authors add. "This capacity of our recent civilisation has not emerged, we believe, in isolation; rather it was made possible by the emergence of a general constellation of attributes, psychodynamically inter-dependent, which we have designated the Puritan Pragmatic Syndrome. It is our hypothesis that acuteness of time awareness is to be found associated with a high n Achievement, asceticism of taste, interest in science and technology, and the preferred employment of repression as an ego defence."

92. R. H. Knapp and J. T. Garbutt, "Time Imagery and the Achievement Motive", Journal of Personality. Vol. 26 (1958), pp. 424-427.

93. E. T. Hall, The Silent Language. (New York : Doubleday, 1959).

94. The Achieving Society, p. 324.

95. H. B. Green and R. H. Knapp, "Time Judgment, Aesthetic Preference and Need for Achievement," Journal of Abnorm. and Social Psych. Vol. 58 (1959), pp. 140 - 142.

96. Ibid., p. 263-265. The results of the Knapp and Green research indicated that subjects with high achievement orientation did maintain a closer contact with their task in spite of distractions. 77 Wesleyan students were given the McClelland TAT, and ranked as "high", "middle" and "low" achievers. Then they were given the "Musical Minutes test". While listening to a loud recording of "Blue Donube Waltz", they were to indicate four equal one-minute intervals. The results were depicted in Table II. "Average increase in

Seconds of Subsequent Trials over the Initial Estimate.[97]

	2nd Estimate	3rd Estimate	4th Estimate
Highs (23)	5.04	8.09	9.96.
Lows (27)	9.63	15.74	18.85.

97. The Achieving Society, p. 325.

98. Knapp and Garbutt, op. cit., pp. 432-433.

99. The Achieving Society, pp. 327-328.

100. Knapp and Garbutt, op. cit., p. 426.

101. The table is incompletely reproduced here with only selected information given. Originally 40 time metaphors, collected from anthologies, quotation selections and other sources had been selected. These were submitted to a preliminary group for ranking by preference. All those accepted universally by this group as "appropriate" like "a river leading to the sea",were eliminated. Those universally classed "inappropriate" like " a stairway leading downward",were also eliminated. The 25 "controversial metaphors" that remained were then used for the test.

102. Although it seems out of place in the top ten, Rock of Gibraltar's appearance is explained by the authors by the fact that it is the Prudential Life Insurance Company's well-known symbol of entrepreneurial achievement! An ingenious explanation is also provided for the other seemingly anamolous result, the "devouring monster". "A plausible surmise is that this image represents a particularly obnoxious threat to the person with high n Achievement since it implies that time is an active and destroying agent threatening to annihilate the self." Ibid., p.429.

103. Ibid.

104. Ibid.

105. A similar technique was used with the colour preference test. From the total score of subjectively "rapid and direct" metaphors was subtracted the total score of "slow and aimless" metaphors, leaving one plus or minus figure. The same type of calculation produced a score of preference for bright or somber tartans.

TABLE I

MATRIX OF RANK DIFFERENCE CORRELATIONS - THEMATIC APPERCEPTION TEST FOR N ACHIEVEMENT COMPARED WITH OTHER VARIABLES (WACHAGGA SUBJECTS ONLY)

Group	I	II	III	IV	V	VI	VII	VIII	IX
TAT 1 - TAT 2	N = 100 .48***	N = 53 .44***	N = 130 .41***	N = 149 .46***	N = 91 .30***	N = 70 .40***	N = 99 .46***	N = 124 .47***	N = 109 .56***
TAT 1 + 2 - DF	N = 97 .19*	N = 49 .36***	N = 124 .02		N = 87 .09	N = 70 .16	N = 97 .18*	N = 119 .05	N = 109 .17*
TAT 1 + 2 - SP	N = 97 - .02	N = 49 - .18	N = 124 .11		N = 87 - .04	N = 70 - .11	N = 97 .00	N = 119 .01	N = 109 .18*
TAT 1 + 2 - Time	N = 94 .01	N = 48 .17	N = 127 - .09	N = 146 .17**	N = 87 .01	N = 65 - .01	N = 95 .11	N = 119 .19**	N = 104 .21**
TAT 1 + 2 - Colour	N = 97 .12	N = 46 .24*	N = 128 .10	N = 137 .11		N = 65 .02	N = 95 .22**	N = 119 .14	N = 104 .09
TAT 1 + 2 - Coffee	N = 32 .02	N = 16 - .38*	N = 50 .03	N = 48 - .01	N = 34 .10	N = 20 .40**	N = 23 - .21	N = 58 .31**	N = 46 .18

TABLE I CONT.

Group	I	II	III	IV	V	VI	VII	VIII	IX
TAT 1 + 2 - Grades	N=23, N=60	N=31, N=17	N=22, N=24	N=21, N=64	N=28, N=29	N=33, N=24	N=29, N=34	N=28, N=29	N=22, N=27
			-.07 .13	.06 .55***	.25 .04	.06 .41**	.17 -.16	-.09 .02	-.09 .24
	.00 .01	-.11 -.04	N=50 N=28	N=57	N=30		N=35	N=32, N=30	N=28, N=28
			.01 .55***	.09	.26		.22	.10 .15	.17 .11

* P< .10

** P< .05

*** P< .01

Statistical Note

Rank Difference Correlations were used, in spite of the large N's in some groups, because of marked leptokurtic skewness of some of the data, and because of the large figures involved in other data.

TABLE II

MATRIX OF RANK DIFFERENCE CORRELATIONS -- GRAPHIC EXPRESSION (DISCRETE-FUZZY, SPACE) COMPARED WITH OTHER VARIABLES (WACHAGGA SUBJECTS ONLY)

Group	I	II	III	IV	V	VI	VII	VIII	IX
D - F 1 D-F 2	N=97 .26***	N=49 .33**	N=124 .33***	N=146 .35***	N=92 .36***	N=70 .49***	N=98 .29***	N=124 .19**	N=109 .22**
SP 1 SP 2	N=97 .52***	N=49 .46***	N=124 .55***	N=145 .64***	N=92 .64***	N=70 .64***	N=98 .67***	N=124 .62***	N=109 .68***
DF - TAT	N=97 .19*	N=49 .38**	N=124 .02		N=87 -.09	N=73 .16	N=97 .18*	N=119 .05	N=109 .17*
SP - TAT	N=97 -.02	N=49 -.18	N=124 .11		N=87 -.04	N=70 -.11	N=97 .00	N=119 .01	N=109 .18*
DF - SP	N=97 -.25**	N=49 .02	N=124 -.21**		N=87 -.20x	N=70 -.21*	N=97 -.03	N=119 -.01	N=109 -.11
DF - Coffee	N=31 -.37**	N=16 .03	N=48 .31**		N=34 .36**	N=20 .01	N=22 .23	N=58 -.10	N=46 -.06
DF - Color									
DF - Time									

TABLE II CONT.

Group	I	II	III	IV	V	VI	VII	VIII	IX
SP - Coffee	N=31 -.09	N=16 .17	N=48 -.39***		N=34 -.02	N=20 .19	N=22 -.07	N=58 -.04	N=46 .0[illegible]
SP - Color									
SP - Time									
DF - Grades	N=22 -.26	N=31 -.00	N=22 -.27		N=28 .08	N=32 .04	N=28 .05	N=28 .24	N=22 -.06
			N=24 -.18		N=29 .06		N=33 .18	N=29 .21	N=27 -.44***
	N=60 -.04	N=17 -.16	N=48 .12		N=30 -.36**	N=24 -.07	N=35 -.28	N=32 -.48***	N=28 .16
			N=27 -.18					N=30 .09	N=28 -.28
SP - Grades	N=22 .05	N=31 .09	N=22 -.07		N=28 .00	N=32 .37**	N=28 -.01	N=28 -.47***	N=22 -.47***
			N=24 -.15		N=29 -.24		N=33 -.25	N=29 -.15	N=27 -.15
	N=60 -.02	N=17 .36	N=48 .06		N=30 .26	N=24 .09	N=35 .21	N=32 -.06	N=28 -.17
			N=27 .10					N=30 .21	N=28 .13

* P ≤ .10

** P ≤ .05

*** P ≤ .01

TABLE III

MATRIX OF RANK DIFFERENCE CORRELATIONS - TIME METAPHOR TEST COMPARED WITH OTHER VARIABLES (WACHAGGA SUBJECTS ONLY)

Group	I	II	III	IV	V	VI	VII	VIII	IX
Time - TAT	N=94 .01	N=48 .17	N=127 -.09	N=146 .17**	N=87 .01	N=65 -.01	N=95 .11	N=119 .19**	N=104 .21**
Time - DF									
Time - SP									
Time - Coffee	N=31 -.12	N=14 -.82***	N=49 .20		N=31 -.34**	N=20 -.33	N=22 .00	N=58 .02	N=45 -.08
Time - Color	N=92 .03	N=46 -.28**	N=125 -.09	N=137 -.05		N=65 .04	N=95 .07	N=119 -.04	N=109 -.03
Time - Grades	N=23 .03	N=27 .05	N=22 -.11		N=28 .25	N=33 .35**	N=29 .17	N=28 .08	N=21 .18
			N=24 .24		N=2[illegible] .31		N=33 .05	N=29 -.20	N=27 .09
	N=54 .04	N=17 -.42**	N=47 -.17		N=29 -.31*	N=23 -.01	N=34 .14	N=32 -.15	N=26 .02
			N=23 -.15					N=30 -.49***	N=28 -.27

* P ≤ .10
** P ≤ .05
*** P ≤ .01

TABLE IV

MATRIX OF RANK DIFFFRENCE CORRELATIONS - COLOR PREFERENCE TEST COMPARED WITH OTHER VARIABLES (WACHAGGA SUBJECTS ONLY)

Group	I	II	III	IV	V	VI	VII	VIII	IX
Color - TAT	N=97 .12	N=46 .24*	N=128 .10	N=137 .11	nb	N=65 .02	N=95 .22**	N=119 .14	N=104 .09
Color - DF									
Color - SP									
Color - Time	N=92 .03	N=46 -.28**	N=125 -.09	N=137 -.05		N=65 .04	N=95 .07	N=119 -.04	N=109 -.03
Color - Coffee	N=31 -.22	N=14 -.28	N=50 -.08			N=20 -.05	N=23 .15		N=44 .42***
Color -		N=27 .12 / N=17 .11				N=31 .01 / N=22 -.20	N=29 -.25 / N=32 -.03 / N.35 .17		

* P < .10
** P < .05
*** P < .01

nb. Group 5 did not take the color prefeience test.

Systems of Authority in Meru

by

Paul Puritt

The Meru of Tanzania are an agricultural, Bantu-speaking tribe who inhabit the southern and eastern slopes of Mount Meru. They are historically related to the Chagga, but appear more Masai-like due to their proximity with the Waarusha, agricultural Masai, who occupy the western half of Mount Meru.

When the Meru first arrived on Mount Meru they had a paramount chief (Mangi) and a series of clan and lineage leaders (vashili; sing. nshili). This paper will describe this "original" system of authority and four other systems which were subsequently introduced to Meru society from outside. It will be seen that each new system was incorporated, or more precisely, was added on to the existing situation so that today all five systems of authority function side by side with little, if any, conflict.

The Meru began to occupy Mount Meru some 400 years ago. When they arrived they were led by a Mangi and the vashili of several clans. Until the establishment of German rule, Meru society was governed by a Mangi chosen from the royal clan who had absolute authority. Each of the clans (there are now twenty-five clans) elected one nshili who was the head of the clan and together they formed an advisory council to the Mangi. Under them were the washili of each lineage. Social control was exercised by these men who solved problems by holding meetings at the local lineage level. If disputants could not be brought to agree or if unanimous consent of those present could not be reached, the case would be taken to the clan nshili. If he also failed to resolve the problem, the highest "court of appeal was the Mangi whose decision was final and binding. Fines invariably consisted of food and/or beer which were consumed by the nshili andthe various elders who assisted him in arbitrating the dispute.

Approximately 130 years ago the Waarusha were given permission to settle on the southwestern slopes of Mount Meru by the Meru Mangi. They thrived in this environment and became more powerful and numerous than the Meru. After years of pitched battles and ambushes in which the waarusha were almost always victorious, they succeeded in influencing the Meru to the extent that Meru adopted many aspects of Masai life. This included dress, men abandoning cultivation, and the Masai system of age-sets and age-grades. The age-grades introduced a new system of authority involving leaders of each age level called lokonan, but more often simply "age-grade vashili". Age-sets were initiated according to the Masai schedule under the jurisdiction of the Kissongo Masai laibon. Age-grade vashili dealt exclusively with disputes arising among members of each age level. If they failed to resolve a case, it was taken to the clan vashili and on up eventually to the Mangi if necessary.

With the establishment of German rule in Meru at the turn of the century another system of authority was introduced in the form of village[1] jumbes (headmen). The jumbe had the power of the German government behind him and besides collecting tax he often was involved in solving disputes. In the beginning the Meru put forward their own vashili to become jumbes, but when it became obvious that their own interests clashed with those of the administration, they tried to elect men as jumbes who had no authority within the indigenous tribal organization. Later, when the authority of the jumbes became well entrenched, they acted as a third legitimate body of social control.

British administration introduced a modern court system in Meru in 1925 with the Mangi as magistrate. In the 1950's local courts were established and the Meru elected as magistrates men who were known to be honest, reasonable, and good speakers. These men were not necessarily chosen from the ranks of the vashili or jumbes. The courts acted as yet another system of authority for the maintenance of social order, but they did not replace the existing systems. Serious cases were taken directly to the magistrates at the insistence of the government, while minor disputes were still heard first by local leaders and, perhaps, even the Mangi, with only the more difficult of these cases being taken to the court. One reason for the preference of airing cases before the vashili rather than the magistrates was that fines were paid to the vashili in the form of food or beer instead of cash. Cash was, and still is in some parts of Meru, a rare commodity.

Since independence the government has introduced Village Development Committees and, in 1964, cells were established which group every ten houses under a leader chosen from one of the ten houses. Along with their primary task of mobilizing the people for development projects, the VDC officers and ten house leaders act as an additional source of social control in Meru. Cases which are not of direct concern to the lineage, clan, or age-grade are often taken to these men[2] for arbitration. Here, as well, fines are paid in kind rather than cash.

Today, these five systems of authority are all active and effective throughout Meru society. Many Meru appreciate the alternatives which this allows in choosing where one prefers to have a dispute settled. In fact, the choice is often predetermined by the spheres of influence which are defined for each set of leaders. Cases involving homicide or theft must be heard in the courts. Tax evasion is a matter for the jumbe who in turn may choose to take the offender to the magistrate. Rights to land and boundary disputes are dealt with by the clan and lineage vashili. Problems arising among age fellows or between age levels are usually resolved by the age-grade vashili.

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[1]While there are no true villages in Meru, named localities based usually on the natural divisions of streams, etc. are referred to as villages.

[2]Women are also elected to positions in the Village Development Committees, but they do not serve as aritrators of disputes.

With the abolition of the position of Mangi as the chief executive, his role as the final court of appeal has been replaced in most cases, especially those involving the development of Meru, by the local TANU branches where the VDC leaders often serve as arbitrators.

In my study of cultural change among the Meru, I have divided Meru history into four stages: the years that the Meru occupied Mount Meru before the arrival of the Waarusha, from the time of Waarusha influence over Meru until the arrival of the Europeans, the period of European rule until independence, and from independence until today. Since the existence of the "traditional" system of authority in Meru which comprised only the Mangi and the clan vashili, each successive stage has seen the introduction of at least one new form of social control. The object of this paper has been to show the ease with which each new system was incorporated into Meru society and the consistency which each shows in remaining active in the maintenance of social order. In questioning informants about such things as how the role of the clan vashili has changed since the advent of European rule or how the position of the jumbe has changed since independence, invariably the answer is that there has been no change.

The implications of this for the study of culture change are not yet completely clear to me. Certainly Meru society is not alone in exhibiting this type of conservatism together with a willingness to adopt new forms of social control. Swartz, in his study of the Bena, has indicated the existence of a similar situation: "....Bena political structure and functioning has shown important continuities, particularly at the village level, during the eighty to one hundred years of remembered history. During that time there has been little change in the socially significant characteristics of village officials or in the manner of their operation."[3]

All this leads me to take exception with a statement by Apter that, "History is strewn with political societies and the pace of discard has if anything quickened in the political tempo of today's world. This is particularly so with tribal systems in Africa. Culture does not die easily. It shows amazing persistence and stubborness. To a smaller extent, social institutions can show great resilience, but political institutions, dependent for support and legitimacy on the entire network of social and cultural institutions, are notoriously fragile."[4]

It would seem that political institutions are equally persistent and that perhaps we must pay more attention to the underlying stubborness of the entire fabric of culture in the face of more obvious although superficial cultural changes.

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[3]Swartz, Marc J., "Continuities in the Bena Political System," Southwestern Journal of Anthropology, Vol. 20, No. 3, Autumn 1964, p. 241.

[4]Apter, David E., The Political Kingdom of Uganda - A Study in Bureaucratic Nationalism, Princeton, New Jersey, Princeton University Press, 1961, pp. 8-9.

LABOUR FORCE SURVEY OF TANZANIA*

by
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A. Introduction.

The labour force survey of Tanzania, which is currently being completed, is a country-wide survey of the labour force based on a random sample of the population. It is the first survey of its type to be conducted in Africa, outside of the United Arab Republic. Thus, many of the methods were necessarily experimental and, although they had been tested in other underdeveloped countries, they had to be adapted to local circumstances. Part of the value of the survey, therefore, will be its usefulness as a basis for future work of this kind in East Africa.

The labour force survey was conceived by the manpower planning unit of the then Directorate of Development Planning. In 1963 the Tobias Report[1] recommended the creation of a manpower planning organization as the first step in meeting the manpower needs of the country. While this unit was to concentrate on high-level manpower needs, there was a lack of adequate data upon which to base any large scale manpower planning throughout the country and the need for a country-wide survey became evident.

There were four objectives of the survey. First, to supply information about the labour force of Tanzania — estimates of employment, unemployment and underemployment. Second, to provide a qualitative evaluation of the labour supply, testing the hypothesis that unskilled labour is in excess supply in Tanzania. Third, to discover whether labour force survey techniques used in other countries could be adapted and successfully employed in Tanzania. And finally, to provide data for further research on a variety of subjects, ranging from population and labour force mobility to family patterns.

The entire survey was financed by a grant from the Ford Foundation, with the exception of some minor costs such as punch operators and secretarial assistance. The grant was made with the stipulation that the work be completed within one year.

This paper is a description of the organization and implementation of the survey. The methods used and the problems incurred are emphasized in order to provide some insight which may be useful in evaluating the data when it becomes available. More important, however, it is an attempt to provide some guide to other surveyors in East Africa so that they might avoid our errors and capitalize on our successes. Inasmuch as the data has not yet been fully processed and the official report not yet completed, no attempt will be made to present or evaluate the results of the survey.

B. Concepts used in Survey.

Before discussing the techniques employed in the labour force survey, it seems advisable to briefly elucidate the concepts and definitions which were used.

The primary technical objective of the labour force survey was to

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*"Tanzania" refers only to mainland Tanzania.

**All of the views and conclusions in this paper are my own and should in no way be interpreted as reflecting those held by the Manpower Planning Unit of the Government of Tanzania.

[1] George Tobias, High Level Manpower Requirements and Resources in Tanganyika 1962-1967, Government Paper No. 2 of 1963, Dar es Salaam: Government Printer, 1963.

classify the population according to its labour force status at a given point in time. The major classifications are: (1) in the labour force — employed or unemployed; and (2) out of the labour force — keeping house, in school, or unable to work. Two groups are excluded from the labour force by definition: (1) persons under fourteen years of age, because these are the years in which the majority are either attending school or have not acquired sufficient knowledge to make a significant economic contribution; and (2) people confined to institutions (prisons, jails, mental hospitals, etc.) for long periods of time. The labour force status of the remaining population is then determined according to its activities. Those not in the labour force are keeping house, in school or unable or unwilling to work.

The two major classifications of the labour force are employment and unemployment, while underemployment is a subclassification of employment. Employed persons include all those who have reached their fourteenth birthday by the beginning of the reference week and who are in at least one of the following categories: (1) at work -- persons who performed any work for pay or profit during the reference week; (2) with a job but not at work -- persons who, having already worked in their present job, were temporarily absent during the reference week because of illness or injury, industrial dispute, paid holiday, bad weather, etc.; (3) employers and workers-on-own-account; and (4) unpaid family workers -- persons who assisted in the operation of a business or farm without remuneration and worked at least two full days (or fifteen hours) during the reference week.

Unemployed persons include all those who have reached their fourteenth birthday by the beginning of the reference week and who are in at least one of the following categories: (1) workers available for employment whose contract of employment has been terminated or temporarily suspended and who are without a job and actively seeking work for pay or profit; (2) workers available for work (except for minor illness) during the reference week and were seeking work for pay or profit, who were never previously employed (new entrants) or whose most recent status was other than that of employee or who had been in retirement (re-entrants); (3) workers without a job and available for work during the reference week who had made arrangements to start a new job at a date subsequent to the reference week; and (4) workers on temporary or indefinite layoff without pay.

Underemployment is a more difficult concept to measure. Underemployment appears in various forms, some of which can be measured with relative ease and some of which are almost impossible to measure. The International Labour Office has distinguished two types of underemployment: (1) visible underemployment (partial unemployment), which involves shorter than normal periods of work; and (2) invisible underemployment, which is characteristic of persons whose working time is not abnormally reduced but whose earnings are abnormally low or whose jobs do not permit full use of their capacities or skills (disguised underemployment), or who are employed in establishments or economic units whose productivity is abnormally low (potential underemployment). Underemployment, according to this definition, excludes persons who are unemployed and also excludes those who are not in the labour force but who are willing to take employment, though they do not seek it. The labour force survey of Tanzania relied on two parts of the I.L.O. definition in designing questions to make estimates of the extent of underemployment: normal working periods and normal earnings. The other aspects of the I.L.O. definition did not lend themselves to measurement in this survey.[2]

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[2]It should be pointed out that the I.L.O. concept of underemployment does not conform to what is usually found in the literature on the subject, viz., where the marginal productivity of labour is zero or less than one. The interesting questions will be why a particular proportion of the labour force is working only part time and/or receiving less than the minimum wage.

C. The Sample.

In order to obtain the most accurate data from the survey, two separate samples were used — one for the urban area and another for the rural area. The former was designed to measure employment and unemployment, and the latter survey stressed questions relating to underemployment. It was originally intended to use a 2 percent sample of the entire country. However, this would have meant conducting 34,000 household interviews during a six week time period; time did not allow a survey of this scope. As the Tanzanian Government was most interested in a benchmark for urban unemployment, the urban sample remained at 2 percent, while the rural sample (95 percent of the population) was cut to .5 percent.

1. Urban Sample. The urban sample was drawn from the fourteen towns in Tanzania with a population of at least 5000 persons at the time of the 1957 Census. Current population estimates for these towns were prepared with the assistance of the Central Statistical Bureau. Ideally, the sample should have been drawn from a complete listing of all the housing units existing in the selected towns. This was not possible since such lists do not exist in Tanzania. Furthermore, the time and personnel required to prepare such listing would have exceeded the budget limitations available for the survey.

Since the field enumeration was to be a survey of households, rather than individuals, an estimate of household size was needed. The 1957 Census showed an average family (household) size of 5.3 persons; this was assumed to have increased somewhat, owing to the reduction in the death rate and the increase in the birth rate, and a figure of 6 persons per household was assumed.[3] This allowed an estimate of the number of households and the enumeration districts necessary to achieve the desired 2 percent urban sample. For example, the estimated population of Dar es Salaam at the time of the enumeration was 156,000 persons, which, divided by 6, gave an estimated household total of 26,000. A 2 percent sample of this would require enumeration of 520 households, or 104 enumeration districts.

The next step was the examination of reasonably up-to-date[4] aerial maps of each of the fourteen towns. These maps were blocked off in groups of five dwelling units (any structure not clearly appearing to be a public building, institution or industrial structure), and designated as potential "enumeration districts." After squaring off the entire town these enumeration districts were then numbered consecutively from left to right and top to bottom.

The final selection of the actual enumeration districts was done from a random number table. Each sample enumeration district having been selected was then traced from the large map to a 10" x 8" piece of paper with street names and good landmarks inserted so that the enumerator could easily locate these five dwelling units.

2. Rural Sample. Owing to the lack of information (aerial maps, streets, etc.) necessary to secure a random sample in the rural areas, a somewhat less scientific process of selection had to be undertaken. However, an effort was made to be as representative as possible. The following criteria were used. In order for a village or minor settlement to be selected, it

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[3] After the field work had been completed, and the results tallied, it was discovered that this household size estimate of 6 persons was too high. The actual household size in both urban and rural areas was 5.7 persons, which had the effect of slightly reducing the sample size.

[4] The most recent maps were photographed in August of 1964, and the earliest in December 1960.

had to be within reasonable proximity of a road or railway line (enumerators had to use public transportation) and within two hours (by public transport) of accomodation (government rest house, or hotel). Most district maps were available and villages assumed to have 50 to 100 houses[5] were selected as potential "enumeration districts." Depending upon the number of villages this size within the district, from 10 to 20 households were designated to be enumerated in the village. The election of specific households to be enumerated was left to the enumerator who was to make his choice along several guidelines explained in the Enumerator Training Manual. Finally, since the enumeration had to take place within a six week period, an attempt was made to choose a basic route through an entire region; this further limited the range of village selection. Such a route was necessary in order to keep all enumerators in close contact with their supervisor, so that a discussion of problems encountered during the field work, as well as a questionnaire check, could take place every few days.

D. The Questionnaire.

The questionnaires were printed completely in Swahili. Since there were two samples, each designed to concentrate on a particular characteristic of the labour force, two questionnaires were designed, one for the urban areas and one for the rural areas. An attempt was made to design the questionnaire to facilitate both the question and answer process, the coding and punching process, and to ensure compactness. The questionnaire was, therefore, designed so that information from an entire household (up to twelve persons) could be recorded on one sheet. This considerably reduced the number of papers having to be carried by the enumerator, minimized the chances of losing questionnaires and eliminated loss or mix-up of households.

1. Urban Questionnaire. The front page of the urban questionnaire contained the household information related to questions 1 through 8,[6] while the back of the questionnaire held the labour force information related to every person in the household fourteen years of age or over. There were six blocks of questions, one for each person, containing questions 9 through 15.[7] In some cases more than one questionnaire had to be used, when there were more than 6 persons in the household fourteen years of age or more.

2. Relationship of concepts to urban questions. In order to first determine the labour force classification, every person over fourteen years of age was asked what he was doing "most of last week"[8] and the appropriate answer circled.[9] If the answer was "working", three more questions were then asked, in order to determine the class of work, the number of hours worked and the number of shillings earned the previous week.[10] If the person was looking for work (i.e., unemployed)[11], two further question s were asked to determine whether the person had been previously employed or was a new entrant to the labour market, and how long he had been seeking work. And finally, if the person had a job but was not at work, a question was asked in order to determine the reason.

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[5] This was determined by asking Government employees in the Directorate of Development Planning who were familiar with the areas.

[6] See Appendix I.

[7] See Appendix I.

[8] The reference week in all cases during the survey was the previous seven days to the interview date.

[9] See question 9, Appendix I.

[10] See questions 10 through 12, Appendix I.

[11] See questions 13 and 14, Appendix I.

3. Rural questionnaire. The rural questionnaire had the same basic design, although the questions differed. The front of the questionnaire contained the questions relating to the household information[12], as well as the questions pertaining to the household shamba[13]. On the back of the questionnaire were the six blocks with the labour force questions,[14] one block for each person fourteen years of age and over.

4. Relationship of concepts to rural questions. The rural questionnaire had more questions than the urban; these were added in an attempt to achieve a measure of underemployment. The respondents were thus asked the quantities of various crops they had grown on the family shamba during the previous season[15] and how many hours the shamba was worked and the number of persons engaged in that work during the previous week[16]. These two pieces of information could then be compared with the standards chosen for employment and earnings in order to determine whether or not a person was underemployed and to what extent. District wholesale crop prices per pound were secured from the Central Statistical Bureau and multiplied by the amount of the crop grown per week[17] to yield a gross weekly income for the shamba. To our knowledge, this method has not been employed before.

The respondent was asked which crops were grown on the shamba during the last growing season, the amount of each grown and the length of the growing season of each.[18] Three further questions concerning the sale of crops[19] were later discarded because of the infrequency of the answers.

The classification of labour force status was achieved by asking each person fourteen years of age and over what he was doing most of last week.[20] For persons working on the shamba, further questions[21] determined the method of transport to the shamba, and the hours worked during the reference week. Persons working other than on the shamba were asked their daily activity, hours and earnings[22] for the previous seven days. This daily listing proved necessary owing to the variety of activities engaged in by people in the subsistence sector not regularly employed.

E. Training Manual.

A detailed enumerator training manual was compiled early in the survey. The manual was divided into eight sections, the first three of which were received by all enumerators for study before reporting for training.

The first three sections dealt with the general objectives and concepts of the labour force survey.[23] The fourth section defined housing and dwelling units and gave examples of housing units to be found in Tanzania[24] so that the enumerator would be able to select a proper household for the interview.

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[12] See questions 1 through 8, Appendix II.

[13] See questions 9 through 15, Appendix II.

[14] See questions 16 through 20, Appendix II.

[15] See question 11, Appendix II.

[16] See question 18, Appendix II.

[17] Derived from questions 11 and 12. See Appendix II.

[18] See questions 10 through 12, Appendix II.

[19] See questions 13 through 15, Appendix II.

[20] See question 16, Appendix II.

[21] See questions 17 and 18, Appendix II.

[22] See question 20, Appendix II.

[23] See Section B. of this paper, pp. 1-2.

[24] For example: single family dwelling units, multi-family buildings, the "Swahili" type house, multi-building housing units or compounds, and age-group quarters.

problems which might have arisen and ways in which these might be solved. Because of the uncertainty of transportation and weather, plans had to be very flexible; schedules were generally adhered to for about the first month, while in the last two weeks of the enumeration the rains in Northern Tanzania disrupted schedules considerably.

An effort was made to place enumerators in regions in which their home was located, so that they would be familiar with the area, and so that they would be able to handle any difficulties with the language where Swahili was not spoken. However, many enumerators expressed the desire to travel in places remote from their home villages in order to see more of the country. Where possible, these requests were met.

The system of payment of the enumerators was complex. Each was given an official introductory letter with his name and an assigned number which was to be presented to the Barclays Bank in their training center. They were given Shs. 1000/- as an advance. The supervisors were to inform the Dar es Salaam office well in advance when more money was needed. Th e system worked well in the beginning but, owing to the slowness of the mails, two payments were nearly missed before the teams left the areas. Consequently, after the second payment, supervisors simply requested specific sums from the head office which were sent by check care of the Regional Commissioner in their current area; the Regional Commissioners co-operated by cashing the checks. At the completion of the survey, each enumerator brought his travel receipts to the office, and his final salary was calculated. Midway through the field work, reports from supervisors that hotels often had to be used, since government rest houses were not available or large enought, resulted in an increase in per diem from 20/- to 30/- for enumerators and from 30/- to 40/- for supervisors.

As noted above, letters were sent to Area Commissioners well in advance of the field work, requesting them to inform the people about the survey. They were also asked, where possible, to arrange accomodation at government rest houses for specific dates and numbers of people. Most Area Commissioners were very helpful, putting some enumerators up in their own homes, getting them into rest houses, or small hotels where the rest houses were not adequate. However, some Area Commissioners did not answer our communications and several nights enumerators had to fend for themselves.

A week before the survey was to take place the Minister of State for Planning, then Mr. Swai, broadcast on the Swahili radio, explaining the purpose of the survey and urging co-operation. For the most part the broadcast proved to be a great aid to the survey. However, it caused considerable confusion in Dar es Salaam. For, at the time of the Labour Force Survey, two other surveys were being carried out in the city, one by the Central Statistical Bureau and one by Marco Surveys. Although the broadcast assisted these surveys, some people, when approached by our enumerators, said they had already been interviewed, and answered the survey questions only after a lengthy explanation on the part of the enumerators.

H. Problems of the Field Survey.

1. "Near" Arrests. During the course of the survey, particularly in the rural areas of Tanzania, the enumerators had a great deal of difficulty with local TANU officials, who had often not been informed of the survey and, consequently, were suspicious when strangers began moving from house to house. Usually the enumerators reported to the local officials before attempting any contact with households, but several times the TANU officials did not believe the survey had been approved by the Government and in many cases could not read the Swahili letter of introduction. One group of three enumerators was nearly arrested. They had

received permission from the Area Commissioner, but when they got to the village the TANU officials held them in a room until the representative from Area Headquarters arrived. Other enumerators had similar problems of "near" arrests, as indicated in these enumerator reports:

> The crest of the problems throughout enumeration came about in ____ Region. This time it was mainly the general attitude of the people towards us. In the first place, the people... were not well informed of what was going on. For example, at ____ we followed all the necessary procedures of enumeration. But while at work, a local leader crept quietly and phoned to the district authorities that there were suspected visitors whose work is unknown and they want to hold a "political meeting." This was, of course, very serious, but luckily we took the phone and explained what sort of people we were and the authorities allowed us to go on, before reporting to them later in the same day. 27a. "All names of places in this section have been excluded in order to protect enumerators"

Another enumerator, with a sense of humor, writes:

> Then I proceeded to ___ the next day....I started with marching six solid miles from the main road to Singida towards ——— with all my luggage over my head. After three hours I arrived at ____ . While marching I remembered the journeys of Karl Peters through Gogoland at the time of colonization of this country. We arrived...at midday where we had the poorest reception, despite all the tiredness. We met the local leaders, who, after the longest explanation of what we had come for, suspected us as "unknown immigrants." They pretended to find a house for us, but instead they were ringing for the police at _____ Indeed they did so; they held us from enumeration and wanted to arrest us. Their only excuse was that they were not informed of our arrival and that there is "another world around Tanzania", especially in Gogo country. We found no solution except to leave for (____ that night in the next train.

2. Missing Villages. Another problem, not so frequently encountered, but which did present difficulties, was presented by the fact that villages had moved. Several times the travel plans called for enumerating a certain village and when the enumerators arrived in the vicinity they were informed that this village no longer existed. Because of shifting cultivation, as well as the new trend towards co-operatives and village settlement schemes, whole villages have moved; as a result, emergency telegrams were sent and new villages chosen. In other cases, a village was not in the precise location as the map (many times out-dated) had indicated, or the village name had been changed. Supervisors were instructed to use their discretion in changing enumeration areas; this worked well, as they had helped with the initial sample selection.

3. Lack of Co-operation. Many times the enumerators were faced with a group of hostile villagers and in some cases even run out of the village. In spite of the publicity given to the survey, many people, and particularly the women, refused to answer some of the questions. Sometimes the enumerators were sure that the people were deliberately giving them false answers but this, of course, is to be expected in a survey of this type.

> The main problem before me was mainly social. In many enumeration districts I met women who could not give proper answers. This applied in most of the African and Asian households, ... , ... in the commercial area of the city. This problem arose because most of the householders work in the city all the day long, and some could be available for

> only a few hours in the evenings. It was a common handicap among the women that very few could give the income figures of their husbands. Close to this was the problem among many shopkeepers; most of them could not give the income figures from their business. I would take a longer time in explaining what was wanted than filling the questionnaires. This problem was mostly acute among the Arab and African merchants.

And another enumerator reports:

> ...for the first time I had some difficulties in extracting information from the people. People here were misinformed about this survey. The thought that the Government was carrying out this survey for the purpose of giving employment to the unemployed and also help (financially) the ones who were very poor. Coming from the same area, I knew those who gave the wrong information and thus, although I recorded what they told me, in order not to disappoint them, I never handed them to the supervisor, but took subsequent households for this village.

The time consuming process of explanations when the officials had not been informed is indicated by the following report:

> We thought it better to go to ------ before tackling ------. Accordingly we arrived there at 10 a.m. and, for the first time, were confronted with obstinate TANU men. The District Executive Officer was away from ----, so we contacted the TANU Branch Secretary, who felt he could not allow us to begin work We showed him our papers together with the copy of the letter sent to the Regional Commissioners. The secretary remained unimpressed. In which case, we told him, could he just jot down a line or two mentioning our arrival and subsequent refusal to operate in ----? He hurriedly brought in another influential person to throw some valuable light on the matter. The second man argued that we could easily be spies, acting as imposters! And that our letters of introduction could as easily be cyclo-styled. Luckily, a third man, who happened to have heard about the survey on the radio, intervened. At last we were getting somewhere. Permission was finally granted. Some of the most unco-operative people, the ...' , did not care about the survey, and it took the secretary (who earlier had opposed us) and his comrades to persuade the respondents to answer civilly. We had to enumerate in a bar; the secretary found us men from a nearby market. Curiously enough, when we were through, a lot of people found themselves wanting to be interviewed. Some who had earlier refused to answer questions were eager to oblige.

In some cases the purpose of the survey was totally misunderstood and the enumerator was forced to listen and write down long grievances against the Government.

> In most cases no publicity had been given by the various leaders; thus the common man was not aware of what was going on. At times people were reluctant to answer anything as they had not been notified by their V.D.C.'s or Area Commissioners. With those people who had listened to the broadcast on the Labour Force Survey there was no problem. People wanted to know whether this survey would help them personally.

Still another enumerator wrote:

> The greatest difficulty and also a great handicap to our noble work, that confronted us in our first enumeration districts and

in many other areas that we were to visit was the lack of publicity with regard to our work. This, of course, necessitated a delay of one day or two to allow for publicity since it would have been impossible for the respondents to give out fairly correct answers without them being assured of the idea behind this survey. In places where a bit of publicity was done prior to our arrival, I am afraid to say, that the precursors either misinterpreted the motives of the survey or made our reception too formal and political in nature that we sometimes used to meet huge crowds of people waiting for us in the sum. In addition to this we were even expected to address public meetings with regard to our visit.... Luckily enough my group was led by a man of politics (one of the NUTA supervisors) used to addressing huge crowds of people and also somebody who could understand very well that language of economists which is still Chinese to many of our political leaders.

And finally, in many instances, particularly around Lake Victoria, the survey was so well publicized that the enumerators were given a feast and celebration.

> Before the introduction of the survey, many respondents were very reluctant and suspicious, some thought out job was mainly concerned with tax, and would tax them on their incomes; those who are unemployed thought that we were going to remove them from the towns to their homes. Some were also happy that new jobs would be created for them.... After the introduction of the survey in all sample areas, people became very co-operatives. In----------Region, ngomas and traditional dances greeted us. We addressed mass meetings and told the people about the Labour Force Survey. We were later welcomed by both the-------- and --------- TANU leaders and elders; a goat and sheep were slaughtered for us, and the same thing happened at----------.

4. Weather. The weather also presented formidable difficulties to the enumerators. Many times they were forced to enumerate in the pouring rain in order to keep to their schedules and sometimes transportation completely stopped. Since the rains were moving northward during the entire enumeration, nearly every group was faced with this difficulty. Oftern, only the co-operation of the Area Commissioner saved the enumeration from being delayed for weeks; Government Land Rovers were supplied, and sometimes drivers provided in order to get the enumerators from place to place.

> We arrived at at noon and that is where the bus stopped, the road to the ferry a distance about seven miles being muddy and full of pits owing to the rains. We had to find our own means to the ferry only to find the pontoon had been removed. So we had to cross the River by means of dugout canoes, the fare being 5 cents per trip per head.

In other cases the only means of getting the enumerators into areas of the country was by plane. One of the enumerator's reported his experience in this way:

> I was one of those lucky or unlucky to go aboard on this Government plane bound for . But the very fascinating point is that, this was my first experience in my lifetime to fly. So one could just imagine what was going on in me, moreover I took my seat just beside the pilot, oh, it was really wonderful.....Finishing our work in..... we then once more took our plane which was now bound for..... As we neared

> there were a lot of clouds and it was raining. The pilot prepared himself for landing only to find that the field was in a mess not fit for landing. I wondered whether they had turned the field into ridges for potato planting. We now changed course and headed for Tabora; I wasn't perturbed by the failure to land anyhow because it extended my ride.[28]

And finally, one enumerator summarizes his unfortunate experiences concerning the weather:

> To begin with, let us consider the climate, which usually varied from place to place. Both at..... and..... I did my enumeration when it was raining cats and dogs. As if this were not enough, the ground was flooded with water, and one could hardly trace the simple path which was usually so thin among high bushes on both sides as to be almost impossible..... Because of the lack of all weather roads and the shortage of public vehicles, travelling from place to place was also a problem. In the former case one would often find himself deep down in mud praying in vain to push out a passenger truck; while in the latter case dust thrown inside open-board trucks, which often covered us all over was the source of dissatisfaction. In fact, one would sometimes hesitate to introduce himself as a worker from the President's office because of either mud or dust. Perhaps such outward appearance was responsible for some suspicion shown towards us by some natives who saw us either dust or mud-covered.

Other, less severe, problems occurring during the survey related to accomodation and poor communication with the Dar es Salaam office.

5. Questionnaire Problems. Most of the questions pertaining to members of the household -- the number, ages, years of schooling completed, and place of residence at the time of Tanganyika's Independence -- were answered with little difficulty. Questions which posed difficulties related to the concept of women in the household. Evidently it was not made clear to the enumerators that a woman keeping house was not working for pay or profit (she was out of the labour force): these and other mistakes were corrected when the questionnaires were checked in the head office. Another concept which often gave the enumerators trouble was the classification of unpaid family workers; those working less than 15 hours during the reference week should have been classified as out of the labour force entirely -- they were often included in the labour force. Such errors were corrected during the final checking process.

It was found early in the survey that reliable information relating to questions 13 through 15 on the rural questionnaire was simply not forthcoming. Less than 5 percent of the households claimed to have sold anything.[29] On this basis alone, the following two question were discarded. Furthermore, the responses to question 15 (amounts received) that were recorded were most often so out of line with reality as to make it immediately obvious that the information was useless. Several people, for example, claimed to have sold more of a crop than they had grown during the season; the same was true for prices, which were often reported as ten times higher than the going market rate!

With respect to questions 10 through 12 on the rural questionnaires, a problem was incurred in the early stages of the survey. Question 11, which

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[28] The enumeration in was eventually completed, for the enumerators got onto the bi-weekly train to after waiting three days in Tabora.

[29] See question 13, Appendix II.

asked how much of specific crops had been grown in the previous season, was answered with a variety of measurements, which changed from village to village, district to district and, sometimes, even farmer to farmer. In order that these quantities might be reduced to a common denominator the enumerators were instructed to go to the local markets to find out the equivalent of these various measurements in terms of pounds. It was these quantities which ultimately provided the basis for a computation of gross income which could then be compered to the national average in order to arrive at an estimate of underemployment.

I. Computor Problems.

All the survey data was to be computor processed. The urban data, however, was counted and sorted by Hollerith machines because it entailed only 6000 punched cards, while the rural data was programmed for the computor by I.C.T. in Nairobi.

The punch operators were very often careless and di not follow instructions accurately -- there was a 25 percent punching error in the urban cards after they had been verified! This resulted in a considerable delay when the entire urban results had to be hand checked agai st the original questionnaires.

J. Survey Budget and Time Table.

The entire survey cost £.16,000, most of which represents enumerator salaries, per diem allowances and travel expenses. The following table shows the proportion of total expenditure devoted to various items.

Table A. Labour Force Survey Budget

Budget Item	Percent of total cost
Total Personnel Costs	87.5
Supervisor salaries, per diem allowance, and travel expenses	14.0
Enumerator salaries, per diem allowance, and travel expenses	66.0
Overhead[1]	3.0
Enumerator Books[2]	4.0
Insurance (Workmen's Compensation)	0.5
Other Costs	12.5
Supplies	1.0
Printing[3]	4.0
Clerical Services	0.5
Administrative Travel	1.0
Computor and Programming costs	4.0
Miscellaneous	2.0

[1]Paid to University College Dar es Slaam, for handling payment of enumerators throughout the survey.

[2]Six economic books were given to each enumerator as a gift for taking part in the survey.

[3]includes the printing of the questionnaire forms and the estimate for publication of the final report.

Originally the survey was to take a year. This has not been possible owing to some of the problems explained in preceding sections.

Preliminary work began when the Survey Manager arrived in Tanzania mid-September 1964. Since the survey was to be completed in one year, extensive research into other surveys in East Africa was not attempted. In the first stage the writing of the enumerator training manual, the selection of the sample areas, and the design of the questionnaires were undertaken; this took three months. The second stage, which took two months, involved the selection of supervisors and enumerators, and preparation of travel schedules. In the third stage supervisors were trained, the questionnaire tested and training centers for enumerators prepared. In the fourth stage the enumerators were trained (from February 22nd through March 15th) at the four training centers. During this time individual travel schedules and necessary materials were assembled for each enumerator and final financial arrangements made with Barclays Bank. In the fifth stage the field enumeration was undertaken -- March 15th through May 10th of 1965. During this time completed questionnaires were immediately sent to the main office for checking and coding. The next stage involved the punching and programming process and took two months instead of the original four weeks allotted. At the present time, the final report is being prepared and should be published in the very near future.

K. Implications and Conclusions.

For the most part, the questions asked on the survey were good. At this juncture only three questions related to the crop data in the rural areas must be discarded.[30]

All questions related to the seven days immediately preceding the interview date, and in this respect, the reference week was not uniform throughout the country. Several districts were enumerated in mid-March and the last group of households in the first week of May. This may have involved a more substantively significant time span than the six weeks imply. Activity probably alters considerably in the weeks and days just prior to the rains. Consequently, some shambas were not worked at all during the reference week because the rains had not arrived while others were worked as long as 90 hours that week because the rains had begun. It is, therefore, important to remember, when examining the results of the survey, that no seasonal adjustment has been made, nor was it possible to do so. The amount of employment, underemployment and unemployment recorded may or may not be the average amount in the country during 1965 -- we simply do not know. However, some insights into the seasonality of the totals might be gained by examining them in conjunction with planting and harvesting patterns.

One of the major shortcomings of the pre-survey planning was the lack of sufficient publicity. The campaign was not begun early enough, nor repeated often enough, to adequately inform the people. While co-operation was received by Area and Regional Commissioners, and TANU, they were not requested to start publicizing the survey soon enough and, consequently, much of the lack of co-operation from the people and law authorities could have been avoided. Swahili broadcasts should have been made periodically for two months prior to the commencement of the field enumeration.

A major complaint of the enumerators was that only the women of the households were home when they arrived, and could only answer questions related to age, schooling and mobility. The enumerators, thus, had to return in the evenings to complete the questionnaires.

For future surveys it would be desirable to train survey managers, acquire village records with the number of households, and to secure transportation schedules, lists of government rest houses and hotels and their rates well in advance. The survey also pointed up the need for an updated

[30] Subsequent surveys might prove more of the questions to be of dubious use.

rural aerial mapping survey.

Students fresh out of Form VI appear very willing to work for their country and it is recommended that they be used in the future for surveys of this type. It is important to require enumerators who have been accepted for positions to mail an acceptance letter verifying the date and place they are to begin work; many students were notified that they had been hired and never appeared for training. Training periods should be longer, and much more practice enumeration should be undertaken. Actual sample areas might even be used for the practice, and the occupants informed that the enumerators would return. This would provide a double check on answers and act as an introduction to the survey.

One of the important pieces of information gained from this survey is the fact that highly trained manpower is not needed to carry out surveys of this type. One of the chief bottlenecks typically blamed for the lack of statistical data in underdeveloped countries is the lack of trained enumerators and the prohibitive cost of acquiring them. Our experience demonstrates that there are inexpensive, efficient alternatives. It should be pointed out however, that the enumerators used had reached a high educational level, and it remains to be seen how much lower educational backgrounds could be used as effectively. However, the possibilities should be fully explored for used in various types of statistical work.

Time is needed to test the questionnaire; both for the answerability of the questions and the understanding of the enumerators. The experience of other surveys in the same and neighbouring countries should be fully evaluated so that the same errors will not be made. In the case of our survey there was simply not enough time to do this and some information was secured too late to be useful. The entire experience demonstrates that more than a year is necessary to undertake such work where it has not been done before and that time limits may lead to costly errors.

The main conclusion, however, is that the labour force survey should be conducted on a continuing basis. The manner in which the survey was carried out lends itself to instituting it on an annual basis, at relatively low cost. The advantages of continuing such a survey on an annual basis are obvious. It would provide a steady stream of data upon which manpower estimates could be made; each successive enumeration would test the occuracy and, hopefully, improve the quality of the data. Furthermore, the exposure of the people to continous enumerations should increase their co-operation with all surveys and, thus, enhance the Government's ability to carry out other surveys. And finally, if the survey is instituted on this basis, the impact of certain aspects of the development plan will be measurable; an employment index is certainly one of the most valuable measures of the effect of government activity.

While the date from this survey on the whole may be fairly accurate, it, of course, should not be relied upon for extensive manpower planning. This will only be possible after further surveys and the smoothing of errors and problems have taken place.

APPENDIX I.
Labour Force Survey of Tanzania
Urban Questionnaire

Question:

1. What is the name of the head of this household?
2. What are the names of all people staying in this household?
3. Is ...a member of the household? (Yes or No).
4. What is the relationship of ... to the head of this household?
5. How old is... (in years).
6. Is ...male or female?
7. How many years of school has ... completed?
8. Where did ... live when Tanganyika became independent? (December '61).

(Questions 3. through 8. are to be asked of every person listed under questions 1. and 2.).

Question 9. is to be asked of every person in the household who is fourteen years of age or over.

9. What was...doing most of last week? Circle one of the following:
   A. Working
   B. Looking for work
   C. With a job but not at work
   D. Keeping house
   E. In school
   F. Unable or unwilling to work

If answer to question 9. is A, answer 10, 11 and 12:

10. What kind of work was...doing last week? Circle one of the following: (1) Self-employed; (2) Trade and hawking; (3) Government; (4) private wage employment; (5) Domestic service; (6) Unpaid family work.
11. How many hours did...work last week?
12. How many shillings did...earn last week?

if answer to question 9. is B (i.e., unemployed), answer 13 and 14.

13. Has...worked for wages before (place X in Box 1) or is this the first time...has been looking for work (place X in Box 2)?
14. How many weeks has...been looking for work?

If answer to question 9. is C. answer question 15.

15. Why was... not at work last week? (Check the appropriate reason):
    (1) on holiday or leave
    (2) Ill
    (3) Bad weather
    (4) Other (specify)

If answer to question 9. is D, E or F, simply check the appropriate box.

APPENDIX II.
Labour Force Survey of Tanzania
Rural Questionnaire

Question:

1. What is the name of the head of this household?
2. What are the names of all people staying in this household?
3. Is...a member of the household? (Yes or no).
4. What is the relationship of...to the head of this household?
5. How old is...(in years)
6. Is...male or female?
7. How many years of school has...completed?
8. Where did...live when Tanganyika became independent? (December 1961).

(Questions 5 through 8 are to be asked of every person listed under questions 1 and 2).

Questions 9 through 15 are to be asked only if the household has a shamba.

9. How far is the shamba from the house (answer in nearest whole mile).
10. What crops were grown on this shamba (the household's) during the last season? (Season here means growing season).
11. How many pounds of ... were grown?
12. How long did it take to grow...? (Answer in weeks)
13. Did you sell any...? (Yes or No).
14. How many pounds of ...did you sell? (only if answer to question 13 is Yes.
15. How many shillings did you get for the sale of...? (Answer only if answer to question 13 is yes).

(Questions 11 through 15 are to be asked for every crop which has been listed under question 10).

Question 16 is to be asked of all persons in the household who are fourteen years of age and over.

16. What was...doing most of last week? (Check one of the following:)
    Working on the shamba
    Doing other work
    Looking for work
    Keeping house
    In School
    Unable or unwilling to work

If answer to question 16 is "working on shamba", answer 17, 18 and 19.

17. How did...get to the shamba (Circle the appropriate answer: (1) motor vehicle; (2) bicycle; (3) walk.
18. How many hours did...spend working on the shamba?
19. Did...do any other work besides working on the shamba? If answer is yes, go on to answer question 20; if answer is no, stop.
20. What kind of work was...doing? (In the blocks below, write the activity, hours worked and shillings received for each day during the reference week).

Day	Activity	Code*	Hours	Shillings
1				
2				
3				
4				
5				
6				
7				

*code for activity in question 20. (1) Own Account; (2) Employee; and (3) Unpaid family work.

No. 389.
Peter Rigby.

GOGO KINSHIP AND CONCEPTS OF SOCIAL STRUCTURE

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The Gogo are a Bantu-speaking people who inhabit what is now the Central Region of Tanzania. They numbered some 300,000 in the 1957 census. Their country, known as Ugogo through Swahili usage, lies primarily in the thorn-scrub plain formed by the eastern arm of the rift valley where it becomes rather indistinct. It lies between 2,900 and 3,900 feet above sea level.

The crucial factor in the ecology of Gogo society is rainfall. The single rainy season of about five months a year is extremely erratic, and actual rainfall varies a great deal, both from year to year and from place to place in Ugogo. Over most of the area it averages just over 20 inches a year, but owing to periodic failure frequent drought occurs, resulting in famine. No rivers run throughout the protracted dry season in Ugogo.

Gogo subsist basically upon the hoe-cultivation of sorghum and bulrush millet crops, but also rely upon their herds of cattle, sheep, and goats, to a great extent during famine and drought and to a lesser extent all the time. Most Gogo own, or have rights in, some livestock, and many have very large herds. The predominant values of Gogo society, in economic exchange, ritual, and symbolic contexts, are expressed in terms of cattle.

These ecological and economic factors influence Gogo society in two ways: (a) they affect the density and the residential stability of the population and (b) they affect the type of goods which constitute the major heritable property.

II

The economic preconditions of segmentary lineage systems with corporate unilineal descent groups have frequently been indicated and stated as crucial factors in the type of kinship structure characteristic of these societies (Fortes 1953:24; Forde 1957; Worsley 1956). The absence of such conditions has also been cited to explain the absence of corporate unilineal descent groups (Richards 1950:251; Fortes 1953:35). However, I would suggest that it is not simply the incidence of rights in heritable (durable) property which is the crucial point in the correlation between types of kinship structures and economic systems, but rather the economic conditions which allow a certain degree of 'stability and density of population' (Forde 1947:218-219,221). Thus the type of property in which the rights are vested is also a factor. It would appear that corporate unilineal descent groups are often (but not always) associated with subsistence economies centred upon heritable land rights, which stabilize groups of kin in fixed localities (Worsley 1956; 69). This does not mean, of course, that all societies with lineage systems have this type of economic system: for example, the transhumant Bedouin and the Nuer are cases in point (Peters 1960; Evans-Pritchard 1940), as is that of the nomadic Somali (Lewis 1961). In this type of society, rights in property are primarily in livestock but they have developed segementary lineage systems. It would appear that in the case of more nomadic or semi-nomadic groups with livestock, in an environment with extremely scarce resources of grazing and water, the political functions of lineage organization (which after all is their primary function) assumes an importance in demarkating areas within which only members of particular agnatic groups may have rights, for example, in grazing and water. It will be seen that among the residentially mobile Gogo, rights in grazing and water are free everywhere, although rela-

tively scarce, and this is also the case among the Jie and Turkana, who do not have segmentary lineage systems (Gulliver 1955:34-35,255-256).

The crucial point is a limiting one. Where rights in a fixed land unit are heritable, in the context of a subsistence economy, the localization of those with interests in that land is inevitable (Worsley 1956; Fortes 1945:180). When land is not heritable property, rights tied to local areas are irrelevant. If cattle or other livestock constitute the primary form of property, the dispersal of kin in each generation becomes at least a possibility. The Gogo provide a case where livestock constitute the most important heritable property, and dispersal of kin in each generation in not only a possibility but often a necessity. Although agriculture is the basis of subsistence, usufructuary rights in land are not inherited and thus the localization of descent groups becomes irrelevant, if not impossible.

The problem arises: if the domestic group is the point of articulation between the sphere of cognatic, interpersonal kinship relations on the one hand and the external 'politico-jural domain' on the other (Fortes 1958), and the structure of the latter is not based upon corporate unilineal descent groups (as is the case in Ugogo), what kind of articulation is there between the structure of domestic groups and the type of structure which exists in the politico-jural domain?

It will be seen that the external domain in Gogo society it composed of two aspects: (i) an ideology of kinship based upon clans, sub-clan names, and patrilineal descent and (ii) the system of ritual areas (bounded) and vaguely defined and fluid local communities (neighbourhoods). We are thus led to an examination of the pattern of residence, kinship relationships, and co-operation in local communities, and the influence upon this pattern of a patrilineal descent system which produces dispersed, broad descent groups, 'corporate' only in the sense of being 'exclusive name-owning groups'(Fortes 1959:208).

It is not my intention here explicitly to pursue the significance of the present analysis either for 'types' of general kinship theory, or for 'types' of kinship system. But the material presented here bears directly upon these problems. The emphasis in my analysis of the Gogo kinship system lies upon the operation of 'kinship network' in terms of locality and residential mobility. The reason for the relative weight I assign to cognatic kin and affinal ties in the context of locality and co-operation, over those of descent embodied in clan, sub-clan, and patrilineal group affiliation, will, I hope, appear. An analysis of this type necessarily involves a considerable (but not entire) reliance upon numerical data; the 'statistical facts' of social action rather than normative statements about it (Fortes 1949b:56-59;Leach 1961a:8, 9,300). Such data cannot be presented in any detail within the limits of a single paper. But naturally,both kinds of data are relevant and significant for structural analysis, although one must beware of assuming a necessary convergence (or divergence) between them (cf.Beattie 1959:46-47; Nadel 1951:107-114).

III

In the following description of Gogo clans, sub-clans, avoidances, and so on, I want to emphasize that I am putting forward formal concepts of descent and kinship in terms of Gogo conceptual categories themselves. I am not talking about 'groups' such as 'major lineages', 'minor lineages', and so on, defined in functional terms. This latter procedure may be applicable to the description and analysis of segmentary lineage structures; it is not so in the case of a society like that of the Gogo. I am describing the broad categories into which Gogo themselves conceive of their society as being divided. As these cate-

gories are based upon the general application of a concept of patrilineal descent, I am describing what may be called an 'ideology' of patrilineal descent. It will be seen that these categories are not always clear or unambiguously defined. This is because Gogo themselves frequently have rather fluid ideas about the functions of these broader categories of kin, and there are even local differences as to what the terms really mean. We may say that the principle of affiliation upon which these categories are based is, in theory, rigid and unambiguous, but what the categories actually mean for Gogo society and kinship structure may vary somewhat from place to place, time to time, and even opinion to opinion.

All Gogo are divided into over 85 named patrilineal clans; or, at least, I have used the term 'patrilineal clan' as a 'translation label' for the Gogo concept mbeyu. The word mbeyu literally means 'seed', 'kind', or 'type'. One belongs to the mbeyu of one's social father or pater. The term denotes a classification of all persons into the most fundamental categories possible. Everyone must belong to some mbeyu, and each can only belong to one mbeyu. This applies equally to all non-Gogo who, of course, are thought of as belonging to non-Gogo clans. The fundamental and exhaustive nature of this classification is true of all clanship systems, which constitute what may be called 'kinship by assimilation'. Many Gogo clans share their names with clans amongst neighbouring peoples, including the matrilineal Kaguru and the patrilineal Hehe, Kimbu, and others. In fact, all Gogo clans have histories of migrations and founders who traced their descent to one of the great number of surrounding peoples. These histories are remembered, retold, and handed down by the elders on all occasions when clanship becomes important, such as at weddings, funerals, inheritance ceremonies, and so on.

Gogo clans are, however, non-exogamous and are not localised, more than that the members of some clans are statistically preponderant in the ritual areas in which their have ritual control. Each clan is linked to one or more ritual areas (yisi) by the possession of rain-stones used in rain-making ceremonies, the stool upon which they are kept, and other insignia of ritual office. The possession of these ritual objects and their relation to a particular area is justified in the clan history.

All the members of one clan have the same 'clan oath' (cilahilo). Clan oaths are commonly uttered when one stubs a toe, sneezes, or suffers some minor mishap. It is designed, Gogo say, to remind one in such situations of one's origins and ancestors and serves to ward off any supernatural dangers which may occur.

Gogo ritual areas have definite physical boundaries, but they are usually small. In 1961-63, the average population of a ritual area was about 3,000 persons. Adjacent ritual areas commonly share boundaries, but in the past it is probable that there were areas of 'no-man's land' between some of them. This, however, is of limited significance. Although these boundaries have meaning for the location of fields (because the efficacy of rain and fertility medicines obtained and distributed by the ritual leader is lost outside them), they do not limit changes of residence, or grazing and other rights.

Ritual leadership (wutemi) in terms of these areas is restricted to the office of mutemi which I have translated as 'ritual leader'. A ritual leader himself cannot carry out most of his functions without the assistance and support of a diviner (muganga). Succession to the office of ritual leader is ideally by patrilineal primogeniture. But this only influences the residence of the small-depth agnatic group, the 'sons of one man', who are directly concerned with the transmission of, and succession to, ritual leadership. The other members of any clan

are actually worked out in Gogo local communities, and in turn the relationships between individual persons with each other. Each individual Ego classifies his kin and affines with whom he actually comes into contact, co-operates with in all spheres of social action, and depends upon through his life cycle, into various categories. The most important of these kinship categories I describe below. Into these categories are grouped the 'actually existing' interpersonal kinship and affinal ties Ego is involved in. The limits pertaining to the operation of these Ego-oriented networks of relationship are 'historical' and 'spatial'ones. But due to the high residential mobility of homestead groups, the potentiality of these relationships is 'spread', if I may use the term, over the whole of Ugogo, in terms of the ideology of descent and the resultant categories I have just described.

Hence each person has a different set of interpersonal relationships, which constitute a series of Ego-oriented networks; only full-siblings, the children of one mother and father, would have very similar sets of operating kinship ties. It is to the operation of these relationships within the context of the local community, and the categories into which they are divided, that I now turn.

IV

Each ritual area with its definite geographical boundaries contains several neighbourhoods (matumbi), although if a ritual area is very small it may be composed of only one neighbourhood. These neighbourhoods are not identifiable as discrete geographical units, either with regard to the positioning of homesteads within them, the fields cultivated by their residents, or the area in which their livestock graze. Neighbourhoods are characterized by the clustering of homesteads, whose members are related by kinship and affinal links, about certain points - usually around topographical features - while the boundaries between them are indistinct.

There is no single principle which characterizes the organization of Gogo neighbourhoods. Due to the relatively high mobility of population in residential terms, the population of neighbourhoods tends to display a cyclical or developmental pattern. Neighbourhoods are founded by a homestead - head taking his cattle and dependents to a new area, clearing the bush, and building a new homestead. If he is rich and successful (and no other person would attempt the founding of a neighbourhood on his own), others will follow him. Some of them may attach themselves to his homestead, or build nearby.

The founder of a neighbourhood need not belong to the clan with ritual precedence in the area in which it lies. He need not seek permission from the ritual leader, but must be known as a person who would abide by the ritual direction of the mutemi. Rights to the usufruct of land for building, cultivating, and grazing are subject only to the rules already outlined.

Population thus builds up in a neighbourhood, until most of the "bush" (mbago) has been cleared. The population will then start declining and building up elsewhere. This process of acretion and decline may take up to fifty, sixty or more years. Although scarcity of cultivable and grazing land within easy reach is cited by Gogo as one of the reasons for population movement out of a neighbourhood, the specific reasons given for residential movements by particular homestead-heads are usually drought, famine, the scarcity of good grazing, or witchcraft socery accusation. When homesteads move from one neighbourhood to another they move independently and the members go to reside near kin or affines in other areas. I will describe later what categories of kin and affines these are, both in terms of Gogo values about them, and in terms of their statistical frequency in the clusters of homesteads which make up the neighbourhood.

It is immediately apparent that, because land is not inherited, the localization of agnatic descent groups broader than full-siblings and paternal half-siblings is not an issue in Gogo society. In fact the emphasis

lies the other way - to create cattle-owning homestead groups which are independently mobile and can therefore adjust to the vagories of a marginal economic environment and difficult ecological conditions.

Hence after the death of a homestead-head and father, the domestic group of which he was head soon disolves. Fission takes place primarily along the line of differentiation between sets of full-siblings linked to each other as paternal half-sibling or parallel cousins. The matricental unit of one woman and her children (a "house" nyumba) forms the basis of the new, and independent, residential and domestic unit. The fission of these units from the original domestic units may precede the death of the homestead-head and father, and frequently does; although this is normally reprehensible. Hence agnatic ties do not form the basis of local groups like neighbourhoods, except insofar as groups of full-brothers may live in the same homestead or different homesteads in the same cluster. And these groups of full-brothers may remain at least for a time, near their paternal half-siblings (though hardly ever in one homestead), due to the necessity of contacting the spirit of their dead father through rituals at his gravestone. In these ceremonies, the eldest son of the senior house has precedence, although this too may be challenged by his younger siblings as their own domestic groups mature.

These sets of full-siblings, living in neighbourhood clusters within the neighbourhoods, marry the sisters of of their close neighbours, who in turn marry the sisters of other like groups. I do not mean that there is wife exchange - there is not. But Gogo live near their close affines, and admit that they have to, although attitudes about this are ambigious.

So it may seem that ties of patrilineal descent, broader than those which exist between the "sons of one man", or through patrifiliation and clanship, cut across neighbourhood and ritual area boundaries and have territorial significance only in respect of the stock-holding groups of the ritually dominant clans. But as far as the operation of kinship and affinal relationships are concerned, as opposed to descent groups, it remains valid to isolate the neighbourhood as a unit for analysis. Amongst the homestead-heads of 45 homesteads in one neigabourhod, 126 significant kin and affinal links existed at one time. The total population was 413 adults and children. Of these 126 links between the homestead-heads, only 17 (or 13.4%) were based upon patrilineal descent. Seven of these (5.6% of the total) were between full-and half-siblings.

Links between homestead-heads of the "MB/ZS" category were as frequent as F/S links, and accounted for 9 (7.2%) of the total. Ten (or 7.9%) of all the links were between cross-cousins. But 89 (or 70.7% of the total) relationships between these homestead-heads placed them in affinal categories of one sort or another in relation to each other.

Links between "brothers-in-law" (walamu) made up the largest single category and numbered 43 (34.1%) of the total number of links. The ties between cross-cousin already mentioned would also be dependent upon this pattern of close-residence of affines. For naturally the near-residence of persons in the category "cross-cousins" stems from the close-residence of affines in previous generations.

The homesteads of this neighbourhood were further grouped into three "clusters" (vitumbi). That these clusters were based upon a network of cognatic and affinal ties is confirmed by the fact that 94 (or 75%) of the total number of links were intra-cluster links, and only one quarter (25.4%) were between homestead-heads living in different clusters. Although members of all homesteads in the neighbourhoods, and even from nearby neighbourhoods, co-operate in such activities as communal agricultural work and beer parties, tighter groups like herding associations (kuhanza ndima) are usually based upon the homestead-cluster within each neighbourhood.

It must be kept in mind that these figures refer to homestead-heads who stand in these relationship categories to one another, and that they think them significant. They do not necessarily refer to actual genealogical links of "own wife's brother" and so on, although in many cases they do. The significance of these categories will appear later. But first we must examine briefly the developmental cycle of the domestic group.

V

The headship of a homestead, whose core is the domestic group, is the only role with aspects of political and jural authority which is available in Gogo society, apart from the ritual roles of mutemi and diviner. Being the head of a homestead (munyakaya) means acquiring the only status in Gogo society which confers full jural and political stature upon a man in the external domain. He automatically becomes an "elder" in relation to the ad hoc local courts of elders which are the main judicial bodies of Gogo society; although there is an incipient age-set organization, and real seniority in age is necessary for full acceptance as an authority in the elders' courts.

The status of homestead-head is also the only one through which a man can gain full control over the deployment and ritual welfare of the most important property in Gogo society: livestock. For the homestead group is the basic "stock-owning" unit in Gogo society. Yet within it, the homehead herd (itewa) is divided up and allocated to the various matricental units of married woman and their children which make up the homestead. And the full-brothers in one "house" will inherit only those livestock allocated to their own and their mothers' "house". This is carried out during the husband/father's lifetime, although he retains final control over the herd in his byre.

Gogo homesteads are built around the cattle byre, and it is the livestock herd which symbolizes the unity of the patricentral domestic group which is the core of the homestead.

But it is also over livestock and its deployment and use that the major conflicts occur which lead to fission in Gogo domestic groups. Polygyny is highly valued, although only 30% - 35% of married men have more than one wife with them at one time. Bridewealth is comparatively large. Thus Gogo recognize that conflict between father and adult sons over the deployment and use of livestock is inevitable, although it is, of course, highly condemned. Witchcraft and sorcery accusation between father and son is frequent and is expected.

One solution to this problem is that adult sons, together with their mother (if she is beyond childbearing), their wives, and children, may move away and set up their own homestead; although this action is strongly condemned in moral terms. The son thus establishes his own cattle-byre and thence has at least partial control over his own herd. Sets of full-brothers are kept together because they cannot divide-up the herd they have obtained from their father, even after his death, until their mother dies.

Hence fission in agnatic groups occurs at a very"low level" and in each generation, as regards both corperate rights in property, as well as common residence. The house-property system facilitates this process. And the general result (of small, relatively independent, stock-owning units, free to move their residence) interlocks with the general economic processes and ecological conditions evident in Gogo society.

Gogo homesteads, however, do not move haphazardly; they cohere in clusters on the basis of close cognatic and affinal ties. Gogo themselves represent the choices involved as being between residing with or near agnatic kin on one hand, or near matrilateral or affinal kin on the other. As it is desirable (and statistically frequent) for close affines to live near each other, the move represented by a break-away of a house to go and live near matrilateral or affinal kin, may not be spatially very great, although on occasion it can be. But the crucial point is not distance, but the establishment of a new homestead, with an independent byre, and all that this means in Gogo society.

VI

Gogo have neither a preferential marriage system nor, as I have indicated, unambigously defined exogamous groups. Of a sample of 203 marriages, past and present, only 45 (22.2%) were between kin of any category. Of these, only 11 (24.3% of kin marriages) were between classificatory cross-cousins. Another 13 were between persons already "affines" in one way or another.

Nevertheless, as in all marriage systems where no prescriptive rules or effective preferences exist, locality is an important factor in the selection of spouses. This is particularly so in Gogo society, due to both the normative preference for residence adjacent to close affines, and its high statistical frequency. In the sample of marriages already mentioned, over 50% took place between persons whose homesteads were less than five miles apart at the time of their marriage. 88.5% of the marriages took place within a radius of twenty miles. Marital residence is both normatively and statistically patri - virilocal in its earliest stages.

I conclude, safely I think, that the incidence of kin marriages is a function of this highly restricted spatial range. Gogo theorize that it is desirable to marry classificatory matrilateral cross-cousins, but no marriages are arranged on the basis of the prior existance of this relationship. Such a marriage is logically compatible with the Gogo theory of patrilineal descent; but in fact the existance of a cross-cousin relationship is only invoked when the marriage is already arranged, as an argument for suggesting that it will be a good one. I came across one marriage with "actual" MBD, but this is strongly condemned as it confuses the bridewealth contributions on which the conjugal tie is based. Let me explain why this is so.

Bridewealth (cigumo) for a young girl should ideally be over 20 head of cattle and 16 to 20 small-stock; it can be as much as 30 head of cattle. Actual transactions average 15 head of cattle and 11 small-stock. For the first marriage of a youth, his father and other agnates should contribute $\frac{2}{3}$ to $\frac{3}{4}$ of the cattle, and most of the small-stock. His matrilateral kin, particularly those who stand in the category "mother's brothers" to him, should contribute $\frac{1}{3}$ or $\frac{1}{4}$ of the cattle and some small-stock, including a special goat (itambi) essential for ritual purposes. This duty usually falls upon mother's full-brothers who have been in contact and co-operation with their sister and her children throughout their upbringing. But it technically may lie with any person in the category "mother's brother". The bridewealth is distributed in the samemanner amongst girls' agnatic and matrilateral kin.

The crucial point is that the matrilateral kin, the "mother's brothers", who take part in bridewealth transactions, should have been in constant contact and co-operation with their sister and her children. Particularly at the intiation and other life-crisis ceremonials concerning his sister's children (both boys and girls), a "mother's brother" should provide certain animals used in medicinal preparations and ritual, which ensure the recovery and health of his sister's children. In turn, when a man dies, one of his sister's sons (usually the one he has been in close contact and co-operation with) must provide a sheep for the ritual "cleansing" of the inheritance symbol, the bow (wupinde), before his own sons can inherit it.

For this continued close "economic" co-operation and ritual interdependence with matrilateral kin to be possible, close residence is (in the long run) essential. This implies, of course, the desirability of the close residence and co-operation of affines, for Ego's "mother's brothers" are, of course, his father's "wife's brother's". In fact, close co-operation in all spheres of activity is normatively stressed for brothers-in-law.. A man knows that his own sons cannot properly contract their first marriages without the co-operation, in the economic and ritual spheres of the marital contract, of his own wife's brothers.

This co-operation and interdependence with affinal/ matrilateral kin further distinguishes sets of full-siblings from their paternal half-siblings. Each "house" or set of full-siblings has its own matrilateral connections, different from that of their paternal half-siblings; sororal polygny occurs only in exceptional circumstances and its frequency is insignificant. Note that this differentiation of paternal half-siblings occurs on both the levels of property and economic transaction, as well as ritual interdependence; although, of course, the "house" unit only has meaning and status in terms of its membership of the patricentral domestic group under the authority of the husband/father, from whom it obtains both property and kinship status.

We may now see why the Gogo "model" of the really important choices about the relationship categories which aperson must appreciate and manipulate during the course of his lifetime, lie between close agnates, matrilateral kin, and affines. There is no basis, either in terms of residence or property relations, for a person to be dependent upon, or form a corporate group with, agnates or patrilineal kin beyond his paternal half-brothers. Even in the broader political and territorial context I have outlined, unilineal descent groups have no important functions as corporate groups.

Ego is dependent, however, upon the relationships he can "play off" between his own siblings, and the kin who stand related to him as "mother's brothers'", "cross-cousins", and "brothers-in-law". As affinal relations are essential to the interdependence of roles which fall within this complex of relationship categories, and as affinal relationships of this kind are set up (or at least have to be renewed) in each generation, there must be some stability in them. The stability of the conjugal bonds upon which affinal relations are ideally based is confirmed by the very low divorce rate in Ugogo. The divorce rate, in terms of Barnes's Divorce Ratio (see Barnes 1949) is 9.6. This is very low. And divorce, when it does occur, is usually brought about before the marriage is properly settled; marriages ending in divorce had lasted an average of only 3.3. years.

(Rigby, Jan.1966)

Table of Basic Kin-category terms.

WB/ZH	Reference:	Reciprocal term mulamu; might be derived from 'those with whom we visit'.
	address:	mbuyane: implies great familiarity but attendent strains. Near joking.
	" :	latalai: derived from Baraguyu (Masai) term elatia, 'neighbours'.
MB/ZS	Reference:	kuku/mwihwa: kuku = grandfather, both paternal and maternal; but this does not indicate 'extended Omaha' type terminology (cf.Radcliffe-Brown 1950:34-35).
	address:	reciprocal bulayi, from Baraguyu olapu (genetive apulai,'myMB/ZS'). Implies close, intimate relationship with additional element of obligations over livestock eschange.
FZS/MBS	Reference:	reciprocal muhizi; might be derived from kuhiza, 'to steal', i.e. 'thief-kin'. Joking. (Derivation explicit but not universally accepted.)
	address:	'baguma' , joking relationship.
B/Z	Reference:	reciprocal, ilumbu (lyangu:'mine').
	address:	personal name; very close relationship, expected to endure through life. Ritual interdependence.
H/W	Reference:	mulume/mucekulu (mugolece); second term for wife more formal and honorific.
	address:	personal name, bestowed by husband on marriage. Wife uses husband's name. This is generally a formal, slightly distant, relationship, though Gogo recognize passionate involvement (mbwiga) but condemned. Passionate and emotional attachments should be formed (normatively) outside of marriage, in highly institutionalised lover relationship (mbuya). Formality of H/W relationship thought not to adversely affect ideal closeness and familiarity of WB/ZH; but in fact to help the continuation of the latter by causing no disruptive incidences.
F/S	Reference:	sogwe (declined)/mwana (declined).
	address:	'baba'/personal name, or 'baba' in joking (identification of alternate generations, as 'my son' is equated with 'my father'). Strain when son reaches marriageable age, especially if father rich and unreasonable.

A consideration of the terminology which designates these kinship categories is really necessary for a full understanding of them. I am afraid there is no time to give that here. But the most important may be summed up as follows: (See accompanying table).

The high incidence of Baraguyu (Masai) terms in the system of address implies "exchange of livestock" relationships. Thus"daughter's husband" refers to his father-in-law as mukwe wangu, and the latter refers to him as mukwe mulima wangu; literally "the in-law who cultivates" This defines their structural asymmetry in formal terms. But in address, they commonly call each other by the reciprocal term wandawo, which implies respect but is derived from Masai ndauwo (heifer) and indicates "those who have been involved in the exchange of livestock". And so on.

A closer examination of this terminology used by Gogo to indicate these central relationship categories further illustrates their critical interdependence, in this case on the level of a set of "ideal categories" espoused by Gogo. We have already had a brief look at their statistical incidence in the co-operating local communities, and the jural norms which define them in terms of rights, duties, and obligations, in both the economic and ritual fields.

VII

I have attempted to show, unfortunately only in outline, that the Gogo kinship system, in the political-jural domain, cannot simply be described as a set of formal patrilineal descent groups which provide the basis for corporate political action and local organization. For Gogo society, local organization in the neighbourhood must also be described in developmental terms; because no formal rules exist to relate kinship groups to local units. And the pattern of residence in turn cannot be seen outside of a consideration of the cycle of development in the domestic group, the property relations which provide its mainspring, the early fission of agnatic groups, and the role of affinal relationships. Finally, the setting of these processes in the general ecological context in which they occur, and the economic system which influences them, is consistant with the structure of kinship relationships I have outlined.

I have stressed the structural importance of affinal relationships in the Gogo kinship system, as against those of descent. One of the central factors promoting the economic and ritual co-operation of persons involved in a fluctuating set of cognatic and affinal relationships is spatial propinquity, while spatial separation tends to reduce the maintenance of effective agnatic descent links. This occurs within the general pattern of an overall residential mobility of domestic groups, over fairly lengthy periods. The factor of descent does not produce co-operating (or corporate) groups beyond the "sons of one man". But the affinal, and resulting cognatic, relationships set

up in each generation and between proximate generations do provide strong localized bonds upon which co-operation in all spheres, including the economic and ritual, is based. The network of kin relationships involved in such co-operation is in each case an Ego-oriented one. It does not provide the basis for groups with corporate rights in property. But the individual persons involved have mutual rights and obligations in each other's property which must be fulfilled as a condition of the proper functioning of relationships within the categories of kin involved. The broadest property-holding group is the patricentral domestic group, progressively more sub-divided into its constituent matricentral house-groups.

Hence, although patrilineal descent is a basic element in Gogo kinship relations and theory, the emphasis in the Gogo system lies more upon relationships which derive from successive steps of filiation (which is always "bilateral", if I may introduce the term here), and affinity. We may give, then, the factors of filiation and affinity important and equal emphasis in the operation of the Gogo kinship system. Relationships of descent, on the other hand, are operationally important only at a "shallow deepth" level commensurate with the other two. I have tried to put into perspective in an operational context what could in other ways be viewed as a considerably elaborate ideology of patrilineal descent.

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No.394
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"HISTORICAL ASPECTS OF CURRENT MIGRATION INTO BUGERERE COUNTY, Buganda."

by

A.F. ROBERTSON

Bugerere is the most easterly of the Baganda Ssazas, a strip of land some 74 miles long, and between 10 and 15 miles broad. Although it would be rash to overstress the insularity of this county, it is clear that the natural boundaries have been important determinants of the present migration situation. In the North, Bugerere is bounded by Lake Kyoga, making for a number of fishing communities around the agriculturally unattractive Galiraya area. On the one hand the lake has restricted Bugerere's contacts with its northern neighbours, Lango, Teso, Bukedi and Bunyoro, but on the other, improved water communications eventually turned this barrier into a positive advantage. The Victoria Nile flows down the east flank of the county, flowing faster in the south than in the north where it widens out into the Kyoga basin. For long, traversing the Nile was considered hazardous, and even with six or seven powerboats operating today as ferries many people still assure me that they prefer to seek safer, more roundabout routes. Across the Niles lies Busoga, a kingdom that has always enjoyed quite a friendly relationship with Bugerere,[1] which apparently was an important stage on the Ganda-Soga trade route. The Mabira Forest in the south, now decimated by clearance for estates and peasant cultivation, clearly posed quite a formidable barrier in earlier times, especially on account of its wild animal population. Traces of elephant and rhinosceros are frequently found today, indeed they seem to have been responsible for deseminating orange plants up through the forest fringes and out over the central scrubland of Bugerere. It seems most probable that the fruit was originally consumed in Busoga. To the east is the depression of the Sezibwa, a swamp opening up in places into large expanses of still, weedy water, a haven for disease-bearing insects.

So long as the surrounding regions appeared more or less capable of containing their populations and were, at the same time, in active rivalry with one another, these natural demarcations inevitably singled out Bugerere as a buffer zone of minimal interest to spontaneous settlers. Until well into this centry it remained comparatively empty compared with adjacent territories enjoying much the same environmental conditions. The eastern bank of the Nile is really quite heavily industrialised whereas Bugerere is manifestly still a rural backwater at the latitude of Namasagali.

Of critical interest to the present-day migration trends are the Geographical aspects, which I have summarised elsewhere (2). These concern primarily the pattern of variation along the north-south axis of Bugerere. The south is moist, more fertile and hilly, and permits a wider and more profitable crop - range than the comparatively arid and flat north. The overall elevation varies little, only some 200 feet, but the environmental variations that radiate out from the Lake Victoria area are caught, so to speak, in cross-section by the strip-like situation of Bugerere. Related to this, in terms of the traditional regimes of the region, is the predominance of pastoralism in the north (with fishing) and of sedentary agriculture in the south. This tendency is perpetuated today and is reflected in a broad preference shown by pastorally - orientated migrants for settlement in the centre and north of the county. Likewise the peoples familiar with a banana-based diet tend to settle in the southern areas where

that crop thrives (e.g., Baganda, Basoga, Bagisu). (3) Although proper elucidation on this aspect of settlement should await the completion of surveys currently in hand, I shall offer some brief indication of trends in this regard later.

This purely rural Ssaza has become the goal of migrants from all the East African countries, from Sudan to Tanzania, from the Congo to Kenya. The influx has swollen the population from a mere 5 - 6,000 in the 1920's to about 130,000 today. Over the last 15 years the overall increase has been 600%. This figure is deceptive, however, in that the more attractive south has progressed in this period far more rapidly than the north, changing from a density of virtually nil to one of approximately 800 persons to the square mile. This could be regarded as approaching saturation point, whereas the northern areas are still comparatively empty although they are now today's foci of migration despite their lower economic potential.

The significant points here are that the influx is such a recent phenomenon, is of such vast proportions and consists in such intense ethnic diversity. (4) Bugerere, at the hub of the Lacustrine area has made an industry of small-scale cash cropping. It harbours a new and fertile cosmopolitan society, a very young society in every sense, and is rapidly becoming a major force in the development of Uganda. (5) Description and analysis of the situation can be approached from different viewpoints, but the timing of the situation in terms of the county itself can only be accounted for in historical terms. In attempting to do this I should indicate that I am only offering one raison d'etre for the situation which I am studying from another point of view in the main body of my research. I do not intend using the historical approach in detail to define or analyse the sociological problems that are my prime concern.

In the simplest terms the influx is the current rectification of a vaccuum caused by Bugerere's former inaccessibility, by the prevalence of insect-borne disease and by the insecure political history of the area. Emigration, of course, is in accordance with pressures and conditions in the areas of exodus throughout East Africa, and really beyond the scope of this paper. (4) By way of example one need only consider the population pressures in the Elgon region and the excessive land-fragmentation there to understand the Gisu emigration. Recent political troubles have partly accounted for the Sudanese and Ruandan movements. In singling out the historical perspective I should point out that the bulk of the information here has been abstracted as carefully as possible from a number of detailed sessions with local informants (see appendix). It is necessarily eclectic and is not based on a detailed knowledge of East African history, so if what I say appears naive or inaccurate to the expert I apologise and would welcome correction.

Traditionally what is now the Ssaza of Bugerere was divided into two parts, Bunyala in the north, and Bulondoganyi in the south. The latter has always had strong links with Buganda, and was incorporated into its centralised political structure before Bunyala (6) which has been noted for its closer affinity to Bunyoro. The name Bulondoganyi supposedly derives from the word Buladda. signifying 'a safe place', rather hopefully suggesting its troubled position of tutelage on the Ganda frontier. This area apparently contained an important Ganda-Soga trade link along the track from Kayunga to Nabuganyi. Originally Bulondoganyi was supposedly peopled by migrants of an earlier era who came from the east by way of the Mabira (7). The Banyala of the north, fishermen and cattle herders, allegedly came "from somewhere around Bugondo in Teso" (Jenkins, p.204) under the leadership of a certain Mukonga. It seems probable that an offshoot of this

movement established control over Bulondoganyi under the putative leadership of Mwangu, a descendant of Mukonga (ibid.). The name "Banyala" supposedly derives from an indescretion committed by a Nyala chief while attending a feast at the Kabaka of Buganda's court, okunyala meaning to urinate. The two areas were divided by culture and by a boundary that seems to have varied from time to time across the central area a little north of Kayonza, now the h.q. of Ggombolola Sabagabo. In early times the boundary ran through Kikokiro village, later apparently through Kitwe and Punga (8). The traditional line of barkcloth trees demarcating the boundary seems to have been planted twice or thrice, certainly once by Namuyonjo and once by Kakungulu. Active animosity between the two areas seems to have been minimal, confined to sporadic cattle-raiding on the north and reciprocal punitive sorties by the Banyala.

In Bulondoganyi the chiefs of the Njasa (buck) clan were granted the hereditary title Mulondo by Kabaka Jjuuko of Buganda. Jjuuko ceremonially planted barkcloth trees at the compound of Serunyigo (Mulondo I) to symbolise his new authority. The line then commenced to rule, in Ssaza-chief fashion, from a hill variously called Mulondo and Magala, situated near Nazigo. The Banyala had no fexed centre until Namuyonjo took over and established his headquarters near Galiraya in present-day Ggombolola Sabawali. The most notable of the line of Mulondo chiefs was Bengo V, who stimulated settlement of the area by establishing hunting camps and introducing iron craftsmen to cater for the demand for weapons and for trade goods. The greatest blight on the south was the Mbwa fly, which by the turn of the century had driven the population of Bulondoganyi into a narrow belt around Kayunga. As modern settlement pressed southwards evidence of earlier dwellings were continually being found, smelting sites (possibly in previous forest-clearings) in particular. The people were continually being decimated by disease, and cultivation was seriously hampered by the active animal population.

The Banyala of the north were a tribe under the apparently fairly pervasive leadership of the chiefs of the dominant Mupina clan (9). They spoke, and still speak, the distinctive dialect Lunyala, and still distinguish themselves from all others by the use of the term Abanase, 'natives'. I have heard from more than one source that they quarried and traded reasonable amounts of salt, but I have been unable to trace where this took place. If Bulondoganyi was depopulated by natural causes, Bunyala suffered most from the artifices of two men, the Munyoro Magala Namuyonjo and the Muganda Semei Kakungulu Kwakirense.

In the reign of Kabaka Junju, Bunyala had been sacked and pillaged by the Baganda. Oddly enough, it is from this point that the pro-Ganda protagonists in the Lost Countries dispute date their original fealty to Buganda (1). There was a little sporadic Ganda settlement, but the conquest was certainly not consolidated. By about 1850 Ganda influence in Bunyala was less than tenuous. At about that date there was a Munyoro prince called Magala Namuyonjo, supposedly in the line of the original Babito kings of Bunyoro, living in semi-exile in Kooki after a quarrel with the Omukama of the day. For a number of anti-Ganda activities, notably making illicit levvies on the Baganda peasantry, he and his retinue were flushed out and sent retreating across Buganda. At Mukono he was routed by Mutumpagwa, and suffered a further drubbing at Nasute hill in Kyaggwe. A section of his followers fled to Buruli with his sister, Nangoma, and he himself took refuge in Bulondoganyi, spared death only by virtue of his royal blood. Namuyonjo sought to establish himself anew at Buyego, but the Mbwa fly proved too much for him and he was under jealous pressure from the Mulondo so he moved further north, nearer Kayunga. He offered tribute

and a promise of good conduct to the Kabaka, but possibly because he constituted a threa to the Soga trade-route a Ganda detachment was promptly sent to force him out of Bulondoganyi. This time Namuyonjo fled northwards to Bunyala where he was escorted by a local clan head to Kojjo, head of the Mupina clan. Kojjo granted him asylum, and very soon the two men had become good friends. Namuyonjo's family was given a large tract of land at Banda near Galiraya, and soon became a major force in Banyala affairs.

Magala Namuyonjo's son, Kalema, apparently dedicated himself after his father's death to the restitution of his family in Nyoro circles, and to the establishment of an entente between Bunyala and Bunyoro. He made frequent visits home in the 1870's and 80's, establishing trade links and interesting the Omukama in the possibility of absorbing Bunyala into his kingdom. Eventually he persuaded the aging Kojjo to lend him Kondo, the "crown" of the Banyala, as an act of good faith. He spirited this off to Bunyoro and presented it to the Omukama, bringing back in exchange a retinue of Nyoro soldiers to establish indirect rule under the aegis of the Namuyonjo line. It is possible that Kojjo was assassinated, my informants were not unanimous on this point. The Banyala were plainly resentful, but passive, and by all accounts Nyoro influence never got much of a foothold. Today Banyoro are few in Bugerere and in the North especially their name still has strong pejorative carnotations.

During this time hostilities between north and south increased and there were several pitched battles on the border area. There is strong evidence (11) to suggest that the area from Kyerima to Kasozi was almost totally depopulated in this period, perhaps with the exception of villages by the Nile and the Sezibwa.

In 1896 Semei Kakungulu arrived in the area, fresh from his expedition to Bunyoro to extricate Kabaka Mwangu and his consequent vendetta with the Katikkiro, Apolo Kaggwa, over spoils taken in the campaign. Somewhat in retreat, and also with his eyes on further personal gains, Kakungulu established himself and his followers at Buyobi in Bulondoganyi, and commenced by marking a boundary with barkcloth trees some three miles north of Kayonza. Mulondo Ntalume was entirely acquiescent (12), and with an impressive force behind him Kakungulu sent a hoe, a cooking knife and a spear to Mutale Namuyonjo, the son of Kalema and current usurper to the Nyala chiefship. Mutale prudently chose the hoe and the knife, a gesture of peaceful submission, and Kakungulu moved north establishing fortifications, the largest of which was at Galiraya. He clearly did not rule out the possibility of reprisals from Bunyoro. Bugerere was united, and the way clear for its establishment as one Ssaza within the Ganda system (1900). (13)

In 1897 Kakungulu's skill was called upon by the Kyabazinga to flush the Nubians (Danaglas) out of Busoga. Kakungulu accomplished this with substantial aid from Banyala recruits. The Nubians were put to rout up through Bugerere, laying waste much of the central area again as far north as Bale, and having exhausted their supply of arms were finally dispersed in Buruli. Doubtless stimulated by this success Kakungulu pressed on out of Bugerere a year later in conquest of Teso and Bukedi. With him he took 5,525 Banyala soldiers, surely the bulk of the country's manhood, and with many of them went their families. At one sweet Bunyala was depopulated. The followers of this remarkable man became known as the Abakungulu, and few of them returned home after the conquests. They took up land and frequently became local chiefs in the Ganda-ised territories of Lango, Teso and Bukedi.

At the time of the 1900 Agreement Bugerere was seriously depleted of its aboriginal population and consequently much of the most suitable land (inevitable further north) was reapportioned in favour of absentee Baganda

tenants. Pestilence was no less prevalent, and communications no easier. By 1940 the entire cattle population had been exterminated by rinderpest, and the Mbwa plague was at last claiming government attention. In 1946 a certain Dr. Chorley (14) was despatched to eradicate tsetse, and he appears to have stimulated much big-game hunting in the south, thereby making the area considerably safer for agricultural settlement. In 1952 a government team eradicated Mbwa fly in one two-week campaign. (15)

All told, by the early 1950's Bugerere was a far healthier place than previously. Communications were improving too; a causeway and an old London Bailey Bridge were built over the Sezibwa about 1940. By about 1950 a road was slowly being cut through the Mabira to Kyaggwe. Since the 1930's there had been a steamer service from Namasagali in Busoga operating over Lake Kyoga, and the number of small outboard motor-boats working as ferries between the east and west banks of the Victoria Nile has increased to about seven or eight today. Migrants were starting to flow into the county and soon the grapevine was carrying news of free land and high crop potential to areas of lesser opportunity. Between 1948 and 1950 a number of ex-servicemen and their families were resettled near Nazigo, the only sponsored settlement scheme in the county. Many have since moved out of their originally-allocated plots and sought land elsewhere, saying that they felt (freer' away from the government scheme. Their presence clearly did much to publicise the potential of the south, and in several cases their settlements have formed the nucleus of thriving new communities. At it was heavily forested in 1900 most of what is now Ggombolola Musale was designated 'Crown', now 'Public' land. Because of the greater freedom involved in tenancy this part was immediately attractive to prospective immigrants. The preponderant Mailo land in the north is quite explicitly regarded as less desirable by immigrant non-Ganda, who seem to be suspicious of the ostensible freedom accorded to tenants (abasenze). Long term leases may be taken out on Public land, which appeals more to settlers in terms of proprietary rights and inheritance.

Several informants agree that one of the most stringent arbiters of early settlement in the south was water availability. Many of the village names reflect this, deriving from the attributes of adjacent water-supplies. Wabiyinja, for example, signifies a rock-pool ('water which comes out of a stone') and Nalongo is near a Nile inlet notable for its abundance of water and fish, literally, as fertile as Nalongo, a mother of twins.

From preliminary investigations it seems that the first substantial influx of migrants to Bugerere was in the 1940's,and was initially aimed at the MumyukaGgombolola. They are mainly Baganda from Bulemezi, Kyaddondo and Kyaggwe, and Basoga. Not unnaturally the former settled more densely in the western side and the latter in the east (as names such as 'Kisoga' might testify). It is important here to appreciate, however, that the mixture of different tribes within each community is considerable, and it is seldom possible to find a substantial cluster of homesteads of one tribe or, more relevant, members of one clan or previous local group. The principal reason for this is the system of land - tenure under which the local chiefs at village (Mutongole) and 'Parish' (Muluka) level arrange the distribution and redistribution of land units. One gets land, in this fast-moving Bonanza, where there is a suitable space, not where one's kin are. This is rather less true of the more slowly-settled northern areas, but even so people do not seem anxious to settle in close proximity to their own people, and speak enthusiastically of the benefits of building up new co-operative friendships that frequently become consolidated by the building up of affinal ties. In the earlier days of settlement Kayunga developed as an invaluable 'central Place' and trading post, populated almost entirely

by Asians.(16) As cotton and Matoke (17), and rather later coffee (Robusta) became lucrative cash-crops, so porters (abapakasi) were employed in large numbers from the cash-deficient regions of the west and north of East Africa. As they built up capital and became familiar with the area and its people many took land of their own, particularly in Sabagabo Ggombolola and in parts of Musale. In the areas particularly suited to cotton cultivation, Sabagabo and Sabaddu especially, there are large numbers of 'part-time' migrants from West Nile and the South West of Uganda. These people tend to stay for about six months of each year returning to their homes with cash for the rest of the time. A smallish per cent do this occasionally, most seem to have a perpetual link with one piece of land even to the extent of leaving a wife here perennially and having a regular full-time ticket.

From about 1950 the settlement of the southernmost part of Bugerere began in earnest, and in 1953 pressure of numbers forced Mumyuka to segment and the Ggombolola of Musale was established. (18). Initially Ganda and Soga settlers, plus a good many Banyala (some returning, some simply moving down from the north,) took up land in the area. They were quickly followed by a tide of Bagisu, who are now represented in substantial numbers and tend to regard Musale as home-from-home in a rather possessive way. Large numbers of people from southeastern Uganda also came, Badama, Bagwere, Bagwe, and peoples from the Nyanza region, including Jaluo and Nandi. Today in the south a two-acre public (19) land ticket, including allowance for standing crops, changes hands for between 3,- and 8,000 Shs. In the north the price drops to a maximum of 100 Shs. There, Lango settlers are thick on the land, and appear to regard Bugerere as an agricultural and cash-cropping extension of their primarily pastoral interests across the Kyoga. They tend to return home for all ritual occasions involving the exchange of cattle, yet as time passes a more total committment to Bugerere seems to develop. Many are establishing their own herds here and making fewer visits to Lango.

It is interesting to note that the central area is the most recently settled (20) portion of Bugerere. This seems to me to relate directly to the troubled history of this part, the frontier region between the two former political groups. Today the bush is being burned back, and clearly the next census will register a dramatic population explosion in Sabagabo and Sabaddu Ggombololas. This area has been the goal very recently of a special category of migrants, the returning offspring of the original abakungulu. Apparently they had been under growing pressure in Bukedi, Teso, Lango and elsewhere, and in 1960 decided to petition the Kabaka in a body for a legitimate allocation of land in what they regarded as their homelands in Buganda. They were accordingly granted land in Buruli, Bulemezi, Kyaggwe and Bugerere, the last portion being offered to a dominantly Banyala contingent of 50 or 60 families. They were given a Mailo-like block of formerly Public land near Kyetume in Sabagabo. On their arrival from about 1962 onwards they were greeted with surprised wrath by the people who had established kibanjas there already. Probably the speed of settlement had created a backlog of registration and had confused the central authorities. At anyrate a counter petition was rapidly mounted, and a solution has yet to be found. The most interesting aspect of these events is that Bugerere, which has provided a profitable home for such a variety of East Africans is now attracting back its own aboriginal stock. Moreover it is significant that the settlement of Bugerere in most parts has lacked a strong native back-ground to either hinder or assist assimilation of immigrants. This is certainly wholly true of the south, where direction comes from the dominant Baganda immigrants and the pre-existing politico-jural pattern of the Ganda state.

Further account of the current migration patterns in Bugerere must await the completion of my surveys. In the village studies that are my main concern I hope to arrive at some detailed understanding of the organisation of the domestic groups and their setting in the new communities. Of critical interest here is the volume and ethnic variation of the influx vis a vis the varying environment of the county and, in historical terms, the recentness of the situation in Historical terms. It has been my purpose in this paper to examine the reasons for this recent influx from the point of view of Bugerere itself, and the effect of the traditional and recent history of the area on the current settlement patterns of different parts of the county.

NOTES

(1) It appears that the dialect of Bulamogi in Busoga bears remarkably close similarity to Lunyala. There is clear mutual intelligibility that is not enjoyed by speakers from areas closer at hand. Whatever the reason for this, it seems that some socio-linguistic study of the matter might prove interesting.

(2) A paper read in seminar at the African Studies Centre, Edinburgh University, November, 1964.

(3) I have examined this aspect in detail in a paper given at the Dept. of Social Anthropology, Edinburgh University, February 1965.

(4) In the 1959 East African Census 35 tribes are noted as being represented in Bugerere. In addition to this are unnamed tribes from Kenya, the Congo, Tanzania, and Sudan, plus others not elsewhere identified.

(5) As some sort of index of this one need only refer to the political and economic illusions made about Bugerere in the Uganda press. It is always featured as a 'sounding board' for commodity prices, and the frequent party political activities of the area are avidly reported.

(6) This occurred in 1897, officially. It was given the rank of Sabawali in the Ganda system.

(7) One informant (Selumkuma) spoke of a group of bahima living among the people of Bulondoganyi as cattle-keepers in clientage to owners of Ganda origin. They seemed to live nearer to Bunyala, and Selumjuma cities two of their leaders, Kabanaswa of Wanfufu and Nabonwa of Bakota.

(8) Jenkins (1939) says that in the time of Mutesa I the boundary ran between Kakoge and Lwabyata villages, further north.

(9) Sajjabi translates Mupina as "big-buck", but it may be rhinosceros.

(10) Bugerere officially ceded to Buganda after the Commission of Enquiry into the Lost Counties, in 1962.

(11) i.e., The current settlement pattern, and a description of the antecedents of the area by an informant, Mr. Lubega. In earlier times there were only 2 or 3 villages of any significance in the entire area.

(12) I am unsure of just how penetrating the influence of Kakungulu was in Bulondoganyi. Selumkuma notes that he was Mulondo XIII, but this I rather doubt as the time factor alone scarcely permits his establishment in this traditional role.

(13) Like all the leaders mentioned here, Mupina, Mulondo, and Kakungulu, the Namuyonjo line has its current 'pretender', Mr. Daudi Namuyonjo, or Mukasa, now deputy Gomg. chief of Sabagabo. Mr. Nuwa Byerwanjo counts himself the current Mupina, a fact supported by his Mutakeship (ritual clan headship) of this dominant clan.

(14) A figure surrounded by local legend, often inextricable from fact. I have yet to check his identity and activities.

(15) Again, I regret I have no official information on this as yet.

(16) The Asians in Bugerere have been firmly restricted to the Kayunga township, African sentiment in the other townships being very much against them. In Kangulumira, for example, the strong Traders Association has prohibited their opening premises there for any commercial purposes. About five years ago there was an outbreak of serious racial trouble at Kayunga, involving a prolonged boycott on Asian shops.

(17) Matoke is the Ganda staple food, green bananas.

(18) The earlier shift of population into the Munyuka area had already caused the move of the Ssaza Headquarters from its original base at Bale, Sabaddu, down to Ntenjeru, Munyuka, where it is today.

(19) A Public land ticket is supposed to transfer without charge, only the payment of the official government due, Busulu, being made. However transactions now involve large sums of money, supposedly accounting for the crops standing on the land. Traditionally the local chief received a "Kanzu", a tip, for his role in the transanctions, but today they are equivocal about whether or not they demand this. In sum, exactly what the new tennant is paying for is often rather obscure.

(20) i.e., from about 1960 onwards.

TABLE I

The Mulondo Chiefs of Bulonondoganyi, according to Selumkuma of Kasambya, Musale, Bugerere

No.	Name	Clan	Village of origin	Kabaka at that time	Notes
I	Serunyigo	Njasa		Jjuuko	
II	Nomonge Kakeete	Njasa	Buguvu	Kayemba Kaye	
III	Katebe Kaleyoa	Njasa	Katikanyonyi		
IV	Kisubika Masiimbi	Njasa	Kasana Kampomera		
V	Bengo	Njasa	Bukeka	Semakokiro	(sponsored settlement introduced hunters and iron-workers).
VI	Kolomba Mwasa	Njasa	Nakatoke	Kamanya	
VII	Nkambwe I.	Njasa	Nakatoke		(renowned for sadistic cruelty)
VIII	Nkambwe II.	Njasa	Bukasa		
IX	Namwanja	Mamba	-		
X	Akuganba	Mamba	-		
XI	Nsobya	Fumbe	-	Suna	
XII	Kamanyero	Fumbe	Bwanuka or Kiswa		
XIII	Lwakirense Kakungulu	Mamba	Kooki Ssaza		(Anomalous. The dating in no way matches historical records)
XIV	Ganafa Mukasa Muganzi Awongera	Nsenene		Mwanga	(Supposedly ousted for non-Christianity).
XV	Kikwalo	Mpindi	Butulume		
XVI	Ntalume	Mpindi	Butulume		
XVII	Kivebulaya Temteo also Temteo	Mpindi	Nateeta	Daudi Cwa	
	Redesignated a Ssaza of Buganda - 1897				
XVIII	Kyeswa	Mpindi	Bulondo	Mutesa II	(Current nominal Mulondo.)

TABLE II

The Line of the Namuyonjos, according to M.K. Sejabi, Ggombolola Chief Sabagabo

MAGALA NAMUYONJO	The first of the line to enter Bugerere. Supposedly in the line from the Babito kings of Bunyoro.
↓	
KALEMA NAMUYONJO I	Established liaison with Bunyoro.
↓	
MUTALI NAMUYONJO	"Deposed" by Kakungulu
↓	
MUTANGA NAMUYONJO	
↓	
KALEMA NAMUYONJO II	
↓	
DAUDI MICHWEZI NAMUYONJO II	Currently Dep. Ggombolola chief, Sabagabo, Bugerere. Sometimes called Mukasa. Resident of Wabunyonyi village.

TABLE III

The line of the Chiefs of the Mupina Clan, according to Nuwa Nyerwanjo of Wabigwo Village, Mumyuka, Bugerere

(The 'line' appears to have passed horizontally from brother to brother before being passed on to sons. Details of this could not be given.)

KOJJO I	Befriended Namuyonjo, deposed by Kalema Namuyonjo.
↓	
BOOKI OMUNYORO	
↓	
KOJJO II	
↓	
KWEGINGERA	Apparently he never had the opportunity of being Mupina head, but from him the continuation of the line was traced.
↓	
NDAWULA	Brother of Kubyazaka
↓	
KUBYAZAKI	Brother of Mumyemi
↓	
MUMYEMI	Father of Nuwa Byerwanjo
↓	
NUWA BYERWANJO	Still living, of Wabigwo village.

SOURCES

Most of the information in this paper was obtained from the undermentioned residents of Bugerere, for whose co-operation I am most grateful:-

DOCUMENTED:

Sejabi, M.K. 1962. Evidence placed before the Commission of Enquiry into the Lost Counties.

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UNDOCUMENTED:

Byerwanjo, Nuwa Musale Gomb. Mupina notes and line.

Lubega, M. Sabagabo Gomb. History of the Central area.

Luboyera, E. Musale Gomb. Settlement of Mumyuka and Musale.

Luwano, G.W. Sabagabo Gomb. The Abakungulu.

Male, M. Musale Gomb. Chorley, and original settlement of Musale.

Musawula, F. Musale Gomb. Bunyala history. Abakungulu.

Nakumanyanja, J. Musale Gomb. Bugerere, 1900-1950.

Namuyonjo, D. Sabagabo Gomb. Namuyonjo.

Sejabi, M.K. Kakungulu in Bugerere, and the Abakungulu

Sebunnya, S. Mumyuka Gomb. Abakungulu crisis.

Sekamere, S. Musale. Settlement of Musale.

Selumkuma, I. Musale Gomb. Bulondoganyi.

Sevina, P. Mumyuka Gomb. Asians in Bugerere.

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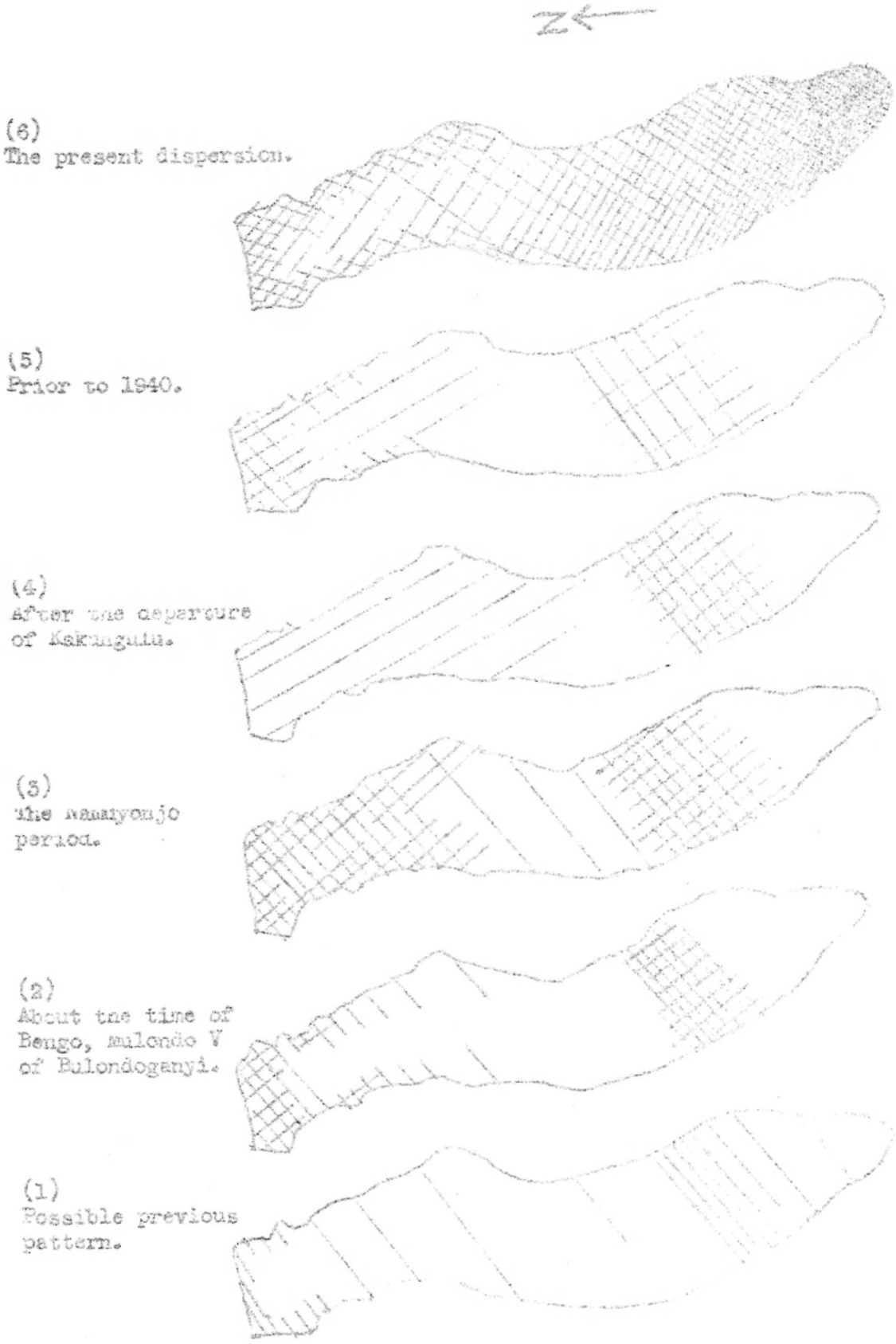
Jenkins, A.D. 1939. A note on the History of Bugerere Ssaza. Uganda Jol. Vol. VI No. 4, pp. 204-6.

Thomas, H.B. 1939. The Story of Semei Kakungulu. Uganda Jol. Vol. VI, No.3, pp.128-9.

Figure 1. BUGERERE COUNTY Ashenham.

Figure 2. AN IMPRESSION OF THE FORMATION OF BUSHONGO COUNTY AT VARIOUS POINTS IN ITS HISTORY.



BABOON INTERACTION AND DOMINANCE

No. 398
T.E. Rowell

This paper is about my - and other peoples' - attempts to understand how primate societies are organised. I am convinced that the methods we monkey-watchers use, and the data we choose to collect, are more different from those of people-watchers than are our respective materials. Therefore, I should like to begin by considering the barriers to comparison, so that we can judge better the relevance of studies on sub-human primates to human Social Studies.

People-watchers have to cope with the additional dimension of language and conceptualisation. In working with animals we are forced to be objective in that we can only record what the animals actually does, not what he intends to do, or would like to do, or ought to do, or thinks he is doing, or why he thinks he does it (this is not of course being other than neutral on whether the animal does conceptualise, the problem is simply inaccessible.) Now to me the most fascinating sociological studies are those that bring out the differences between observed behaviour and the concepts supposedly behind it, and in general I think it is profitable to separate the two. Certainly we find that in the one field where people-watchers are forced to behave like monkey-watchers, in the study of pre-verbal children, we talk the same language and studies produce quite ludicrously comparable results. Non-human sociology then, is based on a more restricted range of data than is the sociology of adult human groups.

Baboon background:

Baboons live in groups of about 30-50 (in Uganda) which are relatively stable in composition. The group has a home range of one or two square miles, and everyday the whole group together walks to a series of feeding and resting places along traditional paths. They are not territorial, however - that is to say they make no attempt to exclude anyone else from their area, and the ranges of neighbouring troops overlap. Like all other monkeys, and apes including man they are intensely social animals. Like man, their attention is concentrated as far as possible on their interactions with each other, and the business of making a living is kept to a minimum.

Social Organisation:

I was going to say the groups are complex societies, but that of course is a tautology, there is no such thing in a simple society. I suppose by complexity one might mean the number of possible social situations that can occur; as soon as, in evolution, animals appeared which recognised each other as individuals with past associations, as well as demographic classes the potential variety of situations becomes astronomical, even at very crude levels of analysis.

Now, if you keep animals together - any animal capable of recognising individuals - you find that a "peck-order" is established (so called because the phenomenon was first studied in hens) in which the animals organise themselves into a roughly linear hierarchy, those higher ranking having precedence at limited food supplies or seats, and being able to bite lower ranking animals without being bitten in return. This situation, as I say, is very easy to produce; it is also very easy to test: You throw a peanut midway between two animals, one [illegible] therefore scored as higher ranking, or more dominant than the other. Perhaps because it is apparently so easy to handle experimentally, the idea of dominance has been hailed rather too enthusiastically as the basic factor in the structure of animal societies, dominance has even been regarded as a motivation in its own right, and so on.

Dominance in monkey societies:

There is, I believe, a fairly general impression that monkeys

live in harems rather brutally controlled by overlords. This stems from an early book by Zuckerman, in which he described, very vividly, the behaviour of a group of hamadryas baboons established by London Zoo. In this Zuckerman stressed the overriding importance of dominance relationships. It was effectively the only study available in the thirties, and it seemed to get mixed with some Malinowsky and Freud to provide an Accepted View. Unfortunately as we now begin to realise, Zuckerman had happened to choose a species with a very unusual form of organisation. At first we thought it was just the extraordinary conditions in which the zoo kept its colony, but now they have been studied in the wild in Ethiopia, and they really are very different in their organisation from, say, the East African baboons.

Field studies have been steadily accumulating in the last few years, and on balance they furnish very little evidence of hierarchical organisations. But by now a curious mysticism seems to have developed round the whole thing. The position is roughly that if there was no sign of dominant-subordinate type reactions in a population, that meant that in some way the hierarchy was so well established that it did not need reinforcing by overt behaviour. There seemed to me to be a simpler hypothesis - that the hierarchy that cannot be seen does not exist - which accords better with the claims for objectivity that I was making in the introduction.

If you look at Makerere Zoology department's baboon colony you can pick out a very clear linear hierarchy among the adults as soon as you can pick out the individuals; if you offer them food it is even easier to see. (I wrote this hierarchy down before I started the following analysis) But in fact a baboon isn't evolved, isn't wired up to live in a small cage and beg for food, so how far do observations on caged animals help us to understand baboons?

Questions:

My first question was about which particular behaviour patterns are involved in ones general, subjective assessment that this baboon is dominant over that one; or in methodological terms, how far do different types of interaction correlate with the hierarchical social pattern we have noted. The second question concerns how this system fits when applied to wild baboons; that is, what picture is given in the wild by the behaviour patterns which are found to correlate with hierarchy in the cage. In fact the question is better reversed - what effect does captivity have on social organisation, and why; and this leads on to the more general question of the effect of environment on social structure.

Method:

I put the questions the first way round for methodological reasons. It is possible to record all interactions between fifteen or so caged baboons during standard watches. One is dissatisfied with the small number of animals and the odd composition of the caged group (for example only one adult male is possible where animals have not grown up together, in the wild there are equal numbers of adults of either sex.) In the field you have to grab what information you can when you can, not in standard watches; you can rarely see all the animals together, because of thick cover; and at least at first, you don't know them individually. On the other hand there are far more animals. You just have to hope that both methods of observation produce a random sample of interactions - and remain acutely aware that this may not be so. As you will see, however, it is easier to collect a baseline of information from the cage and work from the cage to the wild than vice versa.

At this point I had hoped to present figures to illustrate this comparison, but the analysis is not yet complete, so the following are simply a series of the most obvious points that have fallen out of the data in the first analyses.

Results:

Agonistic reactions should clearly be considered first, since they should theoretically be the basis of our hierarchy, or its manifestation. (I shall use here emotive words like "threat" or "friendly" to describe" interactions only as a shorthand. What I actually record are specific motor patterns, but I dont want to digress into baboon linguistic theory at this point.)

In nearly all interactions involving attacks or threats the "right" baboon attacked and fled according to the observed hierarchy. (The exceptions were in chasing, because there is a special baboon tradition that the loser of a fight chases the winner; and a few inversions betweeen animals next to each other in rank). This is also true of the borderline categories of interaction that are in the basic "approach/avoidance" style but are not overtly aggressive: for example "supplanting" where an animal moves up as another arrives and lets it have the seat.

When we look at the frequency with which each animal was involved in each type of interaction, the position becomes more complicated. Each type of behaviour gives slightly different results, though overall the higher rankers are more often aggressive than the lower rankers. But the only pattern which the highest ranking is the most frequent performer is in "punishing" - a way of holding down the other animal and shaking it by the scruff of its neck. In others he is halfway down the list, and in facial threat are actually the middleranking females.

The first, pragmatic, conclusion arising from these results is that no method of scoring would give a clear picture. People have been known to add up different behabiour patterns, scored for "intensity" on an arbitrary scale - and then do parametric statistical tests on the total scores. Clearly in a situation like this it is essential to consider each behaviour pattern separately. Having done that, one can of course go on to rationalise the differences in frequency - for example the alpha male probably has no need to use threat behaviour to reinforce his position, whereas "punishing" is part of the peace-keeping which is one of the functions of adult males in baboon society. The second point is that the differences in frequency are sufficiently great, and the overall incidence of agonistic interaction is sufficiently low, that it would be possble to watch a long time without seeing the highest and lowest ranking animals threaten for example, and there is a danger of making a quantitative difference appear as a qualitative one.

Most of the interactions observed can be classed as friendly, and of these two thirds consist of grooming of another animals fur. The two highest ranking females groomed most frequently, in fact the frequency of grooming followed the observed hierarchy fairly well with two exceptions: the alpha male did less than expected, ranking fourth, and the middle female did very little indeed. Whom they groomed seemed to depend mainly on friendships, which is a very unsatisfactory concept I cant improve on just yet. The only rank-significant observation was that the two highest ranking females did most of the grooming of the alpha male.

The line between friendly and sexual interactions is not sharp: some patterns, with no obvious sexual component, none the less occur more often between the sexes; others, like embracing chiefly occur within one sex (embracing is a female activity)

Of sexual activity, the alpha male had very pronounced favourites among the females in terms of the number of interactions with them and this had no relation to the observed rank: his preference ran (giving the females a number according to their observed rank) 3 5 4 1 2; the subordinate male had a slightly different order of preference.

On the whole the observed hierarchy, like many subjective impressions, is proving only moderately useful as apredictive tool when behaviour is considered in detail.

While handling these figures I have developed the feeling which I haven't yet tested, that the real characteristic of top baboon is that it starts interactions. If this is so it raises an interesting point, because the start of most sorts of interactions is an approach, which is pretty general behaviour, and how the interaction goes on depends mainly on the response of the second animal to the approach. This means that it is perhaps the lower ranking members of the society which determine the impression the observer gathers of the way in which it is organised, and not the higher ranking ones that one might tend to equate loosely with l leaders.

Comparision of wild and caged populations:

The first obvious difference between the two situations is that interactions are fewer in the wild. This is partly because foraging takes more time, partly because the animals being more spread out there are fewer interruptions, but also because the wild animals spend more time just doing nothing. This difference is probably extremely important, since we know from experimental learning research that frequency of repetition of a behaviour pattern is crucial in determining its effect on the future behaviour of the animal; it therefore seems likely that an animal that fights (and wins) once a day is likely to behave differently from one that is involved in a fight once a month simply because of the difference in frequency of experiencing fighting. And this difference will not be confined to the fighting situation.

The catalogue of behaviour patterns is the same for both situations.

There is a higher proportion of friendly interactions in the wild. Here again I have no overall figures yet, but as an example, in the same number of hours of observation I saw ninety six fights between females in the cage and two in the wild.

The distribution of interactions is also different. For example, of 650 grooming incidents in the wild, about a third were of big males being groomed. Of 2000 grooming incidents in the cage, only a tenth were of the big male, and the big males also groomed more in the wild. This difference is probably significant, although differences in population structure will affect it.

In the wild I had no general impression of hierarchy, and in researching my notes I can find so few approach/avoid type interactions that it is difficult to draw them together into a useful statement. There were only a handful of occasions where a food was limited, and so competed for, and then the typical pattern was that any two animals could drive away a third, which then, if he found a cooperator might drive off his usurper in turn - a far cry from the tidy experimental peanut I described earlier, I would put food competition frequency hing on the list of the differences in environment which affect social organisation, with the cage situtation at one extreme, and a rich wild habitat like the one in which I made observations at the other. It is noteworthy that studies of free living monkeys which have stressed hierarchical social structure have been where "provisionisation" - that is regular feeding - of the animals was being carried out.

No. 347.
Somerset

Success and Failure in School Certificate

A study of the validity of the present Uganda selection examination as a predictor of performance at senior secondary school.

H.C.A. Somerset.

This paper is part of a report being prepared for the Uganda Ministry of Education on the efficiency of present methods of selection for entry to senior secondary school. The main method used in the investigation has been to trace back 1964 Cambridge School Certificate candidates to the 1960 senior secondary entrance examination and to compare performance in the two examinations. The full report will comprise the following sections:-

I Introduction

II Methods

III Results.

A. Relationships between CSC grade aggregate and JSLE total mark.

B. Relationships between CSC grade aggregate and

(1) Performance in individual JSLE subjects

(2) Junior Secondary School quality

C. Relationships between performance in individual subjects in CSC and JSLE.

D. Summary of results for girls.

IV Summary of results and conclusions.

V Policy implications

Appendices:

A. 1960 JSLE and 1964 CSC exam papers.

B. Statistical tables.

The senior secondary entrance examination is the most important barrier in the Uganda educational system. It is sat at the end of the eighth year of education,[1] and is usually made up of papers in Mathematics, English Grammar and Comprehension, and English Composition. In 1960 there were about 9,400 candidates (African and Asian), and senior secondary places were available for about 2,000. By 1964 candidates had increased to 20,500, and places to 6,060. Thus the proportion of places to candidates rose from 21% to just under 30%, mainly as a result of rapid senior secondary expansion in 1963 and 1964. By 1967 or 1968, however, there will be probably over 50,000 candidates, so that although senior secondary provision will continue to expand, the proportion of candidates admitted to senior secondary schools will probably fall back towards the levels of the early 1960's.

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1. In 1966 the course will be reduced to seven years.

This paper consists of Section II (Methods) and Section III A, (Results: Relationships between CSC grade aggregate and JSLE total mark). We shall be concerned with finding out how successful present selection methods are in identifying pupils with the potential to achieve good results in the Cambridge School Certificate examination. In later sections, not included in this paper, we shall examine various possibilities for improving selection. The possibilities include weighting the various JSLE papers differently, and taking account of the quality of the school from which the candidate comes, so that a pupil of high potential from a poor school is not handicapped. We shall not, however, be able to investigate the effects on selection efficiency of the use of measures of intelligence, as we do not have aptitude test scores for the pupils in this sample. This will be possible only after the sample tested by Silvey in 1962 has sat the School Certificate examination at the end of 1966.

It was decided to define the sample as consisting of all African candidates for the 1964 Cambridge School Certificate Examination from aided schools who had sat the senior secondary entrance examination (usually known as the Junior Secondary Leaving Examination, or JSLE) in 1960. Because of changes in the content and difficulty of the papers from year to year, it was necessary to omit from the sample candidates who had sat the JSLE before 1960. Asian and European candidates were also omitted. Our task in tracing back each CSC candidate was therefore twofold: firstly, to find in what year he had sat the JSLE, and secondly, if he had sat in 1960, to find out what his marks were in the various JSLE papers.

For each aided senior secondary school in Uganda lists were prepared of all 1964 African CSC candidates. These lists were then compared with the 1961 senior secondary acceptance lists and 1960 JSLE mark lists, issued by the Ministry of Education. JSLE marks were found without difficulty for about 60% of the candidates. To get information about the remaining 40%, we visited three schools near Kampala which offer post-school certificate courses, and consulted the pupils. These schools accept successful School Certificate candidates from all over Uganda. Thus, in 1965, it was possible to find at the three institutions visited, several 1964 School Certificate candidates from every senior secondary school in the country. At least one pupil from each of the contributing schools was interviewed, and information obtained about previous classmates whom we had not been able to trace. For nearly every school it was possible to interview two or three pupils, so that the information obtained could be checked.

Finally, when the interviews were finished, we wrote to the headmasters of contributing senior secondary schools for which data were still incomplete, asking for information about untraced pupils.

About half the pupils who could not be traced using Ministry files proved to have sat JSLE in 1960, but to have changed their names during their senior secondary course. Both names were nearly always known to pupils who had been in the same class, so the marks obtained in the two examinations were usually matched without difficulty. Other pupils had transferred from one senior secondary school to another. Their JSLE marks were usually found in the acceptance list for their original school.

No attempt was made to trace JSLE marks for CSC candidates from two schools, Mvara S.S. and Lubiri S.S., because Ministry files were incomplete.[1] At the remaining 26 senior secondary schools there were 1103 African CSC candidates in 1964.

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1. Only 19 candidates from Mvara S.S. sat CSC in 1964, while the 61 candidates from Lubiri S.S. contained a high proportion who sat JSLE before 1960, and were hence outside the sample. Probably not more than 40 traceable candidates were lost by the omission of these two schools.

The years in which these pupils sat JSLE are set out in Table I.

Table I. JSLE Year of 1964 CSC Candidates

Sat JSLE 1960		910
Did not sit JSLE 1960:		
(a) JSLE 1959: Repeated a year at SS	57	
(b) JSLE 1959: Missed a year at SS	15	
(c) JSLE 1959 or 1958: Entered SS from J.III, Sec. Mod. or Tech. College	33	
(d) Sat Home Economics Exam. 1960	27	
(e) Never sat JSLE	19	
		151
JSLE year not determined		42
TOTAL		1103

One hundred and fifty one pupils sat JSLE before 1960, or never sat at all, and are therefore outside our sample. Nine hundred and ten sat in 1960, while the JSLE year for the remaining 42 could not be ascertained. From our experience in tracing other pupils, it seems likely that at least half of the last group sat JSLE before 1960.

JSLE marks were found for 881 of the pupils who sat the exam. in 1960. Unfortunately it is not possible to calculate our exact success rate in tracing 1960 JSLE marks, because we do not know precisely how many pupils sat in 1960. If all the pupils for whom the JSLE year could not be ascertained sat in 1960, our success rate was 92.5%. If, on the other hand, none of them sat in 1960, the success rate was 96.8%. If, as appears most likely, about half sat in 1960, the success rate was between 94% and 95%.

The commonest reason for failure to find JSLE marks was that the pupil had transferred from one secondary school to another during his school certificate course. In these cases the second school had often never obtained details of JSLE performance, while records at the first school had not been kept.

Table I also shows the reasons why pupils outside the sample did not sit JSLE in 1960. It can be seen that 72 sat in 1959, and either repeated or missed a year at senior secondary school. Another 33 had transferred from secondary modern, technical, or J.III classes, having sat the exam. before 1960. Twenty seven girls sat in 1960, but offered papers in Home Economics and Arithmetic instead of the more usual JSLE papers. Finally 19 had never sat the exam at all. Two had been ill at the time of the examination, but had been accepted into senior secondary school on their headmasters' recommendation, while the remaining 17 had entered senior secondary from schools outside Uganda, mainly from Ruanda and the Sudan.

The success rate in tracing JSLE marks varied to some extent from school to school. Assuming that all the candidates for whom the JSLE year could not be found sat in 1960, the lowest success rates were 70% and 80%, at two small schools with 20 and 25 CSC candidates respectively. At five schools the success rate was 100%, i.e. the JSLE year was determined for every candidate, and marks were found for all those who sat in 1960.

Fully traced pupils performed better in the Cambridge School Certificate examination than those for whom JSLE marks were not found. The means are set out in Table II.[1]

Table II: Mean CSC Grade Aggregate by Success in Tracing JSLE Results.

	No.	Mean CSC Grade Aggregate
Sat JSLE 1960: marks found	881	30.12
Sat JSLE 1960: marks not found	29	36.17
JSLE year and marks not found	42	36.38
TOTAL	952	30.58

The reasons for these differences are not clear. The most likely explanation is that the untraced pupils tend to be those who were accepted after the start of the first senior secondary year, to fill places which had been offered to other pupils but not taken up. These late-starting pupils would tend to be of low academic attainment, and their JSLE marks would be difficult to trace because their names and index numbers would not be recorded on the Senior Secondary Acceptance lists. Unfortunately there is no method of checking this hypothesis. An alternative explanation was suggested by the fact that nearly half the untraced pupils had transferred during their secondary school course. It seemed possible that their school certificate performance had been affected by the change of school. It was found, however, that among the untraced pupils those who had transferred performed better than those who had stayed in the same school; the respective means were 34.15 and 38.27.

In the rest of this report we shall discuss results from fully traced pupils only. If we had succeeded in finding JSLE marks for all 1960 candidates these results would, of course, have been somewhat different, but the changes would almost certainly have been insignificant. Despite the poor CSC performance of the untraced pupils, the difference in mean grade aggregate between the total sample and the traced sample is less than half a point (Table II). The proportionate difference in mean JSLE mark would probably have been less.

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1. The Cambridge School Certificate marking system works in the opposite direction to most marking systems; a low grade aggregate indicates better performance than a high grade aggregate.

The effects of the untraced pupils on relationships between JSLE and CSC performance are more difficult to estimate. It seemed likely that the CSC aggregates might scatter more in the total sample than in the traced sample, because of the low mean among the untraced candidates. This would have suggested rather higher correlations between JSLE and CSC in the total sample. The CSC standard deviation for the total sample, however, was in fact slightly lower than that for the traced sample (9.226 as against 9.312). In general, then, we can conclude with fair confidence that the results to be discussed have not been significantly distorted by our failure to trace JSLE marks for a small number of 1964 CSC candidates who sat the JSLE in 1960.

RESULTS.

A. Relationships between CSC Grade Aggregate and JSLE Total Mark.

Table III shows the distribution of 1964 Cambridge School Certificate grade aggregates according to marks obtained in the 1960 JSLE, for the 765 boys in our fully traced sample. CSC performance is plotted along the vertical axis, with high scores (i.e. low grade aggregate) at the top, and low scores (high grade aggregate) at the bottom. JSLE performance is plotted along the horizontal axis, with high marks at the right hand end and low marks at the left hand end. Thus boys with high marks in both examinations appear in the top right hand corner of the chart, and boys with low marks in both examinations in the bottom left hand corner. Those who did well in the selection exam but poorly in CSC are in the bottom right hand corner, while those with poor marks in the selection exam but good marks in CSC are in the top left corner. ("Good" and "poor" peformance in the JSLE selection exam is, of course, judged relative to this sample of successful senior entrants only. As senior secondary places were available for only about 16% of the 1960 African male junior secondary leavers, even the poorest candidates in this sample scored well above average relative to the total group of JSLE candidates).

If there were a close positive relationship between performance in the two exams, we would expect most of the pupils to cluster, in a narrow symmetical oval, around a diagonal running from the bottom left to the top right corner of the chart. A boy's performance in the CSC exam could be predicted with some accuracy from a knowledge of his JSLE mark. If, on the other hand, performance in CSC was quite unrelated to the JSLE result, there would be no tendency for the sample to cluster around a diagonal. Instead the distribution would be either roughly circular, or oval-shaped, with the axis of the oval parallel to one of the axes of the graph, and there would be approximately equal numbers of pupils in each of the four quadrants. Knowledge of a candidate's JSLE mark would be of no help in predicting his CSC performance.

It is clear that the data presented in Table III do not conform closely to either of these patterns. The distribution is roughly oval in shape, with the major axis running from bottom left to top right. This indicates that JSLE and CSC performance are positively correlated, but the relationship is not a strong one. Although average CSC

TABLE III : 1964 Cambridge School Certificate Aggregate by 1960 Junior Secondary Leaving Exam. Total Mark.
Boys only : N = 765.

CSC Grade	Aggregate	JSLE Total Mark																																
		123 - 127	128 - 132	133 - 137	138 - 142	143 - 147	148 - 152	153 - 157	158 - 162	163 - 167	168 - 172	173 - 177	178 - 182	183 - 187	188 - 192	193 - 197	198 - 202	203 - 207	208 - 212	213 - 217	218 - 222	223 - 227	228 - 232	233 - 237	238 - 242	243 - 247	248 - 252	253 - 257
Fail	6 - 7																				1							
	8 - 9											1																
	10 - 11							1				1		2	2		1											
	12 - 13								1		4	1					1		1									
	14 - 15								1		1	1	5	3	3	2		1	3	2	1		1		1			
	16 - 17				1			1	1	2	3	1	4	3	3	4	4	2	2		2	1				1		
	18 - 19					1			1	1	4	3	4	4	3	2	5	3	3	1	1		1	1		1		1
	20 - 21				1		1	5	1	2	4	4	5	2	3	3	1		1	1	1	1						
	22 - 23				1				2	3	6	3	6	4	6	3	2	3	1	2	1	1						
	24 - 25				1	1	1	3	5	11	5	6	5	5	2		2	1	1	1								
	26 - 27				1	1	2	3	2	6	15	7	8	5	3		2	1	2	1	2							
	28 - 29		2			1	3	8	5	5	10	8	8	3	10	2		1	1									
	30 - 31				2	2	1	3	11	4	7	5	6	2	5	1	3	5	1	2								
	32 - 33				1	1	2	3	3	2	8	3	5	9	1	2	3	1	1					1				
	34 - 35		1	1	1	2	4	3	4	10	9	5	4	6	3	6	2											
	36 - 37				1		4	3	4	10	4	5	3	2	2	2	2	1										
	38 - 39	1			1	2		6	7	3	3	8	2	2	5	1	1	1										
	40 - 41				1		4	3	3	8	8		1	5	1	2	1	1	1									
	42 - 43					1	1	3	8	4	4	3	1	1		1	1											
	44 - 45			2			2	1	2	5	2	7	3	1	1	1	1											
	46 - 47						1	3	5	1	2	2	1	1		1												
	48 - 49					2			1	1	3	4																
	50 - 51						1	3	1		1	1																
	52 - 53								1	2		1																

Note: This table has been ~~compressed~~ condensed for space reasons. Calculations derived from it may therefore not agree exactly with figures given in the text.

The conclusions suggested by these findings are clear. The JSLE is a fairly good predictor of CSC performance for the boys who entered senior secondary school with outstanding selection exam marks, but is a poor predictor for average and borderline boys. It could be predicted with some confidence that a pupil whose JSLE mark was 203 or higher would get at least a Grade II school certificate, but a prediction for any pupil with a JSLE mark below 178 would have virtually no validity.

The results we have discussed in the last few paragraphs might be summarised more technically by saying that the regression of Cambridge School Certificate Grade Aggregate on Junior Secondary Leaving Examination total mark is curvilinear, with the angle of slope increasing as JSLE increases. This can be seen clearly in Fig. I, which essentially presents the data of Table III summarised in graphical form. The two curves show (1) the average CSC mark obtained by boys in each JSLE group (the regression of CSC, the dependent variable, on JSLE, the independent variable) and (11) the average JSLE mark obtained by boys in each school certificate group (the regression of JSLE, the dependent variable, on CSC, the independent variable). As we are interested in predicting CSC performance from JSLE mark, rather than vice versa, we shall be mainly concerned with the first curve.

Although the regression lines are somewhat irregular, due to the subsamples being rather small, the tendency for both to follow a curve rather than a straight line is clear. For the regression of CSC on JSLE, the curve starts off nearly parallel to the JSLE axis, but becomes steeper as JSLE rises. Between JSLE marks of 145 and 165, successive increases in JSLE produce practically no improvement in average CSC performance. Between 165 and 200, each 5 mark increase in JSLE is accompanied, on the average, by a one-point improvement in CSC grade aggregate, while with JSLE marks of over 200 mean CSC performance is nearly two points better with each step in JSLE. To some extent the middle section of the regression line divides into two parts, with a fairly steep curve between 165 and 180, and plateau between 180 and 200, but the overall tendency for the angle of slope to increase as JSLE increases is clear. Statistically, this curvilinearity is significant.[1]

It is apparent from these results that the product moment correlation coefficient, by itself, gives us an inadequate description of the relationship between performance in the entrance exam and performance in school certificate. A correlation coefficient is a measure of a linear relationship; it assumes that the variables are related to each other in exactly the same way throughout their distributions.

---

1. The significance of the curvilinearity of the two regression lines was tested using the ICT1500 Least Squares Polynomial fit computer programme. Neither the second degree nor the third degree polynomial produced a fully satisfactory fit for the regression of CSC on JSLE; in particular, both curves underestimated the true angle of slope at the top end of the JSLE scale. Nevertheless the third degree polynomial did produce a significant reduction in the error sums of squares over the best fitting straight line ($F = 3.09$; df2 and 761; $p < .05 > .025$). The equation was:
$CSC = -130.10 + 2.82228\ JSLE - .0153918\ JSLE^2 + .0000825817\ JSLE^3$

The curve for the regression of JSLE on CSC is much simpler, consequently the second degree polynomial provided an excellen fit, with a highly significant reduction in error sums of squares ($F = 10.84$, df1 and 762, $p = .001$) The equation was
$JSLE = 216.67 - 2.0290\ CSC + .020608\ CSC^2$

Where regressions are curvilinear, as in the present case, the correlation coefficient will be a measure of the degree of relationship indicated by the best fitting straight lines. These lines are included in Fig. I. It can be seen that for the regression of CSC on JSLE, the best straight line fit is too steep for JSLE marks of 165 and under, and not steep enough for marks of over 200. The correlation between two variables is directly proportional to the slope of the regression line; when the standard deviations of the two variables are represented by equal distances on both axes an angle of 45° indicates perfect correlation and an angle of 0° zero correlation. Thus the correlation coeffiient obtained for the sample as a whole (r = 0.374) is an overestimate of the degree of relationship between JSLE and CSC among boys with borderline JSLE marks, and an underestimate of the relationship among boys with very high marks. If the approximate slope running through the CSC means for boys with JSLE marks between 145 and 165 had continued right through the JSLE distribution, the correlation coefficient would have been only about 0.2. In contrast, the angle of slope at the top end of the JSLE dimension would, if continued through the distribution, result in a correlation of about 0.7.

The results we have just discussed suggest strongly that while the JSLE is quite successful at predicting CSC performance for boys who enter senior secondary school with very high marks, it is almost valueless as an indicator of the future attainment of those who enter with average or borderline marks. Before we can accept this conclusion, however, we must eliminate the possibility that the curvilinearity of the regression of CSC on JSLE is due, not to deficiences in the JSLE but rather to the effects of factors not connected with exam performance which enter into senior secondary selection.

There are three main factors which determine whether a pupil is offered a place in a senior secondary school:

1. By far the most important factor is performance in the JSLE. Boys with marks above a certain point are virtually certain to be offered a place, unless they are over age or have a bad conduct record, while boys with marks below another point have no chance of being accepted. Between these two points, however, there is a region of the mark distribution from which some boys will be accepted and other rejected, on grounds other than their JSLE performance. In 1960 the upper boundary of this region fell quite sharply between marks 167 and 168, and the lower boundary at about 140, although a few boys with even lower marks were accepted. This can be seen from Fig. II, which plots the distribution of 1960 JSLE marks (a) for the sample traced to 1964 CSC (continuous time) and (b) for the full sample of 1960 African male JSLE candidates (pecked line). As full records are not available for boys with JSLE marks below 145 curve (b) is incomplete.

It can be seen that, moving from the top end of the distribution, the two curves remain closely in step with each other as far as the 168-172 category. The gap between the two curves is accounted for mainly by senior secondary dropouts, although it also contains some boys who will sit in 1965, having repeated or missed a year, and also a few who enrolled at the two small schools not included in the sample or at Catholic seminaries. The survival rate is about 80% among those with JSLE marks of 193 and over, dropping slowly to about 70% in the 168-172 category.

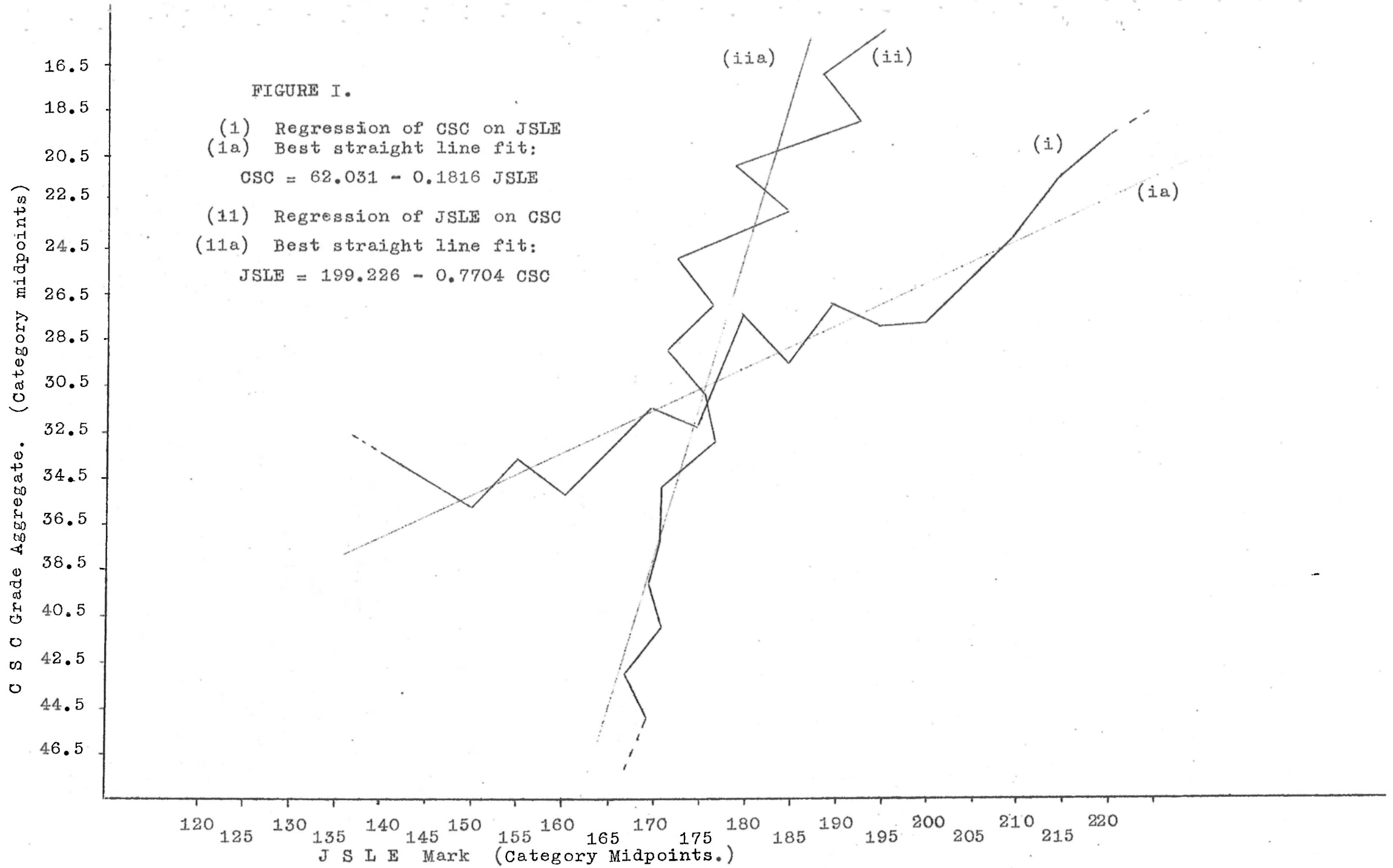
FIGURE I.

(1) Regression of CSC on JSLE
(1a) Best straight line fit:

CSC = 62.031 - 0.1816 JSLE

(11) Regression of JSLE on CSC
(11a) Best straight line fit:

JSLE = 199.226 - 0.7704 CSC



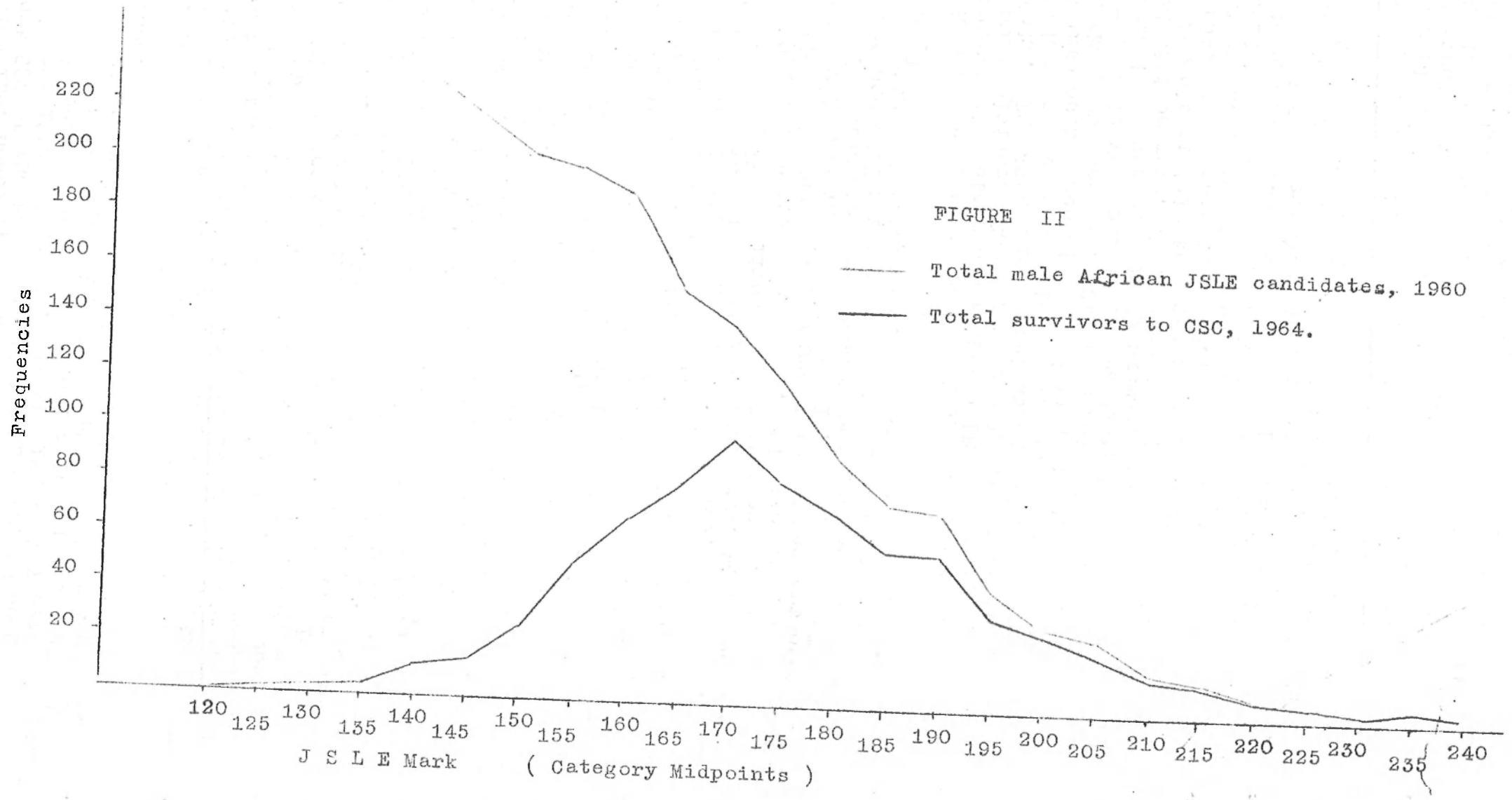


FIGURE II

Total male African JSLE candidates, 1960

Total survivors to CSC, 1964.

Below 168, however, the curves start to diverge rapidly. Only about 52% of the boys with 1960 JSLE marks between 163 and 167 are in our 1964 CSC sample. In the 153 to 157 category the proportion is down to 26%, and below 148 it falls to under 10%. It is thus among the boys with JSLE marks of 167 or lower that we must look for the effects of selection factors other than JSLE performance.

2. The second factor that may affect a candidate chances of being offered a place is choice of senior secondary school . In his application form for the selection examination, each candidate is asked to name, in order of preference, six senior secondary schools for which he would like to be accepted. Some schools are much more popular than others, and consequently obtain an intake of higher than average calibre. In our sample, for instance. average JSLE mark ranges from 193.50 and 187.46 for the two highest schools to 158.00 and 159.11 for the lowest schools. A pupil who has made his six choices from among the most popular schools may thus, if his mark is borderline, fail to get in to any of them, while another pupil with similar marks who has chosen some of the less popular schools may be accepted. Some pupils may be offered places by schools which they have not chosen, but many headmasters, particularly in the urban day schools, tend to prefer a boy who wants to go to their school, rather than a boy with higher marks who wants to go somewhere else.

3. The third factor which enters into selection is the senior secondary school headmaster's assessment. As well as the JSLE total mark, a good deal of subsidiary information is available to the headmaster about each pupil, and this information may be used in deciding among borderline candidates. Data which may be relevant include: age, conduct record, position in class, ability at games, and performance in specific JSLE papers. Another important factor is where the pupil comes from. Given a choice between two equally well qualified candidates, headmasters tend to choose the pupil who lives nearest the school. In the selection for the 1961 senior secondary entry, this factor worked in favour of boys living in Buganda, because of the disproportionate number of places available in Buganda schools. More than half of the boys who entered senior secondary school from junior secondary schools in Buganda had JSLE marks of less than 168, as compared with less than a quarter of the boys from junior secondary schools in other districts.[1]

Headmasters vary a great deal in the extent to which they take account of factors other than JSLE performance in making selection decisions. Some seem to rely almost entirely on the exam marks. The JSLE mark distributions of the entrants to these schools have a strong positive skew. The minimum mark necessary to get into such a school is sharply defined, and many entrants have marks just above it. Other schools place much more emphasis on non-academic factors. The mark distributions are typically symmetrical or even negatively skewed, and there is no clearly defined minimum mark. The marks also tend to scatter widely: in two schools of this type the standard deviations of the JSLE distributions are as high as 23.72 and 20.20, whereas in two schools of the former type they are as low as 10.65 and 11.32. It should be noted that there is no tendency for the schools which take account of non-academic factors in selection to have poorer school certificate results; in fact the two schools whose 1961 entrants had the most widely scattered JSLE marks are both among the eight most successful schools in the CSC exam.

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1. With the very large expansion in senior secondary places that has taken place since 1962, this bias may have disappeared by now. The results do, however, emphasise that although Uganda secondary schools are open to pupils from all over the country, a disproportionate number of places in one district will give an advantage to pupils from that district. The relationship between junior secondary output and senior secondary places available in each district thus needs to be kept under review.

Is the curvilinearity of the regression of CSC on JSLE due to the nature of the selection exam. itself, or rather to the effects of the non-academic selection factors we have just discussed? This question is crucial; for the answer we give to it will determine the interpretation we must make of the results presented in this section. It will be remembered that the curve in the regression line means essentially that pupils who enter senior secondary school with borderline JSLE marks tend to do better in the CSC exam than we would expect when we compare their results with those of pupils who entered senior secondary school with higher marks. Let us set out the two possibilities as alternative hypotheses, and then examine the implications of each to see if we can find evidence to enable us to decide between them:

1. The first hypothesis is that the curve in the regression line is due to the selection exam itself. The JSLE predicts quite well the future CSC performance of boys with high marks, but has almost no predictive validity among boys with average and borderline marks. If a boy has demonstrated his ability to profit from teaching and to cope with examination successfully by gaining an outstanding mark in the JSLE we can be reasonably confident that he is of high academic potential, and will continue to use his potential effectively during his secondary school years. Hence the regression line is steep near the top end of the JSLE distribution. If, on the other hand, his mark is average or borderline, we do not know what his potential is. We do not know whether he is making effective use of relatively poor potential, or relatively ineffective use of good potential. The present selection examination underestimates the academic potential of a large number of these pupils. Some candidates with high potential but borderline marks are lucky enough to get into senior secondary school, together with proportionate numbers of pupils with similar marks but lower potential, and their subsequent good performance in CSC is responsible for the flatness of the regression curve near the bottom of the JSLE scale. Many others, however, who would have been just as successful, are rejected.

2. The second hypothesis is that the true regression of CSC on JSLE mark is approximately linear, and that the curvilinearity arises from the effects of factors other than JSLE mark which enter into selection. It is possible that the use by the headmasters of supplementary information in making selection decisions among the borderline candidates may enable them to cream off the most promising pupils in this group. Hence their average performance in the CSC is better than would otherwise be expected, and the regression curve flattens off towards the bottom end of the JSLE scale. The rejected candidates from the borderline group would have proved to be of inferior calibre if they had been allowed to continue their education to school certificate.[1]

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1. The possible effects of selection factors other than JSLE mark can perhaps be better appreciated if we consider what might have happened to the shape of the regression curve if there had been fewer senior secondary places available and if the headmasters had rejected some candidates from the 168-172 category (the lowest category from which all candidates were in fact accepted). If 25% had been rejected, and if the additional information available to headmasters had enabled them to make perfect selection decisions (that is, if they rejected those who would have got the poorest CSC results) the mean CSC aggregate of the survivors would have been 27.2, instead of 31.1, and the regression line would have taken a sharp upward turn. If the selection decisions had had only partial validity, so that for every two rejected candidates who would have got a CSC grade aggregate below the category median, one was rejected who would have scored above the median, the survivors' mean would have been 30, and the downward slope of the regression would have been reduced. If the decisions had had no validity, the mean for survivors would have been approximately the same as that for the total category, and the regression line would have been unchanged.

It is interesting to note that the implications of the two hypotheses for the validity of present selection methods are exactly opposite. Under the first hypothesis, curvilinear regression indicates poorer discrimination among borderline candidates than would a straight line regression. Under the second hypothesis, on the other hand, a curved regression indicates better discrimination at the borderline than a straight line. Thus, if the first hypothesis is sustained, we must conclude that present methods fail to select efficiently among borderline candidates; whereas if the second hypothesis is sustained we must conclude that discrimination among borderline candidates is relatively good.

What evidence is available to enable us to decide between the two alternative hypotheses? We have already mentioned that the JSLE mark distribution can be divided into two parts: an upper part, in which acceptance for senior secondary education is almost automatic, and a lower part, in which selection depends on both JSLE mark and other, non-academic factors. The boundary between the two parts is quite sharply defined, and falls, for the 1961 entrants, between marks 167 and 168. Nearly all the candidates with a total mark of 168 were accepted, while some of those with only 167 were rejected. It can be estimated from Fig. II that between a fifth and a quarter of the pupils with marks between 163 and 167 did not get into senior secondary school, 45% of those between 158 and 162, and as many as 60% of those with marks between 153 and 157.

According to hypothesis (2), the curvilinearity of the regression of CSC on JSLE is due to the effect of selection factors other than exam performance. Thus, if this hypothesis is correct, we would expect the regression to be essentially linear from the top of the JSLE dimension down to the 168-172 category. The first sign of curvilinearity should appear in the 163-167 category, where non academic factors begin to be relevant in selection, and should become progressively more marked through the 158-162 and 153 - 157 categories, as non academic factors become more important. Under hypothesis (1), on the other hand, we would expect curvilinearity to appear first among pupils with marks near the average for the selected group, because it is at this point we would first expect to find significant numbers of pupils whose academic potential had been underestimated by the selection exam.

It can be seen from Fig.I that the first clear signs of curvilinearity appear in the 193-197 JSLE category, and become even more marked in the three categories from 192 down to 178. The evidence is thus compatible with hypothesis (1), (although perhaps we would have expected the curvilinearity to start a little lower down the regression line,) and incompatible with hypothesis (2). Curvilinearity starts about 30 marks above the point at which selection factors other than JSLE performance begin to be significant. It might still be argued that the curvilinearity is due both to JSLE itself and to the non-academic factors, but this possibility is ruled out when we notice that in the categories 163-167 and 158-162, where the effects of the non-academic factors should first be apparent, the regression line tends to be steeper rather than shallower than it has been, on average, over the middle section of the JSLE distribution. Between the categories 198-202 and 168-172, mean CSC performance drops by a little over half a point per category, whereas in the category 163-167, mean performance falls nearly 2 points and in the category 158-162, a further 1½ points. In other words, in the two categories over which selection factors other than JSLE mark begin to be important, average performance in the CSC tends to be rather poorer than we would have expected if we had extrapolated the regression line from that part of the distribution in which selection is based on examination mark only. There is thus no

Table IV. Estimated Effects of Imperfect Selection on CSC Output

1 JSLE Mark Category	2 Total male JSLE candidates, selected + unselected	3 Estimated survival rate to CSC.	4 Estimated total no. of potential CSC candidates (2 x 3)	5 Total no. of actual CSC candidates.	6 Estimated ratio, potential: actual candidates. (4 ÷ 5)	7 Total no. actual Grade I CSC passes	8 Total no. potential Grade I CSC passes (7 x 6)	9 Actual no. acceptable for HSC (grade aggregate < 30)	10 Potential no. acceptable for HSC (9 x 6)
163-167	155	68%	105	81	1.30	9	12	31	40
158-162	188	66%	124	68	1.82	6	11	18	33
153-157	199	64%	127	52	2.44	7	17	21	51
148-152	203	62%	130	27	4.81	1	5	7	34
TOTAL	745	-	486	228	--	23	42	77	158

evidence that the headmasters, by taking account of information supplementary to the JSLE mark, succeeded in creaming off the most promising of the borderline candidates. Indeed there is some indication that rather more pupils of high academic potential might have been admitted to senior secondary school if selection had been based on JSLE performance alone. Changes in the angle of slope over only two categories must, of course, be interpreted cautiously, because of the possible effects of chance variations, but at least it is certain that non-academic selection factors are not responsible for any part of the curvilinearity of the regression of CSC on JSLE.

Hypothesis (2) must therefore be rejected, and hypothesis (1) accepted. The curvilinearity of the regression is due to the deficiencies of selection exam itself, and not to the effects of other factors such as headmasters' assessment or pupils' choice of school. The present selection examination is shown to be an inefficient predictor of future attainment, particularly among average and borderline candidates. The examination underestimates the academic potential of a large proportion of these pupils. Further, the supplementary information which is used to choose among borderline candidates does nothing to improve the efficiency of selection; borderline candidates who were excluded from senior secondary education would probably have been just as successful in CSC as those who were admitted.

In Table IV an attempt is made to estimate the loss of high-level school certificate passes as a result of the failure of the 1960 Junior Secondary Leaving Examination to identify pupils of high academic potential. Only borderline candidates with marks between 148 and 167 are considered. We have seen when discussing Table III that pupils with even lower JSLE marks than this performed well in the CSC examination, but so few of these pupils were admitted to senior secondary school that any estimate of the potential performance of those who were excluded would be subject to a wide margin of error.

Column 2 gives the total number of 1960 male JSLE candidates, whether selected for senior secondary or not, in each of the mark categories, In column 3 estimates are made of the proportions which would have survived to 1964 CSC if senior secondary places had been found for all these pupils. These estimates are basedon results contained in Fig. II. It may be recalled that, among pupils with JSLE marks of 193 and over, all of whom were offered senior secondary places, about 80% survived to sit CSC in 1964. This survival rate dropped slowly, by about 2% per JSLE category, to a level of almost 70% among those with marks of 168-172. The estimates in Table IV are based on the assumption that this downward trend would countine through the next four categories. It should be remembered, however, that the survival ratios overestimate the true rate of dropout, perhaps by as much as 15%, for two reasons: (1) a substantial number of 1961 entrants who did not sit CSC in 1964 will sit in 1965, having missed or repeated a year; (2) no allowance is made for 1961 entrants who sat 1964 CSC at Catholic seminaries, or at the two senior secondary schools for which JSLE marks were not traced. Figures in Table IV calculated from the estimated survival rates will therefore tend to be conservative.

Column 4 estimates the numbers who would have survived to school certificate in each category if all had been admitted to senior secondary school, assuming the survival rates in column 3. Column 5 gives the actual number of candidates, and in column 6 the total number of potential candidates is expressed as a ratio of the actual candidates. These ratios are then multiplied by the actual numbers of grade I CSC passes (col.7) to give, in column 8, estimates of the total numbers who probably could have achieved grade I passes if they had been selected. In column 10 similar estimates are made of the numbers who probably could have reached a CSC standard high enough to gain them admission to higher school certificate classes (grade aggregate below 30)

It can be seen that, if all the pupils from these four borderline groups had been admitted to senior secondary schools (or if the selection examination had identified the pupils with high potential) about 42 would have passed CSC in grade I, as compared with 23 who actually reached that level. Instead of only 77 borderline entrants with school certificate marks of HSC entry level, there would have been about 158. As there are only 378 pupils with aggregates below 30 in the total sample, correct identification of potentially successful pupils from the group with JSLE marks between 148 and 167 would have increased the output of CSC graduates with passes good enough to justify continued education to HSC level by more than 20%. If pupils with marks below 148 were included, this proportion would probably be at least as high as 30%.

Before we leave the relationship of JSLE total mark to CSC grade aggregate, two final points must be made:

1. Effects of senior secondary school quality. It has already been mentioned that some senior secondary schools are more popular than others and therefore tend to attract a disproportionate share of the JSLE candidates with the highest marks. The range in average JSLE mark between the intakes of the most popular and the least popular school, it may be recalled, was more than 30 points. For the most part these popular schools tend to be the oldest and best known. Because

of their established reputations, these schools are often in the position to attract better qualified and more experienced teachers. Hence it possible that the correlation between JSLE total mark and CSC grade aggregate is spuriously inflated by the effects of senior school quality. The boys with better JSLE marks tend to get into schools which give them better teaching, while boys with poorer marks tend to get into schools which give poorer teaching. Hence any tendency for the former group to be more successful in the CSC examination may be due to the better teaching they have received, and may tell us nothing about the validity of the selection examination. It is quite possible that a JSLE-CSC correlation of the order of the one we obtained (0.374) might be explained entirely by the contaminating effects of senior school quality.

This possibility was investigated by determining the relationship between quality of JSLE intake and quality of CSC output for the 21 boys' schools in our sample. It was found that, at four of the six most highly selective schools, pupils tend to do rather better in CSC, on average, than would be expected from a knowledge of their JSLE marks; while conversely at four of the six least selective schools, pupils tend to do rather poorer than expected. At the two most selective schools in the sample, for example, the mean CSC grade aggregate for boys with JSLE marks between 173 and 192 were 26.04 and 25.31, respectively, as compared with only 28.83 for pupils from all schools with JSLE marks within the same range. Hence senior school quality is a contaminating factor in the relationship between JSLE and CSC; a boy who enters a highly selective senior school will tend to be more successful in CSC than another boy with the same JSLE marks who enters a less selective school. *calculating JSLE-CSC correlations for individual schools, thus holding teaching quality, and other factors which might vary from school to school, constant. The coefficients obtained tended to be slightly lower than for the sample as a whole, with a range from 0.49 to 0.15, and a median coefficient of about 0.34. Unfortunately the interpretation of these results is complicated by the fact that the correlations are affected by the standard deviations of the JSLE distributions, which vary widely from school to school. The schools whose intakes had the widest JSLE mark scatters have the highest correlation and vice versa. It is thus impossible to calculate exactly the effects of controlling for senior school quality. We are justified, however, in concluding that even the moderate correlation found between JSLE and CSC is probably an overestimate of the true strength of the relationship.

2. Correction for restriction of range. In many studies of the efficiency of selection procedures the correlation between the selection test and the test used to measure ultimate success (in this case the CSC grade aggregate) is corrected for restriction of range. This is done because the correlation is calculated for those who survive the selection test only. The scores for the survivors scatter much less than those for the total group of candidates; in the present project, for instance, the range of JSLE scores among all candidates was from under 50 to over 250, whereas in the group which was selected to enter senior secondary school very few had JSLE scores under 140. The restriction of range in JSLE scores means that the JSLE-CSC correlation is lower than it would have been if all JSLE candidates had been allowed to continue their education and attempt school certificate.

* An attempt was made to assess the extent to which the correlation between JSLE-CSC is inflated by the contaminating effects of senior school quality by

In this project no attempt has been made to correct for restriction of range. This is because the formula used for correction assumes that the regression of the criterion test on the selection test would be the same among the unselected candidates as it is among the selected candidates. This may be justifiable when the regression is linear, but when, as in the present case, it is curvilinear, any attempt to extrapolate would be extremely hazardous. We have no way of knowing what the average CSC grade aggregate of pupils with JSLE marks between, say, 113 and 117 would have been, if any of these had been selected. If we judge from the best fitting straight line regression the mean would have been about 41; if from the approximate angle of slope of JSLE categories below 200, about 39; while if we extrapolate the regression line among borderline candidates with marks below 168 the mean aggregate would be about 35.

In any case, as we have already seen, the product moment correlation coefficient, by itself, is of limited value in determining the validity of a selection procedure. In every sample there will be a small group of candidates who are clearly outstanding, and another rather larger group who obviously should not be selected. Almost any selection procedure will succeed in accepting nearly all the former group and rejecting most of the latter. The efficiency of a selection test must be judged, in the main, by its success in discriminating among borderline candidates. A correlation coefficient, however, is a measure of an overall relationship, and its level is determined much more by individuals with extreme scores than it is by those with scores near the borderline. In our own sample we have seen that pupils with JSLE marks of over 200 contribute heavily to the level of the JSLE-CSC correlation. If the regression of CSC on JSLE had flattened off completely above the 200 point on the JSLE dimension, the correlation coefficient would have dropped sharply, probably to below 0.3, but the efficiency of the JSLE as a selection tool would scarcely have been affected. Some boys with high JSLE marks would have had rather disappointing CSC results, but very few would have performed so poorly as to indicate that they should not have been selected. We can learn far more about the validity of the JSLE as a method of selection by examining the shape of the regression curve among candidates with average and borderline marks than we can from the JSLE--CSC correlation.

We have seen that the present senior secondary entrance examination is an unsatisfactory predictor of senior secondary performance. What could be done to improve the efficiency of selection? There are at least two possibilities which can be investigated with the data available:

1. The pupils with high academic potential who get borderline marks in the JSLE may tend to come predominantly from schools where teaching has been poor. Senior secondary selection might therefore be improved if junior secondary school quality were taken into account.

2. The various papers in the present selection examination may contribute differentially to the predictive validity of the JSLE total mark. A different weighting system might therefore help improve selection.

We shall examine these two possibilities in the next section of the full report.

A HISTORY OF LAND CONSOLIDATION IN CENTRAL NYANZA, 1956-1962

By William L. Sytek

INTRODUCTION AND ANALYSIS

This history is a history of a particular sort. It was compiled entirely from information available in the District of Central Nyanza files. To the extent that the files contain, by and large, official government views, it is bound to be biased in some respects. With a reliance only on the written word, the history tends to focus more often on what was supposed to happen than on what did happen, and it often fails, unfortunately, to get to the whys of these happenings. In a number of instances, the files are far from complete. Many files and reports have been lost, and often times my information was gotten indirectly through references made in letters, pencilled-in notations, and rough draft copies of reports. Because of this, it is undoubtedly inaccurate in places. Finally, because of the nature of the land consolidation program and the conditions under which it was implemented between 1956 and 1962, I have consciously selected certain types of information as being most relevant. Though over £76,000 was spent during this period in an attempt to achieve the consolidation and registration of land within the District, by the end of 1962, not one square inch of land had been registered under the existing laws. The history, therefore, is necessarily more concerned with the policies that were formulated and the obstacles which prevented these policies from producing results than it is with the results themselves.

I would like to thank Mr. Phillips, a former District Community Development Officer, and Mr. Brown, a former District Land Consolidation Officer, for allowing me to pore over their old files and set them in order. In addition, I would like to thank Samson Okiro, at present a District Field Supervisor, for helping to put an order to the jumble of facts which the files contained by sharing with me the details of his long experience in the program of land consolidation in Central Nyanza.

To understand the direction which the land consolidation program took between the years of 1956 and 1962, it is necessary to take into consideration the climate of the times. For 4 of the 6 years under consideration, the country was in a declared state of emergency, with a more or less forced program of consolidation and villagization being carried out in Central Province. The entire 6-year period corresponds with the era of the growing drive of the African to achieve political independence.

From the very beginning in 1956, land consolidation became a hot political issue in Central Nyanza; opposition in one form or another was maintained to the end of 1962. The issues which gave birth to and nurtured this political opposition to land consolidation were alluded to by the Minister for African Affairs on a radio broadcast in 1956.

Though this was barely the beginning of the land consolidation program in Central Nyanza, the Minister appears to have put his finger on what were to be the main issues throughout the entire pre-independence period. Perhaps the most important of these was the fear of the alienation of African land. It was said that the European was going to take away more land from the African, and land consolidation was nothing more than a convenient means for accomplishing this. Especially at the outset, much emphasis was placed on the fact that the people did not really want land consolidation and that they were being forced into it; this argument helped to re-inforce the belief that some hidden and obviously devious purpose lay behind the government's preoccupation with land consolidation. Finally, by pointing to Central Province, the claim was made that land consolidation would eventually mean being forced to live in villages----something which does not hold much appeal for the Luo people. The direction, successes, and, more importantly, the failures of the Central Nyanza land consolidation program should be weighed with this opposition in mind; if it seems that the program dragged here and stumbled there, it should be remembered that it was being implemented in a less than friendly climate.

On its part, the goverment argued that land consolidation was necessary for both the increased agricultural production and the agricultural development of the country. It was difficult if not impossible, they maintained, for a farmer to utilize modern agricultural techniques if he were cultivating many small and widely scattered fragments of land. The government stated that it had no intention of forcing people to consolidate their land, nor was there any intention of forcing people to live in villages except in Central Province, and here it only became necessary because of the Emergency.

Central Nyanza was not directly involved in the Emergency, but the Emergency itself did have an indirect influence on the land consolidation program in Central Nyanza, especially with reference to staff and budget matters. In 1959, the Director of Surveys rather apologetically explained that he could provide little help to Central Nyanza since the bulk of his budget had been ear-marked for survey work in Central Province. One District Officer bemoaned the fact that Central Nyaza District had only 2 officers seconded to the land consolidation program while a single district in Central Province had over 30. While little was accomplished in Central Nyanza in comparison with the results being produced in Nyeri or Fort Hall, any comparison at all is a bit unjust since, as a result of the Emergency, first priority in staff and budget allotments was being given to Central Province.

The skeletal nature of the senior staff in Central Nyanza resulted in the staff being diverted to handle other matters not at all related to land consolidation. Between 1956 and 1962, Central Nyaza went through the registration of African voters and elections twice; it saw its first regular census taken, and it was ravaged by a serious flood. In each case, land consolidation staff was shifted from its regular work in order to carry out tasks related to these matters.

The Emergency and the strong political opposition to land consolidation combined to produce one important effect on the formulation of policy in the District. From the first general policy statement in June, 1956 until the end of 1962, primary importance was given to forming a land consolidation program which would be entirely voluntary in nature. The administration, in re-acting to rumors of compulsory consolidation, took the attitude that it would start nothing and do nothing in any area until it found that the people had a genuine and almost unanimous desire to consolidate. The extreme to which this policy was eventually pushed can be seen most clearly in the attitude which was taken following the failure of the first land consolidation program. From 1958 until 1962, the people not only had to express a desire to consolidate, they also had to practically demonstrate their good faith by actually doing their own consolidation by means of exchange and purchase.

Throughout the history, I have attempted to show the great amount of dissatisfaction which arose due to the fact that the implementation of the program produced results which fell far below the desired standards. Certainly one important factor which contributed to this situation was the great stress which was placed on voluntariness and on leaving by far the greater part of the implementation of the program in the hands of the people. There seemed to be an underlying fear that any direct control or even firm guidance of the program by the government would have had serious and far-reaching consequences.

The desire to achieve unanimous acceptance by the people before the government would become involved had an even more profound effect on the final results. While small groups could reach an agreement to consolidate, larger groups could not reach unanimity. Land consolidation, therefore, tended to be limited to rather small areas widely scattered throughout the District. For financial reasons (mainly survey and mapping costs), the administration was reluctant to apply the existing laws of land registration to such small areas, and, due to its desire for unanimity, it could not get large areas to accept the program. Consequently, while laws on consolidation procedures and the registration of land existed, the administration, following the collapse of its first program, placed itself by its policy formulations in the uneviable position of being unable to apply them.

The reluctance to apply the existing laws in the period from 1958 until the end of 1962 had two important consequences. (The laws I am referring to are the Native Land Tenure Rules of 1956 and the Native Lands Registration Ordinance of 1959). First, these laws gave properly composed, locally elected committees sole jurisdiction over the settlement of land disputes in those areas where the law was applied. Since the laws were not in fact applied during this period, groups or committees which were formed had no such special legal powers. Consequently, litigation over land could be buffeted back and forth between local elders, headman's or chief's baraza or African Courts. Thus, without the laws, litigation could not be brought to an end, and it was the never-ending litigation which hampered the exchange of fragments and consequently slowed down the process of consolidation.

Secondly, according to the laws, committees had the power to plan their area, set aside public purpose land, and, if necessary, consolidate holdings themselves. Again, since the laws were not applied, groups or committees which were formed did not in fact have these powers. Much of the dissatisfaction over improperly laid roads and irregular boundaries stemmed from this very fact that no group or committee had the legal power to see that these matters were planned and implemented in the desired manner.

Because of the difficulties encountered in implementing the land consolidation program, a number of revisions in the program were made between 1956 and 1962. These revisions could best be summarized in a short chronology:

1956-57: Government sponsored schemes modelled on the Nyeri stystem in 4 areas under the Native Land Tenure Rules.

1958: Abandonment of Nyeri system schemes. The wholesale encouragement of land consolidation in any area in the District. Consolidation to be achieved by self-help group effort through enclosure and exchange.

1959: The narrowing of staff support to 64 Sub-Locations, but consolidation still continues by means of voluntary enclosure and exchange through self-help groups.

1960: The narrowing of staff concentration to 34 Development Areas.

1961: Staff now concentrated in 11 Sub-Locations. Primary emphasis is placed on Sub-Locations and secondary emphasis is given to self-help groups within Sub-Locations.

1962: By the end of the year the staff was concentrated in only 2 Sub-Locations and to date the Native Lands Registration Ordinance had not yet been applied to any area in the District.

From the above thumb-nail sketch, it becomes evident that there were, in fact, two separate programs of land consolidation during this period. The first in 1956-57 was a true consolidation program based on the Nyeri system and carried out under the Native Land Tenure Rules. The second program, beginning in 1958 and extending until the end of 1962, was basically an Enclosure program which never operated under the existing laws.

If one glances down the chronology, it becomes evident that many of the difficulties encountered in the program were attached to the problem of the deployment of staff. Beginning in 1958, the administration gave universal support to consolidation through enclosure, and the staff was not concentrated in any specific area in the District.

After 1958 and until 1962, the staff was concentrated in specific areas, and this concentration was progressively narrowed. From 64 Sub-Locations in 1959, the staff concentration was narrowed down to 34 Development Areas in 1960, 11 Sub-Locations in 1961, and finally 2 Sub-Locations in 1962. Throughout this narrowing process, the factors governing these changes were the capabilities of the staff, on the one hand, and the the quality of the results being obtained, on the other.

One cause for the narrowing of staff concentration in the later years can be traced to reduced staff and budget allotments (in 1961 and 1962), but the overall narrowing process cannot be explained away as resulting from staff and budget cut-backs. At the initiation of the new program of enclosure in 1958, the administration appears to have had no clear idea of the magnitude of the job lying before them; consequently they formulated a program which had a scope much wider than the staff was capable of handling. The progressive narrowing of staff concentration in the ensuing years corresponds with a slowly-awakening awareness that program formulations were continually too ambitious, that the staff was consequently being deployed too thinly and that they were therefore incapable of carrying out their duties properly. The failure of the program to produce lasting results during this period is in part due to this very fact that the administration, in planning, tended to bite off much more than it could possibly chew.

Finally, some of the difficulties encountered in the program resulted from the administration's misunderstanding of traditional Luo society. Throughout the entire period under consideration, the administration sought to achieve consolidation through a unit of traditional Luo society which they referred to as "the jokakwaro". "The jokakwaro" was selected as the local unit for consolidating land under the first program, and in the following program of enclosure, "the jokakwaro" was again selected as the local unit through which the program would be implemented. Self-help groups were to be formed on the basis of jokakwaro affiliations, and enclosure was to begin with the demarcation of jokakwaro boundaries.

The administration obviously wanted to work through viable, cohesive groups which would be comparable throughout the District, and it thought that the Luo jokakwaro was just that kind of grouping. However, according to the Luo usage, the term jokakwaro does not in fact refer to a specific type of grouping; it is used, rather, to refer to a whole series of groupings of quite different types. The term jokakwaro can be divided into two parts: joka which means "the people derived from" and kwaro, a term which is used in referring to one's grandfather and any male agnate in any generation above one's grandfather. A jokakwaro is, then, a group of people who are derived from any male agnate above the first ascending generation. Depending upon which male agnate or kwaro is selected, the term jokakwaro can thus be applied to a whole series of lineage groupings. It can be applied to that group of people derived from my grandfather, but it can just as well be applied to that group of people derived from my great-grandfather or my great-grandfather's great-grandfather or even a more distant male agnate. In traditional Luo society, each of these groupings could possibly have different sets of functions and differing degrees of cohesiveness, yet all of them could be referred to by the term jokakwaro.

Consequently, while the administration thought that by concentrating on "the jokakwaro" it would be dealing with comparable groups of a similar composition and degree of cohesiveness, it was in fact dealing with groups of extra-ordinarily diverse sizes which in the traditional scheme of things had disparate functions and differing degrees of cohesiveness. Self-help groups, formed on the basis of jokakwaro affiliations were, for instance, quite varied throughout the District. Undoubtedly the unintended variation in the size, functions, and degree of cohesiveness of self-help groups which resulted from the administration's mis-application of the term jokakwaro was the cause of much of the sub-standard results which plagued the land consolidation program year after year.

In summary, in this analysis I have attempted to outline some of the factors which had an influence on the implementation of the program of land consolidation in Central Nyanza between 1956 and 1962. Despite the great amount of money and effort which was invested in the program during this period, not a single inch of land was registered under the existing laws. I have consequently directed my attention in the analysis to the possible reasons for the program's astounding failure to produce results.

The Emergency, political opposition, policy emphasis on voluntariness and unanimity, the lack of legally empowered committees, over-ambitious programming, and a misunderstanding of traditional Luo society each appear to have had an important effect on the implementation of the District land consolidation program. The Emergency indirectly limited the size of staff and budget allotments; the resulting small senior staff which was seconded to the land consolidation program was in turn regularly diverted to non-consolidation District business. In addition, over-ambitious programming led to the staff being too widely deployed, and, along with later cut-backs, this led to the progressive narrowing of staff concentration to fewer areas. The administration's reaction to the political opposition to the program and its fear of inducing the spread of the Emergency caused it to emphasize voluntariness and unaminity in formulating a land consolidation policy. This emphasis on unanimity prevented the administration from applying the existing land registration laws. Because the laws were not applied, litigation over land could not be ended, and groups or committees had no legal power to effect a plan for consolidation in their areas. Finally, "the jokakwaro" was selected as the focal unit for the implementation of the program; the administration's misunderstanding of the term jokakwaro led to the unintended formation of highly diverse groups in a program which presupposed a great deal of comparability. Separately, each of these factors had an important influence on the implementation of the land consolidation program; cumulatively, these factors working together prevented the program from achieving any reasonable amount of success.

In the pages that follow, I have attempted to present a history of this land consolidation program. I have prefaced this history with an analysis so as to provide the reader with a perspective from which to view the facts. I have purposely separated this analysis from the facts themselves so that the reader can more readily judge the value of this analysis.

A HISTORY OF LAND CONSOLIDATION IN CENTRAL NYANZA, 1956-1962

Pre-1956

As in Central Province, prior to the enactment of the Native Land Tenure Rules (1956), there was in Central Nyanza a modest program which sought to encourage land consolidation. This program, formulated as District policy in February, 1955, was administered by the Agricultural Department; it focused on the issue of a quasi-legal Boundary Certificate to those individuals who succeeded in consolidating their land. Unlike programs under the later Native Land Tenure Rules, this program was specifically aimed at the individual. Any farmer who consolidated his fragments into a single holding by his own initiative, who had settled all existing disputes attached to his land, and who was doing 'good farming' was issued with a certificate upon request. (1) The legal status of boundary certificates was quite unclear since, though issued and honored by the administration, they had no proper foundation in the then existing laws. The certificates were clearly viewed as a stop-gap measure to be used in giving formal recognition to consolidated holdings until the necessary legislation on the registration of land was enacted by the government.

In as much as this program was centered on the recognition of completed consolidation rather than on the actual process of consolidation, there is no point in treating it at any great length in this history. It is sufficient to point out here that the program of issuing boundary certificates was a precursor to the full-fledged involvement of the Central Nyanza administration in the process of land consolidation which came about in 1956.

1956

The actual program of land consolidation in [illegible] got off to a start in 1956, but the start was a very bad one. On May 5th, the District Commissioner re-inforced what opposition/ at a meeting at Kombewa Camp, Seme Location. The following excerpts taken from his speech clearly show the strength of his intentions:

> "It should be made clear that this scheme with the ultimate threat of compulsion applied to Seme only.....If they did not do so within a reasonable time, they must realize that government would itself do so.....Government was therefore introducing legislation enabling it to consolidate land compulsorily." (2)

The District Commissioner's speech served to fan the fires of hostility and political opposition to land consolidation which were spreading throughout Kenya at the time.

/ already existed to the program by threatening compulsory consolidation

His remarks were given wide publicity, and they led to the formation of deputations of Luo in Nairobi which registered their disapproval to the government. (3) In an effort to clarify the government's position and, if possible, smother the growing opposition, the Minister for African Affairs outlined the government's program for land consolidation on a radio broadcast in June. The main points of the Minister's speech deserve mention here because they serve to highlight the more important issues upon which this opposition to land consolidation was based.

At the outset, he emphasized that the government's program of land consolidation was to be carried out by traditional elders not the government itself, that it was not compulsory, and that the government had no intention of ever forcing people to consolidate their land. He stated that according to the government's program----and despite rumors to the opposite---- no African land would be taken away from the traditionally recognized rightful owners; the purpose of the program was simply to put the fragments of the rightful owners together, not to take the land away from them. Finally, he stressed that rumors concerning villagization were incorrect: the government did not intend to force people to live in villages; this measure was necessary only in Kikuyu land for security purposes. (4)

The District program of land consolidation was itself drawn up at a D.O.'s meeting in June following a visit of District personnel to Central Province earlier that month. It was decided at this meeting that Central Nyanza would employ a system of consolidation similar to the one which was being implemented in Nyeri.

The program, which was to be entirely voluntary, was focused on a traditional unit of Luo society which the administration referred to as the Jokakwaro. The details of the plan were as follows. In co-operation with a committee of jokakwaro elders, the boundary of the jokakwaro was to be demarcated and a perimeter survey of the area made. Next, within the boundary of the jokakwaro, the separate fragments of the land were to be measured and the total acreage of each individual land-holder recorded. After reaching agreement through the committee on the percentage of land to be set aside for public purposes, this percentage would be subtracted from the total acreage of each land-holder. After this subtraction, a planning committee working in co-operation with expert advisors was to draw up a plan for the area, allocating a single plot to each land-holder. (The records available in the files are incomplete and do not give the rest of the details of the program). (5)

The District Commissioner realized that it was necessary to implement this program of land consolidation in such a way that it would not seriously conflict with Luo customs. Consequently, in November he established an Advisory Committee on Land Consolidation; this committee was composed of District personnel and a large number /of/ local Africans. The purpose of the committee was "to discuss all aspects of land consolidation with special reference to land tenure, local law and custom and its effects on departmental plans."

(6) The files contain some of the reports of the meetings of this Committee up to October, 1957. Perhaps the most important work of the Committee during this time was its recommendations on the property rights and rights to title deed of tenant farmers or jodak. These recommendations outline the principles which should be used in determining which tenant farmers would have a right to receive a title deed and which would not. (7) Because of their detail, these recommendations could even be used as a guide in dealing with current jodak problems.

Though the plans were formulated in June, the District program of land consolidation was not immediately implemented. At a District Team meeting in July, it was reported that a group of 12 Africans would first be taken on a tour of Central province in the following month in order to familiarize themselves with land consolidation schemes. By as late as August, the District Commissioner had not yet selected specific areas for the implementation of the program, though he noted that tensions over land consolidation were easing and small pockets existed where they could probably get committees going soon. (8) The reluctance of the District Commissioner to move quickly was undoubtedly connected to the fact that the registration of African voters was to take place in August and that Legislative Council elections were to follow this.

While there is secondary evidence which would lead one to conclude that the program was implemented during the latter part of 1956, at least one official report states that no official land consolidation scheme got under way until the beginning of 1957. (9)

1957

During 1957, four government-sponsored land consolidation schemes were put into operation. The first scheme was started on the Nyabondo Plateau in what is now South Nyakach Location. The Community Development Officer was in charge of this scheme and in fact resided on the plateau until he went on leave in July.(10) Other schemes were started at Odiado (Samia Location), Wahungu (Samia Location) and Isiandumba (North Gem Location). A fifth scheme was contemplated in Alego Location, but difficulties were encountered there and no scheme was subsequently instituted. (11, 12) In all four areasthe program of land consolidation as outlined in June, 1956 was followed --- that is, consolidation as modelled on the Nyeri system.

At the outset, these schemes appear to have generated some enthusiasm in the land consolidation program; it was reported in March that the areas adjacent to Odiado and Nyabondo plateau were also requesting consolidation. However, there still was a great deal of opposition to the program, leading eventually to the abandonment of one of the schemes--- that at Nyabondo--- by the end of the year.

While "land consolidation" and "agricultural progress" were in theory vitally connected, during 1957 they were actually separated in government programs; it was not until the following year that a real marriage of the two was attempted.

On the one hand, land consolidation was limited in scope to the government-sponsored schemes in four areas. "Agricultural progress", on the other hand, became the responsibility of Location Teams established in each Location in the District during March.

Location Teams were composed of local African officials and appointed members both of whom were resident within the Location. The Location Team was to draw up a 'plan for progress' for their Location, to implement projects suggested by this plan, and to supervise the completion of these projects by means of communal labor. Priority was to be given to agricultural development, but Location plans were also to take into consideration other community needs such as water supplies, medical services, forestry, roads and markets. (13, 14)

As was mentioned earlier, the land consolidation scheme at Nyabondo ran into considerable opposition as the year progressed. Opposition reached its culmination at a meeting held by the District Commissioner on Nyabondo in December. At this meeting, the District Commissioner indicated that he would not force consolidation on the people and that, if he found that a majority of the people were against it, the government would abandon its scheme there and withdraw the land consolidation staff. The story has it (though there is not complete confirmation of it in the files) that when it was put to a vote, a tie resulted with 50% of the people at the baraza in favor of the land consolidation and 50% opposed. The story then goes on to say that the District Commissioner, faced with this dilemma, broke the tie by casting his vote in opposition. Whether the story is true or not, the District Commissioner did, as a result of this meeting, decide to abandon the scheme and withdraw the land consolidation staff from the Nyabondo Plateau. (15)

The failure of the scheme at Nyabondo did not represent a complete loss. A "fly-over" of the plateau area had been made by the Department of Surveys during the year. Aerial photographs and the ground control maps which resulted from this first scheme facilitated the job of map-making and map-revising over the years which in turn hastened the eventual consolidation of the area. (16)

It is interesting to note that of the four sponsored-scheme areas, only one area, the Nyabondo Plateau, still remains a part of Central Nyanza District. As a result of the implementation of the Regional Boundaries Commission Report, the other three areas (Odiado, Wahungu, and Isiandumba) are now part of Western Province. For all practical purposes, then, there was no government-sponsored scheme in operation in what is now Central Nyanza by the end of 1957.

Concerning the other areas, there is little point in following their history in any detail since they no longer form part of the District. The scheme at Wahungu was eventually abandoned in December, 1958. The schemes at Odiado and Isiandumba (together involving a total of 2970 acres) were considered completed in 1958; however, though consolidation into single holdings had been achieved, no allowance had been made in the planning for roads of access. Thus in the next year it was realized that new plans for these areas would have to be made; the proper roads of access would require the demarcation of new boundaries, and all maps would have to be revised.

The people of Odiado and Isiandumba soon became disenchanted with these revisions, and the administration eventually abandoned these schemes as well. (17,18,19) Consequently, this first program of land consolidation resulted in the consolidation of less than 3,000 acres in two areas which are no longer a part of Central Nyanza, and even these two areas had been inadequately planned and were eventually abandoned.

1958

Apparently the opposition which led to the abandonment of the scheme at Nyabondo at the end of 1957 also existed in other areas in the District, for in January, 1958 a new policy on land consolidation was formed. While the administration continued the remaining schemes at Odiado, Isiandumba, and Wahungu, it abandoned its policy of sponsoring land consolidation schemes in any other part of the District. In the place of sponsored-schemes was substituted a policy of encouraging agricultural progress through enclosure and through the formation of "self-help" groups.

According to this new policy, small groups in any area within the District were to be formed by local initiative. These groups were then to be encouraged to work together in cultivating each others farms and in implementing farm-layout plans. To co-ordinate the efforts of such self-help groups, a District Self-Help Team was established consisting of the Community Development Officers (for both men and women), the District Health Inspector, and an African District Assistant, but it was stressed that government support and advice was to restricted only to those areas where self-help groups were formed. As an added inducement to get people interested in the program, it was decided that water schemes, coffee, and loans would be made available only in those areas where people were actively trying to 'help themselves'. (20)

Apparently these self-help groups, with their work conscripted to group cultivation and the implementation of farm lay-out plans, were not expected to function on the same lines as the earlier formed Location Teams, for the new policy also stated that Location Teams were to continue functioning. If in fact these Location Teams did continue to operate, there is no record of it in the following monthly reports. It is more than likely that the idea of achieving progress through Location Teams was soon dropped, since in the months that followed, 'progress projects' were being planned and carried out almost entirely by self-help groups.

The new policy did not abandon the idea of land consolidation, but it clearly took a different approach to the problem of achieving consolidation in the District. The "Nyeri system" as formulated in District policy in 1956 was set aside; now voluntary consolidation on an individual basis was to be encouraged, and no government-sponsored schemes were to be instituted. According to the new policy, people were to be encouraged to enclose their fragments by their own initiative and to seek to consolidate these fragments into a single holding voluntarily by means of exchange. It was felt that registration under the Native Land Tenure Rules was still possible under this method, and while the method would not produce the best results from an agricultural point of view, it was considered to produce results faster than the sponsored-scheme method.

In the months that followed, the District Self-Help Team put this policy into operation, and in doing so, they formed a unified program which put administrative meat on these bare policy bones. Two important developments of this program should be mentioned here. First, as the months progressed, the scope of action of self-help groups was greatly enlarged; no longer confined to group cultivation and the implementation of farm lay-out plans, self-help groups were engaging in/large number of betterment projects. /a/ These schemes included the terracing of land, improved housing measures, and the building of springs, dams, cattle bomas, coffee nurseries, and roads. (21)

The second important development in the program was the merging together of self-help group activity with the new land consolidation program; this merger resulted from the attempt to achieve enclosure and ultimate consolidation through self-help group effort. The program was structured along the following lines. People were encouraged to form their self-help group on the basis of jokakwaro affiliations. Self-help groups were then to determine the boundaries of their own specific jokakwaro and to enclose these boundaries by means of fences (usually sisal). Following this, the group was to enclose and fence the fragments of land within jokakwaro; individuals within the self-help group were then to voluntarily consolidate their fragments into a single holding by means of exchange. With this accomplished, the administration provided those who had enclosed and/or consolidated their land with simple farm lay-outs, and the agricultural staff was to follow-up with a sound program for further development in terms of soil conservation, protected water sources, and cash cropping. (22) Under the Native Land Tenure Rules, it would have been possible to empower self-help groups to settle land disputes and to effect the consolidation of land; however, during 1958 the Rules were not applied to any area in the District. Consequently, while litigation could be voluntarily settled by the jokakwaro elders, there was nothing to prevent appeals from being channeled through the African courts. In addition, the self-help group had no legal power to enforce its plans for consolidation or the setting aside of land for roads and public purposes.

After this program was in full swing, the Community Development Officer, following a request from the Community Development Director, attempted to connect the idea of the "self-help group" to a traditional Luo grouping called the saga. In the old days, people would gather together on an appointed day to help a relative or neighbor do things such as build or smear a house, and in return for their help they would be given food and native beer; this was called saga. Unlike the self-help group, the saga was not a cohesive group which functioned from day to day; it was rather a temporary group composed of just anyone who didn't mind putting in a little work and getting out of it a full stomach and a happy feeling. (23) Whether or not the self-help group was rightly compared to the Luo saga, the idea of the self-help group seemed to catch on very rapidly. From 2 initial groups which were started in February, the program gathered in momentum, and by October 150 groups were in existence and functioning in almost every location in the District. (24, 25) Many of these groups were engaged in the enclosure of jokakwaro boundaries, and some were consolidating land into single holdings.

While the number is impressive, the reader should not be unduly misled by it. Self-help groups could be of any size whatsoever; some consisted of no more than 8 or 10 people, while others could claim a membership of as much as a hundred people. (26) In addition, the fences which were planted to enclose boundaries were often not real fences; some consisted of the occasional sisal plant which served as boundary marker.

In order to maintain interest and generate enthusiasm for the program, recently formed groups were taken on visits to the Nyabondo Plateau area which was described by the Community Development Officer as the showplace of the District. (27) In September, a number of 'better farmers' were taken to Kiambu to see for themselves what consolidation and registration could mean for them. (28) Following this visit, the farmers of Kabete self-help group at Nyabondo requested the District Commissioner to begin a pilot scheme for the registration of land in their area. (29)

By the end of the year, it became evident that the program was not running smoothly and according to plan. Enclosure was proceeding at a pace too rapid for the staff to provide farm lay-outs and adequate agricultural follow-up. In addition, there was a realization that the program had neglected planning for the eventual registration of land; boundaries were not being laid in straight lines, and little attention was being paid to providing for roads of access. In October, measures were taken to correct this situation. Re-arrangements in staff responsibilities and the deployment of staff were made, and it was decided to make further additions to the staff. Self-help groups were to be made aware of the standards necessary for their land to be eventually registered. (30, 31) It was also decided that a pilot scheme for the registration of land would be put into effect on the Nyabondo Plateau when satisfactory preparations had been made.

Despite the great amount of enthusiasm which the program of betterment through self-help group activity generated, there was still a great deal of opposition to land consolidation by the end of the year. In November, the Community Development Officer observed that, "political agitation is still being carried out against the scheme, but in spite of this, to date, progress has been maintained." (32) In the same month, the District Commissioner, in writing to a Samia Location farmer, noted that the question of issuing title deeds was very much misunderstood in the District and then went on to say that "at certain political meetings recently, the people have been advised most strongly not to apply for registration of their land." (33)

1959

During the first months of 1959, the program was implemented according to the staff and procedural revisions which had been made in October of the previous year, but apparently these revisions could not adequately solve the problems which had generated them.

The 'shot-gun method' of encouraging and assisting self-help groups wherever interest was shown throughout the District over-taxed the capabilities of a limited staff. By May, it was realized that the staff was over-extending itself. Not being able to keep up with the pace, what they did accomplish fell far below the desired standards. It was realized that there was insufficient staff to guide the early stages of enclosure in order to ensure straight boundary lines and adequeate roads of access. The farm lay-out staff was far behind schedule in providing lay-outs for enclosed farms. Still further behind schedule was the agricultural staff in providing for the necessary agricultural follow-up; farmers were not getting vital instructions on the implementation of farm lay-outs, modern planting techniques and cash cropping (34)

In order to deal more realistically with these problems, a new policy on land consolidation providing for a complete re-organization of staff was formulated in May. Rather than dissipating staff energy and efforts on the entire District and getting minimum returns, it was decided to concentrate the available staff in selected Sub-Locations. Selection of these Sub-Locations was to be made on the basis of the amount of work which had been accomplished within them and on the amount of local co-operation which was evidenced. The available staff was to be divided into Sub-Location teams, and each selected Sub-Location was to receive its own team.

While staff emphasis was to be placed at the Sub-Locational level, the activities of self-help groups within the Sub-Location was still to be encouraged, but such encouragement was to be limited to the selected Sub-Locations. Thus through 1959, the program emphasis still remained on achieving consolidation through voluntary enclosure accomplished by the efforts of self-help groups.

A further innovation of the new policy was the introduction of a locally-based staff member called Group Advisor. In an attempt to foster better local understanding and co-operation, the policy provided for the election of the Group Advisor from among the people of the selected Sub-Location. While the Group Advisor was, in effect, and elected representative, his services were paid for by the administration. The Group Advisor had the duty of guiding the work of self-help groups within his Sub-Location so that it might reach the desired standards. He was to persuade the groups to demarcate boundaries in straight lines and to plan adequate roads of the desired width. As the work progressed, he was to encourage farmers to accept a farm lay-out plan and to heed the agricultural instructions of the Sub-Location Team. (35)

Group Advisors were prepared for their job by attending courses on their duties within the land consolidation program which were given at Maseno Training Center. (36) (While on this point, it is convenient here to underline the importance which Maseno has held in the land consolidation program over the years. Beginning in 1957 and continuing through to 1963, training courses and lectures on the purposes and procedures of the land consolidation program were arranged at Maseno for a wide range of people. During these years, courses were held for staff members, chiefs and subchiefs, planning committees, 'better farmers', and the women's mandelo ya wanawake leaders.) Ideally, the introduction of the locally-elected Group Advisor was to have solved the problem of the sub-standard results being produced by self-help groups;

in practice, election of Group Advisors added a further problem. One administration member complained that Group Advisors tended to be older men who, due to the lack of formal education, also lacked a proper understanding of the purpose and importance of their work. (37)

While the implementation of this new policy apparently helped to meet some of the more pressing problems plaguing the land consolidation program, the results were still falling below the administrations expectations. An outstanding failure can be seen in the case of Alego Location. In response to an apparent enthusiasm for the program in Alego, the administration provided the chief with 20 Group Advisors, extra agricultural staff and petrol, and relieved him of some of his regular administrative duties. The enthusiasm turned out to be more apparent than real, for so little was eventually accomplished that the administration soon withdrew all but one of its staff from the area. (38) While the situation at Alego was indeed unique, the condition of the program as a whole does not appear to have improved appreciably. In November, a group of Provincial and District personnel made a visit to Sirembe Sub-Location in North Gem to avaluate the progress of land consolidation with a view towards planning a 'fly-over' of the area in 1961. Sirembe was considered a 'progressive area' with an estimated 85% of its people welcoming advice and 50% of these actively working to consolidate their land, but the visiting group had some adverse criticism of the work at Sirembe which, it was said, could just as well be applied to the work going on in the rest of the District. They found that the laying of straight-line boundaries was proceeding very slowly, and they noted that the planning and laying of public and private access roads and co-ordination of these roads within the Sub-Location was all but lacking (39)

Regardless of the results being produced, self-help group activity was receiving ever increasing local support. By the end of December, it was reported that there were 744 self-help groups in operation with a total of 13,235 land-holders engaged in group work in 64 Sub-Locations in the District. Group work to date had produced the enclosure of 237 jokakwaro boundaries and the consolidation of 1,998 holdings. (40) At Nyabondo, 'excercises' in preparation for the establishment of a pilot scheme for registration were carried out during the first part of the year, but in fact, no pilot scheme was initiated during the year nor was the recently enacted Native Lands Registration Ordinance applied to any part of the District. (41)

During the year, the administration was still faced with an opposition to the land consolidation program. In April it was recommended that it would not be wise to place too much dependence on headmen to provide local leadership for the program because "headmen are invariably followed round by politicians who are always keen to hear what headmen are saying to the people." (42) In his annual report, the Community Development Officer stated that it had been his policy to keep self-help and land consolidation barazas rather small "since big barazas tended to attract agitators." (43)

1960

While the Native Lands Registration Ordinance had not yet been applied in the District, the administration turned its attention to one of the problems which would arise from registration: the inheritance of land. To consider this problem, a Land Committee of the District Law Panel was formed in March. This committee, which was composed almost entirely of Africans, subsequently made recommendations with respect to Luo customs and their relation to the registration and inheritance of consolidated land. The Committee first recommended that Africans ought to have the ability to make wills and that Certificates of Succession issued by the African Courts be introduced into consolidating areas. (44) The Committees also formed a very detailed body of recommendations outlining the principles which ought to be applied in determining the proper successor to land according to Luo custom. With reference to the question of sub-division, they recommended that the sub-division of land should not be carried out in such a way that the resulting pieces fell below a measurement of from 3 to 4 acres. These recommendations were to be used as a stop-gap guide for the settlement of cases brought before the African Courts until such time as the proper legislation was enacted. (45)

The Committees concern over registered land was not that premature. In the first of a series of moves towards the formulation of a new policy, the District Commissioner announced to the Committee in June that three high potential areas in the Locations of Nyakach, North Gem, and Kisumu had been selected for the concentration of staff and propaganda. Within these Locations, two Sub-Locations would eventually be chosen for the initiation of pilot schemes for registration. In conjunction with this new move a further re-arrangement in staff responsibilities was made, and each high potential area was to be provided with a newly-constituted team of Field Assistants, Group Advisors, and Senior Agricultural Instructors. (46, 47)

A note of caution was finally creeping into the District plans. For this policy was put into operation on a trial basis before things were finalized. Field Assistants and Group Advisors were first given special courses at Maseno Training Center; they were then sent out to work in various Locations for two months. Following an evaluation of the results of this two-month trial program, a final policy was formulated in August. Probably a further impetus to the re-examination of District policy was provided by an official visit made by the Chief Secretary of Kenya in July. In an interview to the newspapers, the Secretary, while impressed with the program of land consolidation, felt it necessary to comment that, "Nyanza efforts do not match those of other parts of Kenya." (50)

The new policy which was eventually finalized in August is important in many respects. Since it was based on a more serious appraisal of staff capabilities than earlier policies, it addressed itself more realistically to the fundamental problems plaguing the land consolidation program. In addition, it provided a new approach to the division of responsibilities of staff members within the program which would have a lasting effect in the following years.

In general, the policy stated that the emphasis was to be taken off of land consolidation as such and was to be placed now on land development. To underline this new emphasis, the land consolidation program was divided into a series of developmental stages. Community Work (Phase I) was to be focused on the enclosure of jokakwaro boundaries. voluntary exchange, and the introduction of basic agricultural improvements through self-help group efforts. Development and Planning (Phase II)was to be focused on providing more direct back-up support for local effort, advice in planning, and farm-layouts for consolidated holdings. Registration (Phase III) would focus on the completion of consolidation through the efforts of a properly constituted committee under the Native Lands Registration Ordinance and the implementation of a sound program for agricultural development.

In relation to staff, the emphasis was to be placed not on getting the job done, but on getting it done well. In order to accomplish this, it was decided to narrow down the number of areas in which the staff would be deployed. The staff was to be concentrated in 34 areas (sometimes these areas were entire Sub-Locations but more commonly they appear to have been self-help group areas within various Sub-Locations) in 8 Locations in the District. 13 Teams were assigned to work in these 'Development Areas'; each team was to consist of the following staff members: a Field Assistant, a Senior Agricultural Instructor, A Group Advisor, a Veternary Scout, an Assistant Chain Surveyor, and, where needed, an artisan. 9 other Locations not containing a development area were to be given the services of one Field Assistant only.

The Division of the Land consolidation program into developmental stages provided a useful framework for sorting out the responsibilities of these staff members and for scheduling their entry into a particular area. In the first phase, local responsibility for the direction of self-help group activity fell on the shoulders of the headman (later to be re-named the Sub-Chief); he was to be assisted by the Field Assistant only. (Here for the first time a local member of the government was given a part to play in the land consolidation program.) When the initial work had progressed sufficiently, the second phase of the program would be begun, and the Field Assistant would be joined by the rest of the members of the development team. As the third phase was put into operation, some of the members of the team whose jobs were completed (e.g. Agricultural Instructors for farm lay-outs and artisans) would be moved to other areas, and this would continue until all that remained would be the agricultural staff after registration.

Finally, the policy stated that the Native Lands Registration Ordinance would not be applied immediately; however, pilot schemes for registration would be started in two high-potential areas (the Nyabondo Plateau in Nyakach Location and Luanda in North Gem Location) during February of 1961. (51) It appears as if some of the reluctance to apply the Ordinance and initiate pilot schemes was related to the fact that tangible results of the voluntary enclosure program could only be found in rather small areas which were quite scattered.

The Community Development Officer, in writing to a member of Kabete Group at Nyabondo in December, stated that Kabete Group by itself was too small to have the Ordinance applied to it. He stated that the Ordinance would be applied only when there was enough interest in the program shown by all of the people on the Nyabondo Plateau. (52)

1961

During 1961, the issue of applying the Ordinance and instituting a pilot scheme for registration followed a very erractic course. The institution of the proposed pilot schemes at Nyabondo and Luanda was postponed in January due to the fact that the District lacked a suitable officer to staff a Land Registry. (53) In May, it was decided to immediately begin pilot schemes in two areas, Muhaka and Doho, in North Gem Location; however, by July the Ordinance had not been applied, and in September, it was decided to abandon for the time any idea of applying the Ordinance to these areas. The interest of the administration shifted once again to Luanda and Nyabondo. It was finally decided that, due to the mixed Bantu-Luo situation at Luanda, the Nyabondo Plateau which was completely Luo should be favored with the first pilot scheme. (54, 55) However, the end of the year arrived without any pilot scheme being started at Nyabondo.

The reasons for this vacillation on the part of the administration are related in part to cut-backs in staff and budget allotments. By mid-year, some of the staff had been posted to other districts, but no replacements had been transferred to take their place. (56) Later in the year, the District budget estimates were cut in half, and this led to even further cut-backs in staff. (57) Thus, while the program as revised in 1960 called for a total of 22 Field Assistants and 13 Group Advisors, by September of 1961 there were only 4 Field Assistants and 3 Group Advisors available for the program. Consequently, there was not a large enough staff to allow the initiation of the planned and re-planned pilot schemes. (58)

Staff cut-backs, however, were not the only factors slowing down the program. In a general review of the program in August, the Community Development Officer indicated that self-help group activity itself was responsible for the slow progress which was being made. In many cases, he observed, enclosure /was mistakenly considered to be the same as consolidation. If a farmer had difficulty in exchanging his fragments of land, he simply fenced all of his fragments and left it at that. He noted that plans for roads were easily agreed to, but these plans were not being put into effect. Finally, many of the consolidated holdings were not of the proper shape, and boundaries still needed straightening. (59)

The poor quality of self-help group work and the cut-backs in staff led to a further revision of the land consolidation program in September. In the hope of achieving better results, the available field staff was to be concentrated in no more than 11 Sub-Locations in the District during the fiscal year 1961-1962.

During the later part of the fiscal year, the Native Lands Registration Ordinance was to be applied to all of these Sub-Locations. Under the Ordinance, committees were to be formed in each Sub-Location, and they were to begin to compile a Record of Existing Rights. (60)

Political opposition was perhaps stronger during this year due to the elections which were held in May. Campaigning must have also produced some adverse effects on the program for a District Conference of Local Africans saw it as necessary to recommend a counter attack. Their recommendation read as follows: "In view of the agricultural potential (of land consolidation) and the harmful speeches that were given, the Honorable Members of the Legislative Council in co-operation with Location chiefs and A.D.C. members should hold educational meetings with the public to encourage land conservation measures and to encourage land consolidation." (61)

1962

As we approach the final year of this history, it is necessary to point out that, despite the large number of changes which were made in the practical program, the philosophy underlying the program of land consolidation remained substantially the same between the years of 1958 and 1962. The Community Development Officer very succintly summarized this philosophy in a letter to newly posted /a District Officer in February, 1962. He wrote as follows:

> "Enclosure is done on the basis of goodwill, on a voluntary basis by group or family effort and by a process of exchange. When the process of exchange of fragments is completed, boundaries are demarcated by the elders with the group as witnesses.....It has always been agreed that we would have to accept a lower standard of planning on the 'do-it-yourself' method but this was the only way to get anything done at all after the failure of the four schemes based on the Central Province method."

While the philosophy underlying the program was the same, he saw important distinctions between the first attempts at voluntary enclosure in 1958 and the current program of 1962. He felt that the emphasis had moved from consolidation through enclosure as such and was now being placed on straight-line boundaries, good feeder and access roads---with consolidation itself "radiating from a good road pattern." (62)

The realization of the importance of road planning in the initial stages of enclosure had come very slowly, for it was not until 1962 that steps were taken to ensure such planning wherever enclosure was taking place. In still another modification of the land consolidation program, the administration introduced a new body called the Planning Committee in every Sub-Location in the District where enclosure was going on. The members of the Planning Committee were to be popularly elected and representative of all of the lineage groupings within the Sub-Location.

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(5) "Summary of monthly D.O.'s Meeting, June '56"

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